Permit No.	Scan Date	DIN
4504	**June 3, 2010**	**11095**

McGill ASSOCIATES

RECEIVED
May 27, 2010
Solid Waste Section
Asheville Regional Office

APPROVED DOCUMENT
Division of Waste Management
Solid Waste Section
Date **July 16, 2010** By **LY Frost**

June 30, 2010

Mr. Larry Frost
Solid Waste Permitting Section
Division of Waste Management
North Carolina Department of Environment and Natural Resources
2090 U.S. Highway 70
Swannanoa, North Carolina 28778

RE: Request For Permit Modification
Capital Improvements Project
Stoney Mountain Road Landfill
Henderson County, North Carolina
Permit # 45-04-T

Dear Mr. Frost:

On behalf of Henderson County, McGill Associates is pleased to make this submittal for a modification to the existing operating permit for the Stoney Mountain Road Transfer Station in Henderson County. The County has identified safety concerns at the existing scale/scalehouse and transfer station areas and is developing plans to relocate the scales, scale house and citizen's convenience center as part of the Capital Improvements Project. The modifications associated with the relocation of these facilities are included in this submittal. The existing Operations Plan, titled "Henderson County Municipal Solid Waste Transfer Station Phase II Construction Project", prepared by CDM Engineers February 22, 2006 (NCDENR Doc. ID. 5454), has been modified as follows to reflect the requirements for the implementation of the Capital Improvements Project:

- Section 1: Property deeds for the entire landfill property
- Section 2: Revised Operations Plan
  - Appendix B: Revised Facility Site Plan
  - Appendix C: Cap Reconstruction, Narrative and Details
- Section 3: Cap Reconstruction Site Specific Construction Quality Assurance Plan
- Section 4: Technical Specifications
- Section 5: Erosion Control Plan Submittal Cover Letter
- Section 6: U.S. Army Corps of Engineers Submittal
- Section 7: Capital Improvements Project Preliminary Plans

The following items are addressed in this submittal:

1) Cap Reconstruction

A portion of the proposed scales access road and the citizen's convenience center are being relocated to areas above existing closed disposal sites. In general, fill material is being placed over the existing cap in order to avoid disturbing the cap. However, in areas where the existing landfill cap will be disturbed by grading operations, the landfill cap will be reconstructed to meet the requirements of the NCDENR and to ensure that the cap functions properly to contain leachate. See the attached Section 2: Operations Plan Appendix C: Cap Reconstruction, Narrative and Details for information pertaining to the requirements for the cap reconstruction. A Site Specific Construction Quality Assurance Plan (SSCQA) shall be followed by the Contractor to verify that the reconstructed cap was built in accordance with the Solid Waste Rules and the approved plans. The SSCQA Plan is included in Section 3 of this submittal.

2) Leachate Collection

Runoff from waste drop-off areas at the MSW/recycle drop-off area (all 6 boxes) and the convenience center drop-off area (4 MSW collection boxes) will be collected and conveyed by gravity to the existing onsite wetwell that currently accepts leachate from the existing transfer station. Runoff in the vicinity of the recycling boxes at the convenience center will not be collected. See Sheets C-10X and C10Y for the drop-off area leachate collection boxes and gravity sewer.

3) Facility Plan and Zoning

The existing Facility Boundary for the Stoney Mountain Road Landfill is not being revised for the implementation of the Capital Improvements Project. The proposed location for the relocated scales, scalehouse, and convenience center are within the existing Facility Boundary. See attached Section 2: Appendix B: Revised Facility Site Plan for the location of the proposed facilities associated with the Capital Improvements Project. The County has recently purchased additional property adjacent to the existing landfill facility that will be utilized for constructing the access road to the convenience center. The access road to the scales/scalehouse is through County-owned property not currently within the Facility Boundary.

The County is required to submit a Permit Renewal application for the Transfer Station Permit, #45-04-T in September 2010. The County will update the Facility Boundary at this time as well as request the addition of a small Type 1 Composting Operation. For the Capital Improvements Project submittal, there will be no modification to the zoning permit. Zoning questions associated with the implementation of a Composting Facility will be addressed at the time of the Permit Renewal in September 2010.

4) Erosion Control and Stream Impact

A site wide erosion control plan has been submitted to the NCDENR-DLQ. A copy of the erosion control plan approval letter will be forwarded to your office upon receipt. The Capital Improvements Project requires the impact of approximately 135 l.f. of unnamed stream

on site. A permit application has been submitted to the U.S. Army Corps of Engineers and a copy of the final permit will be forwarded to your office upon receipt.

5) Environmental Monitoring

The Capital Improvements Project does not require any modifications to the environmental monitoring infrastructure at the Stoney Mountain Road Landfill, except as follows: 1) The proposed scalehouse and attendant building at the Convenience Center require quarterly monitoring for landfill gas as part of the ongoing landfill gas monitoring plan. Additionally, both of these structures will include a continuous landfill gas monitoring device; and 2) a landfill gas monitoring well (MP2) was recently damaged in the vicinity of the proposed scalehouse and will be replaced (MP2Rev) as shown on the Facility Site Plan included in Appendix B. As part of the Permit Renewal Application, the County will perform an as-built survey of those LFG monitoring wells that are shown only in their proposed location (at northern margin of the landfill) on existing mapping.

We appreciate your assistance with this project. Please don't hesitate to contact us if you require additional information. The County would like to ensure that the review process is not held up pending invoice/remittance of the permit modification fee. Would you please email the Henderson County Director of Engineering, Marcus Jones, PE, a copy of the invoice so that the County can remit payment as soon as possible. Mr. Jones may be reached at **majones@hendersoncountync.org** . We look forward to working with you to obtain a Permit to Construct the Capital Improvements Project at the Stoney Mountain Road Landfill.

Sincerely,
McGILL ASSOCIATES, P.A.

Dave Pasko

DAVE PASKO
Senior Engineering Technician

Enclosures

cc: Steve Wyatt, Henderson County Manager, wo/enc
Marcus Jones, PE, Henderson County Director of Engineering, w/enc via email
Natalie Berry, Assistant Henderson County Engineer, w/enc via email
Bill Sperry, McGill Associates, w/enc

PERMIT TO CONSTRUCT
SUBMITTAL PACKAGE

CAPITAL IMPROVEMENTS PROJECT
STONEY MOUNTAIN ROAD LANDFILL

HENDERSON COUNTY, NORTH CAROLINA

Submitted To:

North Carolina Department of
Environment And Natural Resources,
Division of Waste Management,
Solid Waste Section
2090 U.S. Highway 70
Swannanoa, North Carolina 28778

June 30, 2010

Prepared By:

McGill Associates, P.A.
55 Broad Street
Asheville, North Carolina 28801
828-252-0575

STONEY MOUNTAIN ROAD LANDFILL
HENDERSON COUNTY, NORTH CAROLINA

CAPITAL IMPROVEMENTS PROJECT

PERMIT TO CONSTRUCT

June 30, 2010

TABLE OF CONTENTS

Section 1: Property Deeds for Entire Landfill Property

Section 2: Revised Operations Plan

- Revised Appendix B: Facility Site Plan
- Appendix C: Cap Reconstruction, Narrative and Details

Section 3: Cap Reconstruction Site Specific Construction Quality Assurance Plan

Section 4: Technical Specifications

Section 5: Erosion Control Plan Cover Letter

Section 6: U.S. Army Corps of Engineers Submittal

Section 7: Capital Improvements Project Preliminary Plans

Section 1

Stoney Mountain Road Landfill Deeds

Home

Henderson County Real Property Data

Property Summary

Data last updated on: 1/19/2010
Ownership current as of: 8/6/2009

Go Maps
Tax Bills

Property Search

Parcel Number **9962309** PIN # **9650614773**

Location Address
828 STONEY MOUNTAIN RD

Property Description
Lot # ANIMAL SHELTER

Search Results New Search

Parcel | Buildings | Land | Deeds | Notes | Sales | Photos | Tax Bill | Map

Property Owner:	Owner's Mailing Address	Property Location Address
HENDERSON COUNTY	**100 N KING ST** **HENDERSONVILLE** **NC 28792**	**828 STONEY MOUNTAIN RD**

Administrative Data		Transfer Information		Property Value	
Old Map#	**9650.04**	Deed Date	**07/03/2000**	Total Appraised Land Value	**$61,800**
VCS	**895**	Deed Book	**001029**		
City		Deed Page	**00073**	Total Appraised Building Value	**$917,000**
Fire District	**MOUNTAIN HOME**	Revenue Stamps	**0.00**		
Township	**MOUTAIN HOME FIRE**	Package Sale Date		Total Appraised Value	**$978,800**
		Package Sale Price			
Land Class	**GOVERNMENTAL**	Land Sale Date			
Spec District 1		Land Sale Price			
Spec District 2				Elderly Exclusion	
History Parcel Number 1		**Improvement Summary**		Other Exemptions	**$978,800**
History Parcel Number 2		Total Units	**0**		
		Heated Area	**6,854**	Use Value Deferred	
Acreage	**4.62**			Historic Value Deferred	
Permit Date				Total Deferred Value	
Permit #					
				Total Assessed Value	

Prints best in landscape mode

Tuesday, January 19, 2010

31029 P073

-> Return to: Margaret Street
Henderson County Legal Dept
100 North King Street
Henderson ville, NC 28792

Filed and recorded in the Register of Deeds Office for Henderson County, N.C. this 3rd day of July 2000 at 9:45 o'clock A.M. in Book 1029 at page 73

Nedra W. Meles
Register of Deeds
By: Yvonne Lindsey, Deputy

Excise Tax: $ Recording Time, Book and Page

Mail To: Mullinax & Alexander, PO Box 1164, Hendersonville, NC 28793

This instrument prepared by: THERON E. MULLINAX, JR., ATTORNEY AT LAW
MULLINAX & ALEXANDER, P. O. Box 1164, Hendersonville, NC 28793

(DEED PREPARATION ONLY/NO TITLE EXAMINED)

Description for Index: _____

NORTH CAROLINA GENERAL WARRANTY DEED

THIS DEED made this 26 day of June, 2000, by and between

GRANTOR	GRANTEE
THOMAS E. CROSBY AND WIFE, LINDA G. CROSBY (a/k/a LINDA G. McCRAW and LINDA G. McCRAW CROSBY)	HENDERSON COUNTY, A Political Subdivision of the State of North Carolina Address:

The designated Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH, that the Grantor, for a valuable consideration paid by the Grantee, the receipt of which is hereby acknowledged, has and by these presents does grant, bargain, sell and convey unto the Grantee in fee simple, all that certain lot or parcel of land situated in Hendersonville Township, Henderson County, North Carolina and more particularly described as follows:

TRACT ONE: BEING all of that real property shown and described in deed found in Deed Book 613, at Page 177 in the Office of the Registry for Henderson County, North Carolina, with reference to same being made in aid of this description. LESS AND EXCEPTING any tracts previously conveyed by Grantors herein out of the tract described.

TRACT TWO: BEING all of that real property shown and described in deed found in Deed Book 964, at Page 433 in the Office of the Registry for Henderson County, North Carolina, with reference to same being made in aid of this description. LESS AND EXCEPTING any property previously conveyed by Grantors herein.

TRACT THREE: BEING all of that real property shown and described in deed found in Deed Book 703, at Page 491 in the Office of the Registry for Henderson County, North Carolina, with reference to same being made in aid of this description. LESS AND EXCEPTING any property previously conveyed by Grantors herein.

The property hereinabove described was acquired by Grantor by instruments recorded in Deed Book 613, Page 177; Deed Book 964, at Page 433; and Deed Book 703, at Page 491, all of the Henderson County Registry.

TO HAVE AND TO HOLD the aforesaid lot or parcel of land and all privileges and appurtenances thereto belonging to the Grantee in fee simple.

And the Grantor covenants with the Grantee, that Grantor is seized of the premises in fee simple, has the right to convey the same in fee simple, that title is marketable and free and clear of all encumbrances, and that Grantor will warrant and defend the title against the lawful claims of all persons whomsoever except for the exceptions hereinafter stated. Title to the property hereinabove described is subject to the following exceptions:

2000 ad valorem property taxes
All rights of way, easements, reservations, restrictions and amendment to restrictions, if any, of public record of even date herewith.

IN WITNESS WHEREOF, the Grantor(s) has/have hereunto set their hand s and seals, the day and year first above written.

(SEAL)
THOMAS E. CROSBY

(SEAL)
LINDA G. CROSBY

(SEAL)
a/k/a LINDA G. McCRAW

(SEAL)
a/k/a LINDA G. McCRAW CROSBY

STATE OF NORTH CAROLINA, COUNTY OF HENDERSON

I, Karen Roberts, a Notary Public in and for the above County and State, do hereby certify that THOMAS E. CROSBY AND WIFE, LINDA G. CROSBY (a/k/a LINDA G. McCRAW AND LINDA G. McCRAW CROSBY) personally appeared before me this day and acknowledged the due execution by them of the foregoing instrument.

WITNESS my hand and notarial seal, this the 26TH day of June, 2000.

My Commission Expires: My Commission Expires October 7, 2004 Karen Roberts
Notary Public

KAREN ROBERTS NOTARY PUBLIC TRANSYLVANIA COUNTY, N.C.

The foregoing certificate of Karen Roberts, Notary Public is certified to be correct. This instrument and this certificate are duly registered at the date and time and in the Book and Page shown on the first page hereof.

REGISTER OF DEEDS FOR HENDERSON COUNTY

By: Linda W. Moles ~~Deputy/Assistant~~-Register of Deeds

STATE OF NORTH CAROLINA
MAY-7'82
P.B. 10749
Real Estate Excise Tax
$49.50

Filed and recorded in the Register of Deeds Office for Henderson County, N. C. this 7 day of May, 19 82 at 12 40 o'clock, P M. in Book 613 at page 177.

Ruby H. Marvell
Register of Deeds
By Valerie Reed, Deputy

Excise Tax $49.50

O.K. E.V.

Recording Time, Book and Page

Tax Lot No. ..... Parcel Identifier No. .....

Verified by ..... County on the ..... day of ....., 19.....

by .....

Mail after recording to Thomas E. Crosby 422 Bonner St., Hendersonville, N. C. 28739

This instrument was prepared by Stephen Barnwell

Brief description for the Index Tract off County Home Road

NORTH CAROLINA GENERAL WARRANTY DEED

THIS DEED made this 7th day of May, 19 82, by and between

GRANTOR	GRANTEE
W. E. CAPPS (widower)	THOMAS E. CROSBY and LINDA G. McCRAW, as tenants in common

Enter in appropriate block for each party: name, address, and, if appropriate, character of entity, e.g. corporation or partnership.

The designation Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH, that the Grantor, for a valuable consideration paid by the Grantee, the receipt of which is hereby acknowledged, has and by these presents does grant, bargain, sell and convey unto the Grantee in fee simple, all that certain lot or parcel of land situated in the City of ....., Hendersonville Township, Henderson County, North Carolina and more particularly described as follows:

BEING all of Tract 1 as described in deed recorded in Deed Book 286 at Page 192 of the Henderson County, North Carolina Registry, reference to which deed is hereby made for a more particular description as to said property.

EXCEPTING from the above-described property that portion thereof which is being conveyed the date hereof to the County of Henderson, which portion is more particularly described as follows:

BEGINNING at an existing concrete monument, being the NW corner of that property described in deed recorded in Deed Book 286 at Page 192 of the Henderson County, North Carolina Registry; running thence S 82° 32' 56" E 170.30' to a platted stone in the boundary of the property presently owned by Henderson County; running thence with the boundary line of the property presently owned by Henderson County, S 21° 46' 22" W 1190.08' to an iron pin set; thence on a new course running N 61° 6' 4" W 446.68' to an iron pin set; running thence with the common boundary of the property owned by the North Carolina Department of Correction Facilities described in deed recorded in Deed Book 199 at Page 301 of the Henderson County, North Carolina Registry, N 56° 8' 15" E 446.37' to an existing concrete monument; and thence running N 23° 51' 1" E 724.56' to the point of BEGINNING.

178 5

The property hereinabove described was acquired by Grantor by instrument recorded in portion of Deed Book 286 Page 192

A map showing the above described property is recorded in Plat Book ..... page.....

TO HAVE AND TO HOLD the aforesaid lot or parcel of land and all privileges and appurtenances thereto belonging to the Grantee in fee simple.

And the Grantor covenants with the Grantee, that Grantor is seized of the premises in fee simple, has the right to convey the same in fee simple, that title is marketable and free and clear of all encumbrances, and that Grantor will warrant and defend the title against the lawful claims of all persons whomsoever except for the exceptions hereinafter stated. Title to the property hereinabove described is subject to the following exceptions:

A. 1982 ad valorem taxes.

B. Easements, restrictions and rights-ofway of record.

IN WITNESS WHEREOF, the Grantor has hereunto set his hand and seal, or if corporate, has caused this instrument to be signed in its corporate name by its duly authorized officers and its seal to be hereunto affixed by authority of its Board of Directors, the day and year first above written.

USE BLACK INK ONLY

..... (Corporate Name)

By: .....

..... President

ATTEST:

..... Secretary (Corporate Seal)

W. E. Capps (SEAL)
W. E. Capps

..... (SEAL)

..... (SEAL)

..... (SEAL)

SEAL-STAMP

Use Black Ink

NORTH CAROLINA, Henderson County.

I, a Notary Public of the County and State aforesaid, certify that W. E. Capps Grantor, personally appeared before me this day and acknowledged the execution of the foregoing instrument. Witness my hand and official stamp or seal, this 7th day of May, 19 82

My commission expires: July 16 1984 Brenda Stubbs Dillingham Notary Public

SEAL-STAMP

Use Black Ink

NORTH CAROLINA, ... County.

I, a Notary Public of the County and State aforesaid, certify that .....

personally came before me this day and acknowledged that ..... he is ..... Secretary of ..... a North Carolina corporation, and that by authority duly given and as the act of the corporation, the foregoing instrument was signed in its name by its ..... President, sealed with its corporate seal and attested by ..... as its ..... Secretary.

Witness my hand and official stamp or seal, this ..... day of ....., 19.....

My commission expires: ..... Notary Public

The foregoing Certificate(s) of Brenda Stubbs Dillingham

is/are certified to be correct. This instrument and this certificate are duly registered at the date and time and in the Book and Page shown on the first page hereof.

Buley B. Mahneed REGISTER OF DEEDS FOR Henderson COUNTY

By Vallie Reed Deputy/~~Assistant~~ - Register of Deeds

N.C. Bar Assoc. Form No. 3 © 1976, Revised 1977. - Printed by Edwards Brothers, Inc. Carolina.

Printed by Agreement with the N.C. Bar Assoc.-1981.

0964

Filed and recorded in the Register of Deeds Office for Henderson County, N. C. this 16 day of Sept. 19 98 at 11:10 o'clock AM. in Book 964 at page 433.

Nedra W Moore
Register of Deeds
By: Betty B Higgins asst

Excise Tax $0

Tax Lot No. _____ Parcel Identifier No. _____

Verified by _____ County on the _____ day of _____, 19____

by _____

TITLE NOT EXAMINED

Mail after recording to Thomas E. Crosby
2 Crosby Place, Hendersonville, NC 28739

This instrument was prepared by RONALD E. SNEED

Brief description for the Index

NORTH CAROLINA GENERAL WARRANTY DEED

THIS DEED made this 11th day of September, 1998, by and between

GRANTOR	GRANTEE
RONALD H. JACKSON and wife, BETTY JO JACKSON	THOMAS E. CROSBY and wife, LINDA G. McGRAW CROSBY 2 Crosby Place Hendersonville, NC 28739

The designation Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH, that the Grantor, for a valuable consideration paid by the Grantee, the receipt of which is hereby acknowledged, has and by these presents does grant, bargain, sell and convey unto the Grantee in fee simple, all that certain lot or parcel of land situated in the City of _____, Hendersonville Township, Henderson County, North Carolina and more particularly described as follows:

AS SET OUT ON THE ATTACHED EXHIBIT A WHICH IS INCORPORATED BY REFERENCE AS IF FULLY SET OUT HEREIN.

The property hereinabove described was acquired by Grantor by instrument recorded in Deed Book 844 at Page 130.

A map showing the above described property is recorded in Plat Book page .

TO HAVE AND TO HOLD the aforesaid lot or parcel of land and all privileges and appurtenances thereto belonging to the Grantee in fee simple.

And the Grantor covenants with the Grantee, that Grantor is seized of the premises in fee simple, has the right to convey the same in fee simple, that title is marketable and free and clear of all encumbrances, and that Grantor will warrant and defend the title against the lawful claims of all persons whomsoever except for the exceptions hereinafter stated. Title to the property hereinabove described is subject to the following exceptions:

Subject to easements and restrictions of record.

IN WITNESS WHEREOF, the Grantor set his hand and seal, or if corporate, has caused this instrument to be signed in its corporate name by its duly authorized officers and its seal to be hereunto affixed by authority of its Board of Directors, the day and year first above written.

RONALD H. JACKSON (SEAL)

By: _____ President

BETTY JO JACKSON (SEAL)

ATTEST: _____ Secretary

(SEAL)

(SEAL)

SEAL-STAMP

NORTH CAROLINA, BUNCOMBE COUNTY.

I, a Notary Public of the County and State aforesaid, certify that Ronald H. Jackson and wife, Betty Jo Jackson, Grantor, personally appeared before me this day and acknowledged the execution of the foregoing instrument. Witness my hand and official stamp or seal, this 11th day of September, 1998.

Notary Public

My commission expires: 5-16-2002

SEAL-STAMP

NORTH CAROLINA, COUNTY.

I, a Notary Public of the County and State aforesaid, certify that , personally came before me this day and acknowledged that he is Secretary of a North Carolina corporation, and that by authority duly given and as the act of the corporation, the foregoing instrument was signed in its name by its President, sealed with its corporate seal and attested by as its Secretary. Witness my hand and official stamp or seal, this day of , 19.

Notary Public

My commission expires:

The foregoing Certificate(s) of Kathryn B. Ansley, Notary Public

is/are certified to be correct. This instrument and this certificate are duly registered at the date and time and in the Book and Page shown on the first page hereof.

Kathy W. Miller REGISTER OF DEEDS FOR Buncombe COUNTY

By Kathy W. Miller ~~DEPUTY/ASSISTANT~~ - REGISTER OF DEEDS

N.C. Bar Assoc. Form No. 3
This Standard Form has been approved jointly and is copyright © by:
NORTH CAROLINA BAR ASSOCIATION
NORTH CAROLINA LAND TITLE ASSOCIATION

EXHIBIT A

BEGINNING on an iron pin in the southern boundary of that property belonging to Thomas E. Crosby and wife, Linda G. Crosby as described in Deed Book 613 at Page 177 of the Records of Deeds of the Henderson County, North Carolina Registry, said land also being shown and described on a certain plat recorded in Plat Cabinet A at Slide 211 of the Records of Plats of the Henderson County Registry, said iron pin lying South 21° 58' 11" West 564.54 feet from an iron pin, the northeastern corner of that tract of land described in Deed Book 613 at Page 177 of the Records of Deeds of the Henderson County Registry, and running thence with that eastern boundary South 21° 58' 11" West 126.45 feet to an iron pin; thence North 74° 45' 10" West 159.55 feet to an iron pin in the edge of a 45 foot right of way established herein; thence North 15° 27' 23" East 150.10 feet to an iron pin; thence South 66° 43' 20" East 175.53 feet to an iron pin, said iron pin being the point and place of BEGINNING.

This property is comprised of 0.530 acres, more or less, and is that same tract described as a 0.530 acre tract appearing on a certain plat entitled "Subdivision of Property of Thomas E. Crosby and wife, Linda G. Crosby", said plat appearing of public record at Slide 1694 of the Record of Plats of the Henderson County Registry.

There is further conveyed a 45 foot right of way, for purposes of ingress and egress as said right of way is shown and described on that certain plat recorded at Plat Slide 1694 of the Record of Plats of the Henderson County Registry. This right of way shall be mutual and non-exclusive with all other persons having or hereafter being granted the right to use the same. The Grantors reserve unto themselves the right to assign further interest in said right of way. By acceptance of this deed, Grantees agree to share equally in the maintenance of said right of way with all other persons using the same.

0964 436

Filed and recorded in the Register of Deeds Office for Henderson County, N. C. this 16 day of April, 19 98 at 11:11 o'clock AM. in Book 964 at page 436

Linda W. Sinclair
Register of Deeds
By: Patricia B. Higginbotham

Excise Tax $0

Tax Lot No. _____ Parcel Identifier No. _____

Verified by _____ County on the _____ day of _____, 19____

by _____

Mail after recording to Ronald H. Jackson
6 Crosby Place, Hendersonville, NC 28791

This instrument was prepared by RONALD E. SNEED

Brief description for the Index

NORTH CAROLINA GENERAL WARRANTY DEED

THIS DEED made this 11th day of September, 1998, by and between

GRANTOR	GRANTEE
THOMAS E. CROSBY and wife, LINDA G. McGRAW CROSBY (f/k/a LINDA G. McGRAW)	RONALD H. JACKSON and wife, BETTY JO JACKSON 6 Crosby Place Hendersonville, NC 28791

The designation Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH, that the Grantor, for a valuable consideration paid by the Grantee, the receipt of which is hereby acknowledged, has and by these presents does grant, bargain, sell and convey unto the Grantee in fee simple, all that certain lot or parcel of land situated in the City of _____, Hendersonville Township, Henderson County, North Carolina and more particularly described as follows:

BEING all of that 0.4635 acre parcel described on a plat recorded in the Office of the Register of Deeds for Henderson County, North Carolina, in Slide 2808.

The property hereinabove described was acquired by Grantor by instrument recorded in Deed Book 613 at Page 177.

A map showing the above described property is recorded in Slide 2808.

TO HAVE AND TO HOLD the aforesaid lot or parcel of land and all privileges and appurtenances thereto belonging to the Grantee in fee simple.

And the Grantor covenants with the Grantee, that Grantor is seized of the premises in fee simple, has the right to convey the same in fee simple, that title is marketable and free and clear of all encumbrances, and that Grantor will warrant and defend the title against the lawful claims of all persons whomsoever except for the exceptions hereinafter stated. Title to the property hereinabove described is subject to the following exceptions:

Subject to easements and restrictions of record.

IN WITNESS WHEREOF, the Grantor set his hand and seal, or if corporate, has caused this instrument to be signed in its corporate name by its duly authorized officers and its seal to be hereunto affixed by authority of its Board of Directors, the day and year first above written.

THOMAS E. CROSBY (SEAL)

By: _____ President

LINDA G. McGRAW CROSBY (SEAL)

ATTEST:

_____ (SEAL)

_____ Secretary

_____ (SEAL)

SEAL-STAMP

NORTH CAROLINA, BUNCOMBE COUNTY.

I, a Notary Public of the County and State aforesaid, certify that Thomas E. Crosby and Linda G. McGraw Crosby, Grantor, personally appeared before me this day and acknowledged the execution of the foregoing instrument. Witness my hand and official stamp or seal, this 11th day of September, 1998.

Kathryn B. Crosby Notary Public

My commission expires: 5-16-2002

SEAL-STAMP

NORTH CAROLINA, _____ COUNTY.

I, a Notary Public of the County and State aforesaid, certify that , personally came before me this day and acknowledged that he is _____ Secretary of a North Carolina corporation, and that by authority duly given and as the act of the corporation, the foregoing instrument was signed in its name by its _____ President, sealed with its corporate seal and attested by as its _____ Secretary. Witness my hand and official stamp or seal, this _____ day of _____, 19.

_____ Notary Public

My commission expires: _____

The foregoing Certificate(s) of Kathryn B. Crosby, Notary Public

is/~~are~~ certified to be correct. This instrument and this certificate are duly registered at the date and time and in the Book and Page shown on the first page hereof.

Judy W. Moles REGISTER OF DEEDS FOR Henderson COUNTY

By Judy W. Moles DEPUTY/~~ASSISTANT~~ - REGISTER OF DEEDS

N.C. Bar Assoc. Form No. 3
This Standard Form has been approved jointly and is copyright © by:
NORTH CAROLINA BAR ASSOCIATION
NORTH CAROLINA LAND TITLE ASSOCIATION

STATE OF NORTH CAROLINA

COUNTY OF HENDERSON

ROAD MAINTENANCE AGREEMENT

THIS ROAD MAINTENANCE AGREEMENT is entered into this 11th day of April, 1998 among the undersigned, said individuals having affixed their notarized signatures on the dates so indicated on pages two (2), three (3) and four (4) of this document. These same said individuals all being property owners of real property located on the first approximately one-half mile of Foster Hill Drive, beginning at Foster Hill Drive from the entrance to Blue Ridge Estates and extending to the end of Lot No. EIGHT (8), BLOCK A, SECTION 3 on the right side of Foster Hill Drive.

That the aforementioned property owners (hereinafter referred to as "The Owners") in the past have maintained Foster Hill Drive, at their own expense, by grading, placement of gravel, and paving of the hill portion.

WHEREAS, it is the understanding of the parties hereto that such road maintenance shall continue indefinitely; and

WHEREAS, the parties deem it desirable that such understanding be placed in writing;

NOW THEREFORE, it is hereby agreed as follows:

FIRST: The Owners agree to continue the maintenance of said road in good condition, substantially as in the past; that is grading and spreading of gravel as needed, cleaning of ditches, possible replacement of culverts, and maintaining the 250 feet of the paved portion which begins at the Foster Hill Drive entrance.

SECOND: That the maintenance for said road is provided by the lot owners using the same, and that the proportional responsibility and cost for said maintenance is in the same proportion which each party using the same bears to the total use of same.

THIRD: That if the need arises for further major improvements, these may be made only upon agreement by all Foster Hill Drive property owners.

FOURTH: That meetings may be called as necessary to discuss maintenance and improvement needs.

FIFTH: This agreement shall become effective when signed by all The Owners.

IN WITNESS WHEREOF the parties have signed this Agreement as of the day written next to their names and as shown by the Notary seals.

O W N E R S

NOTARY SEALS

James Murray

NORTH CAROLINA
Henderson County

I, William M. Freeman, a Notary Public for said County and State, do hereby certify that JAMES MURRAY personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal, this the 22 day of APRIL, 1998.

Notary Public

My commission expires My Commission Expires October 6, 2001

Frank Baker

NORTH CAROLINA
Henderson County

I, Rita K Jackson, a Notary Public for said County and State, do hereby certify that FRANK J. BAKER personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal, this the 24th day of April, 1998.

Notary Public

My commission expires April 22, 2002

Margaret Baker *Margaret R. Baker*

NORTH CAROLINA
Henderson County

I, *Rita K Jackson*, a Notary Public for said County and and State, do hereby certify that *MARGARET R. BAKER* personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal, this the *27th* day of *April*, 1998.

Rita K Jackson
Notary Public

My commission expires *7-22*, 2002

Eleanor Thrush *Eleanor Thrush*

NORTH CAROLINA
Henderson County

I, *Rita K Jackson*, a Notary Public for said County and and State, do hereby certify that *Eleanor Thrush* personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal, this the *21st* day of *April*, 1998.

Rita K Jackson
Notary Public

My commission expires *7-22*, 2002

Carole Guzewicz *Carol Guzewicz*

NORTH CAROLINA
~~Henderson~~ County
Buncombe

I, *Glenna A. Stephens*, a Notary Public for said County and and State, do hereby certify that *Carol Guzewicz* personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal, this the *1* day of *May*, 1998.

Glenna A. Stephens
Notary Public

My commission expires *October 11*, 2000

William Guzewicz

NORTH CAROLINA
Henderson County

I, MARCIA A KRUSE, a Notary Public for said County and and State, do hereby certify that WILLIAM GUZEWICZ personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal, this the 5th day of MAY, 1998.

MARCIA A. KRUSE NOTARY PUBLIC HENDERSON COUNTY, N.C.

Notary Public

My commission expires March 20, 2002

Wayne Solana

STATE OF FLORIDA
County of St Johns

I, Danielle Mangrum, a Notary Public for said County and and State, do hereby certify that Wayne Solana personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal, this the 11 day of June, 1998.

DANIELLE MANGRUM
COMMISSION # CC 720347
EXPIRES FEB 26, 2002
BONDED THRU
ATLANTIC BONDING CO., INC.

Notary Public

My commission expires Feb 26, 2002

James Pitcock

NORTH CAROLINA
Henderson County

I, Shirley M. Pruitt, a Notary Public for said County and and State, do hereby certify that James P. Pitcock Jr. personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal, this the 26th day of MAY, 1998.

Notary Public

My commission expires Feb 22, 2002

B964 442

North Carolina, Henderson County. The foregoing certificate(s) of William M. Freeman, Pete K. Jackson, Clayton W. Stephenson, Marcia A. Kenan, Danielle Mangrum, Shirley M. Prince ~~Notary Public~~ Notaries Public are certified to be correct. This instrument presented for registration and recorded in this office this 16 day of August, 1998, at 11:35 AM in Book 964, page 438

Nedra W. McCoy
Register of Deeds

Sybil Stradley
~~(Assistant~~ Deputy)

Return copy to: Frank J. Baker,
Route 3, Box 67A,
Hendersonville, N.C. 28739

Henderson County Real Property Data

Property Summary

Data last updated on: 12/29/2009
Ownership current as of: 8/6/2009

Parcel Number 0114999 PIN # 9650800835

Location Address
0 NO ADDRESS ASSIGNED

Property Description
Lot # SR13833 STONEY MTN RD

Property Owner:	Owner's Mailing Address	Property Location Address
HENDERSON COUNTY ; BOARD OF COMMISSIONERS	100 N KING ST HENDERSONVILLE NC 28792	0 NO ADDRESS ASSIGNED

Administrative Data		Transfer Information		Property Value	
Old Map#	9650.04	Deed Date	03/23/2001	Total Appraised Land Value	$93,400
VCS	893	Deed Book	001055	Total Appraised Building Value	
City		Deed Page	00631		
Fire District	MOUNTAIN HOME	Revenue Stamps	200.00		
Township	MOUTAIN HOME FIRE	Package Sale Date	03/23/2001	Total Appraised Value	$93,400
Land Class	GOVERNMENTAL	Package Sale Price	$100,000		
Spec District 1		Land Sale Date			
Spec District 2		Land Sale Price			
History Parcel Number 1		**Improvement Summary**		Elderly Exclusion Other Exemptions	$93,400
History Parcel Number 2		Total Units	0		
Acreage	6.97	Heated Area	0	Use Value Deferred	
Permit Date				Historic Value Deferred	
Permit #				Total Deferred Value	
				Total Assessed Value	

Prints best in landscape mode

Tuesday, December 29, 2009

Stamps: $200.00

Prepared by Walter C. Carpenter

State of North Carolina $ 200.00 PAID 3/23/01 11055 P631
Henderson Co., N.C., Register of Deeds
County of Henderson

This Indenture, Made this March 23, 2001, by and between
A.M. Summey, Also Known As Anna C. Summey, Widow
hereinafter called Grantors, and Henderson County, 100 North King Street, Hendersonville, NC 28792
hereinafter called Grantees, (said designations shall include the respective parties, whether one or more, individual or corporate, and their respective successors in interest or assigns).

Witnesseth: That the Grantors, for and in consideration of the sum of Ten Dollars, and other good and valuable considerations to them in hand paid by the Grantees, the receipt whereof is hereby acknowledged, have given, granted, bargained, sold and conveyed, and by these presents to give, grant, bargain, sell, convey and confirm unto the Grantees, their heirs and/or successors and assigns (subject, however, to any conditions, restrictions, limitations, reservations or exceptions appearing after the description below), the following particularly described real estate, located in Township, Henderson County, North Carolina, to-wit:

BEGINNING at a fencepost corner, said post standing South 05° 54' 37" West 230.22 feet from an existing iron pin, a 1/2" pipe, the northwestern corner of that property described in deed recorded in Deed Book 361 at Page 155 of the Henderson County Registry, said fencepost corner standing North 14° 30' 17" East 13.91 feet from an aluminum pipe and running thence from said beginning point, South 14° 30' 17" West 252.63 feet to an existing iron pin, a 3/4" axle; thence, South 13° 30' 0" West 413.72 feet to a point in the centerline of Stoney Mountain Road (SR 1383) and running thence with the centerline of Stoney Mountain Road, the following six calls and distances: North 41° 16' 03" West 148.98 feet; North 46° 51' 39" West 145.23 feet; North 50° 23' 50" West 154.36 feet; North 49° 41' 48" West 186.97 feet; North 48° 54' 42" West 187.38 feet and North 49° 31' 35" West 319.02 feet to a point in the centerline of Stoney Mountain Road and running thence, South 84° 07' 01" East 1,024.30 feet to the point and place of BEGINNING and containing 7.60 acres, more or less, as shown on that survey for Henderson County by David C. Huntley and Associates dated March 19, 2001, and being drawing no. H-3901 and being all of that property described in deed from F.M. Corn and wife, Anner Corn, to May Summey and wife, A.M. Summey, recorded in Deed Book 325 at Page 491 of the Henderson County Registry.

To Have and to Hold the above described land and premises, with all appurtenances thereunto belonging, or in any wise appertaining, unto the Grantees, their heirs and/or successors and assigns forever.

And the Grantors covenant to and with the Grantees, their heirs and/or successors and assigns, that the Grantors are lawfully seized in fee simple of said land and premises, and have full right and power to convey the same to the Grantees in fee simple, and that said land and premises are free from any and all encumbrances (with the exceptions above stated, if any) and that they will and their heirs, executors, administrators and/or successors shall forever warrant and defend the title to said land and premises, with the appurtenances, unto the Grantees, their heirs and/or successors and assigns, against the lawful claims of all persons whomsoever.

In Witness Whereof, the Grantors have hereunto set their hands and seals, or, if corporate, has caused this Deed to be executed by its duly authorized officers and its seal to be hereunto affixed, the day and year first above written.

Anna C. Summey (SEAL) — A.M. Summey (SEAL)
Anna C. Summey by Dr. Mary E. Summey (SEAL) — A.M. Summey by Dr. Mary E. Summey (SEAL)

STATE OF NORTH CAROLINA, COUNTY OF HENDERSON

I, A.M. SUMMEY, a Notary Public of said County and State, do hereby certify that personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

WITNESS my hand and notarial seal, this 23rd day of March, 2001

My commission expires _____ Notary Public

STATE OF NORTH CAROLINA, COUNTY OF HENDERSON

The foregoing certificate(s) of _____

Notary Public (Notaries Public) is/are certified to be correct. This instrument presented for registration and recorded in this office this _____ day of _____ 19 _____ at _____ M. in Book _____ Page _____.

Register of Deeds

(Assistant) (Deputy)

1055 PG 32

NORTH CAROLINA, HENDERSON COUNTY

I, Sylvia Maxwell, do hereby certify that Dr. Larry E. Summey, Attorney In Fact for Anna C. Summey, a/k/a A.M. Summey, personally appeared before me this day and being by me duly sworn, says that he executed the foregoing and annexed instrument for and in behalf of Anna C. Summey, and that his authority to execute and acknowledge said instrument is contained in an instrument duly executed, acknowledged and recorded in the Office of Register of Deeds for Spartanburg, South Carolina, on the 23rd day of January 1991, and that this instrument was executed under and by virtue of the authority given by said instrument granting him power of attorney; that the said Dr. Larry E. Summey acknowledged the due execution of the foregoing and annexed instrument for the purposes therein expressed for and in behalf of the said Anna C. Summey.

WITNESS my hand and official seal, this 23rd day of March 2001.

Sylvia Maxwell
Notary Public

SYLVIA MAXWELL
NOTARY PUBLIC
HENDERSON COUNTY, N. C.

My Commission Expires: 5-12-04

STATE OF _____, COUNTY OF _____

This the _____ day of _____, 19_____, personally came before me, the undersigned Notary Public in and for the aforesaid County and State, _____, who, being duly sworn, says that he is President (or Vice President) of _____, and that the seal affixed to the foregoing instrument in writing is the corporate seal of said Corporation, and that said writing was signed by him in behalf of said Corporation by its authority duly given. And the said _____ acknowledged the said writing to be the act and deed of said Corporation.

My commission expires _____ _____
Notary Public

North Carolina, Henderson County The foregoing certificate(s) of Sylvia Maxwell Notary Public (~~Notaries Public~~) is/~~are~~ certified to be correct, this instrument presented for registration and recorded in this office this 23 day of March, 2001 at 3:00 PM in book 1055, page 631.

Sherlene W. Moles
Register of Deeds

Sarah Honeycutt
(~~Assistant~~ Deputy)

State of North Carolina
County of Henderson

—TO—

Filed for Registration on the _____ day of _____, 19____, at _____ o'clock, _____ M., and Registered in the Office of the Register of Deeds for Henderson County, North Carolina, in Book No. _____, at Page _____

Register of Deeds
for Henderson County

PREPARED BY
HOWE, WATERS, CARPENTER & MOXLEY, PA
ATTORNEYS — P.O. BOX 566
134 SOUTH MAIN ST.
HENDERSONVILLE, N.C. 28793

RECORDED DEED57J- PG501

1991 JAN 23 PM 1:00

R.M.C.
SPARTANBURG, S.C.

31055 PG33

STATE OF SOUTH CAROLINA
COUNTY OF SPARTANBURG

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, That I, ANNA C. SUMMEY, of the County of Spartanburg, State of South Carolina, have constituted, made and appointed and by these presents do constitute, make and appoint DR. LARRY E. SUMMEY of the County of Spartanburg, State of South Carolina, my true and lawful attorney in my name and stead and to my use to seek, demand, sue for, collect, recover legacies, bequests, interests, rents, dividends, stock rights, annuities and demands whatsoever, as are now or shall hereafter become due, owing, payable or belonging to me or detained from me in any manner or ways whatsover, clothing said attorney with full power and authority to compromise and agree for the same and to make, execute, seal and deliver acquittances or other sufficent discharges for the same for me in my name.

ALSO, to lease, let, demise, bargain, sell, release, convey, endorse, mortgage, and hypothecate any and all personal and real property now or herafter owned by me upon such terms and conditions and under such covenants as said attorney shall think fit and also for me and in my name as my act and deed to sign, seal, execute and deliver and acknowledge such leases, assignments of leases, covenants, agreements, hypothecations, notes, checks, stocks, bonds, receipts, evidences of debt, and any and all other instruments in writing of whatsoever kind or nature as may be necessary or proper in the premises and to enter any safety deposit box rented by me from any financial institution.

Giving and granting unto DR. LARRY E. SUMMEY, my said attorney, full power and authority to do and perform all and every

PD 033 10000a 62368

act and thing whatsoever requisite and necessary to be done in and about the premises as fully to all intents and purposes as I might or could do if personally present, I hereby ratify and confirm all that DR. LARRY E. SUMMEY, my attorney, shall do or cause to be done by virtue of these presents.

This Power of Attorney shall not be affected by physical disability or mental incompetence of the principal which renders the principal incapable of managing her own estate.

IN WITNESS WHEREOF, I have hereto set my hand and seal this 23rd day of January, 19 91.

Anna C. Summey
ANNA C. SUMMEY

Signed, sealed, declared and published to be the Power of Attorney of ANNA C. SUMMEY in the presence of us, the undersigned witnesses, who do hereby attest the same at her special instance and request, she signing in our presence and we in hers and in the presence of each other.

NAME	ADDRESS
Rhonda R Roberts	Spartanburg SC
Renée L Stinger	Spartanburg SC
Angela A Harris	Roebuck, S.C.

STATE OF SOUTH CAROLINA
COUNTY OF SPARTANBURG

PROBATE

PERSONALLY appeared before me the undersigned witness, who, being duly sworn, says that (s)he saw the above named ANNA C. SUMMEY sign, seal and as her act and deed, deliver the foregoing Power of Attorney and that (s)he with the other two witnesses subscribed above witnessed the due execution thereof.

Rhonda R Roberts

SWORN to before me this 23rd day of January, 19 91

Marsha S Jackson (SEAL)
Notary Public for S.C.
10-14-93

Filed and recorded in the Register of Deeds Office for Henderson County, N.C. this 23 day of Nov, 2001 at 3:00 o'clock P M. in Book 1055 at page 633

Sedia W Moles
By: Linda Lorenzen Register of Deeds

Henderson County Real Property Data

Property Summary

Data last updated on: 12/29/2009
Ownership current as of: 8/6/2009

Parcel Number 0113332 PIN # 9650806865

Location Address
698 STONEY MOUNTAIN RD

Property Description
Lot # SR1383 OFF STONEY MTN RD

Property Owner:	Owner's Mailing Address	Property Location Address
HENDERSON COUNTY	1 HISTORIC SQUARE STE 5 HENDERSONVILLE NC 28792	698 STONEY MOUNTAIN RD

Administrative Data		Transfer Information		Property Value	
Old Map#	9650.04	Deed Date	12/08/2008	Total Appraised Land Value	$93,300
VCS	893	Deed Book	001381	Total Appraised Building Value	$112,300
City		Deed Page	00308		
Fire District	MOUNTAIN HOME	Revenue Stamps	500.00	Total Appraised Value	$205,600
Township	MOUTAIN HOME FIRE	Package Sale Date	12/08/2008		
Land Class	RESIDENTIAL-SINGLE FAMILY	Package Sale Price	$250,000		
Spec District 1		Land Sale Date			
Spec District 2		Land Sale Price		Elderly Exclusion	
History Parcel Number 1		**Improvement Summary**		Other Exemptions	$205,600
History Parcel Number 2		Total Units	0		
Acreage	6.96	Heated Area	1,931	Use Value Deferred	
Permit Date				Historic Value Deferred	
Permit #				Total Deferred Value	
				Total Assessed Value	

Prints best in landscape mode

Tuesday, December 29, 2009

FILED IN HENDERSON COUNTY REGISTER OF DEEDS
OFFICE. NEDRA W. MOLES, REGISTER

DATE: 12-8-08 TIME: 1:54 pm

EXCISE TAX STAMP: $500.

BOOK: 1381 PAGE: 308

NORTH CAROLINA GENERAL WARRANTY DEED

Excise Tax: $500.00

Parcel Identifier No. 0113332 Verified by _____ County on the ____ day of _____, 20__

By: _____

Mail/Box to: Massagee and Massagee 240 West 3rd Ave Hendersonville, NC 28792 PYM

This instrument was prepared by: Hogan and Brewer File No. 08-1354 (Deed Prep Only)

Brief description for the Index: Lot off Stoney Mountain Rd. Henderson County

THIS DEED made this 8th day of December, 2008, by and between

GRANTOR	GRANTEE
Icey Jane Revis, Single woman a/k/a Icey B. Revis	THE COUNTY OF HENDERSON, NORTH CAROLINA 1 HISTORIC SQUARE, STE 5 HENDERSONVILLE, NC 28792

Enter in appropriate block for each party: name, address, and, if appropriate, character of entity, e.g. corporation or partnership.

The designation Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH, that the Grantor, for a valuable consideration paid by the Grantee, the receipt of which is hereby acknowledged, has and by these presents does grant, bargain, sell and convey unto the Grantee in fee simple, all that certain lot or parcel of land situated in, Henderson County, North Carolina and more particularly described as follows:

See Attached Exhibit A

The property hereinabove described was acquired by Grantor by instrument recorded in Book 361, page 155.

A map showing the above described property is recorded in.

TO HAVE AND TO HOLD the aforesaid lot or parcel of land and all privileges and appurtenances thereto belonging to the Grantee in fee simple.

NC Bar Association Form No. 3 © 1976, Revised © 1977, 2002
Printed by Agreement with the NC Bar Association – 1981 - Chicago Title Insurance Company

And the Grantor covenants with the Grantee, that Grantor is seized of the premises in fee simple, has the right to convey the same in fee simple, that title is marketable and free and clear of all encumbrances, and that Grantor will warrant and defend the title against the lawful claims of all persons whomsoever, other than the following exceptions:

Henderson County Ad Valorem Taxes
Restrictions, Easements and Rights of Way of Record

IN WITNESS WHEREOF, the Grantor has duly executed the foregoing as of the day and year first above written.

_____ (Entity Name)

By: _____

Title:

By: _____

Title:

By: _____

Title:

Kenneth W. Revis, Attorney in Fact (SEAL)
ICEY JANE REVIS

_____ (SEAL)

_____ (SEAL)

_____ (SEAL)

STATE OF NORTH CAROLINA

COUNTY OF Henderson

I, Rachel Massagee, a Notary Public for said County and State, do hereby certify that KENNETH W. REVIS, attorney in fact for ICEY JANE REVIS, personally appeared before me this day, and being by me duly sworn, says that she executed the foregoing and annexed instrument for and in behalf of ICEY JANE REVIS, and that her authority to execute and acknowledge said instrument is contained in an instrument duly executed, acknowledged and recorded in the Office of the Register of Deeds in the County of Henderson, State of North Carolina on the 8 day of December, 2008, and that this instrument was executed under and by virtue of the authority given by said instrument granting her power of attorney.

I do further certify that the said KENNETH W. REVIS, acknowledged the due execution of the foregoing and annexed instrument for the purposes therein expressed for and in behalf of the said ICEY JANE REVIS.

Witness my hand and official seal, this the 30TH day of SEPTEMBER, 2008.

(Official Seal)

Rachel Massagee
Notary Public

My commission expires: 4/4/12

RACHEL MASSAGEE
Notary Public
Henderson County
State of North Carolina

NC Bar Association Form No. 3 © 1976, Revised © 1977, 2002
Printed by Agreement with the NC Bar Association – 1981 - Chicago Title Insurance Company

Tract One: Beginning at a stake, the southeastern corner of the County Home property, said stake being the first corner of Lot 3 of the division of th F. M. Corn estate, as per plat thereof made be G. W. Justice dated March 3, 1944, and being the beginning corner as established in that deed from F. M. Corn and wife, Anner Corn, to Guy Corn and wife, Dorothy Corn, dated March 4, 1944, and recorded in Deed Book 325, at page 533, Henderson County Registry, and runs thence from said beginning corner and with the County Home line, North 4 deg. 30 min. East 232 feet to an iron pin; thence South 86 deg. East 517 feet to a stake, in the northwest corner of Lot 5 of the F. M. Corn division; thence with the said line of Lot 5, South 14 deg. 30 min. West 803 feet to a stake in the northeastern line of the L. R. Brown tract; thence with Brown's line, North 47 deg. West 185 feet to an iron pin in the southwest margin of a 12-foot right-of-way; thence crossing said right-of-way and with the line of Guy F. Corn, North 50 deg. West 338 feet to an iron pin in the line of May Summey; thence with May Summey's line, North 13 deg. 30 min. East 240 feet to the beginning, containing 6.6 acres, more or less, and being a portion of that land described in deed from F. M. Corn and wife, Anner Corn, to Guy Corn and wife, Dorothy Corn, dated March 4, 1944, and recorded in deed book 325 at page 533, Henderson County Registry.

Also conveyed herewith is the right of ingress and egress over a 12-foot right-of-way extending along the southeastern edge of the property of Guy Corn and running from the County Home Road (now knows as Stoney Mountain Road) in a northeasterly direction for a distance of 380 feet to the southwestern line of the tract described herein. The foregoing being all of that real property conveyed to Elmo Revis (also known as Elmore Revis) and wife, Icey Jane Revis, by that deed recorded in Deed Book 361, Page 155, Henderson County Registry. Excepting and excluding from the foregoing 6.6-acre tract is all of that 0.25-acre tract conveyed by Elmore Revis and wife, Icey Burdette Revis, to Steve G. Worley and wife, Lucille B. Worley, by that deed recorded August 15, 1957, in Deed Book 361, Page 589, Henderson County Registry.

Tract Two: Being a portion of tract No. 5 of the F. M. Corn estate as shown on plat made by G. W. Justice, dated March 3, 1944, and more particularly described as follows: Beginning on an iron pin, the northwest corner of tract No. 5, said point also being the northeast corner of Tract No. 4 of the F. M. Corn estate, and running thence with the west line of Tract No. 5, South 14 deg. 30 min. West 480 feet to a stake, the north corner of that tract as conveyed by the parties of the second part to the parties of the first part by deed of even deed herewith; thence two new lines as follows: North 35 deg. 15 min. East 155 feet to an iron pin; thence North 5 deg. 10 min. East 340 feet to the point of beginning, and containing .25 acres, more or less. Being all that real property conveyed by Steve G. Worley and Lucille B. Worley to Elmore Revis and wife, Icey Burdette Revis (also known as Icey Jane Revis), by that deed recorded August 15, 1957, in Deed Book 361, Page 587, Henderson County Registry.

KWR

To: Elkins

31019 P459

STATE OF NORTH CAROLINA
COUNTY OF HENDERSON

This Deed, Made this 22nd day of March, in the year of our Lord, Two Thousand between

RONALD H. JACKSON and wife, BETTY JO JACKSON,

of the County of Henderson, and State of North Carolina, of the first part, and

HENDERSON COUNTY, a political subdivision of the State of North Carolina,

of the County of Henderson, and the State of North Carolina, of the second part.

WITNESSETH:

WITNESSETH, That the said part ies of the first part, for and in consideration of the sum of ($ 10.00) Ten Dollars and Other Good and Valuable Considerations DOLLARS, in hand paid by the said part Y of the second part, the receipt whereof is hereby acknowledged, ha VE Bargained and Sold, Conveyed and Confirmed, and by these presents do Bargain and Sell and Convey and Confirm, unto the said part Y of the second part, its successors heirs and assigns forever, all the following described piece or parcel of land and being in the Township of Hendersonville, County of Henderson, and State of North Carolina, and known and designated as follows, viz:

BEING all of that 0.4635 acre parcel of land as shown on plat thereof recorded on Plat Slide 2808 in the office of the Register of Deeds for Henderson County, North Carolina, reference to which is hereby made and incorporated herein for a greater certainty of description by metes and bounds.

The grantors hereby reserve and maintain possession of the above-described property for a period of 120 calendar days, said possession commencing on March 3, 2000, pursuant to Consent Order filed of record in File No. 99-CvS-526 in the office of the Clerk of Superior Court for Henderson County, North Carolina.

PREPARED BY: DON H. ELKINS, ATTORNEY

TO HAVE AND TO HOLD THE SAME, Together with all hereditaments and appurtenances thereunto in any wise appertaining, unto the said part y of the second part, its successors heirs and assigns forever.

And the said part ies of the first part do covenant with the said part y of the second part its successors heirs and assigns, as follows: FIRST, that the said part ies of the first part are the owner s and lawfully seized of said land and premises. SECOND, That they ha ve good right and full power to convey the same. THIRD, That the same are free from all encumbrances whatsoever. And, FOURTH, That the said part y of the second part, its successors heirs and assigns shall quietly enjoy and possess the same, and that the said part ies of the first part, their heirs, executors and administrators, will forever warrant and defend the title to the same against all lawful claims.

IN TESTIMONY WHEREOF, The said part ies of the first part ha ve hereunto set their hand s and seal s the day and year first above written.

SIGNED, SEALED AND DELIVERED IN THE PRESENCE OF:

Ronald H. Jackson (SEAL)
RONALD H. JACKSON

(SEAL)

Betty Jo Jackson (SEAL)
BETTY JO JACKSON

(SEAL)

STATE OF NORTH CAROLINA COUNTY OF HENDERSON

I, Karen Roberts, a Notary Public, in and for the above County and State do hereby certify that RONALD H. JACKSON and wife BETTY JO JACKSON

personally appeared before me this day and acknowledged the due execution by them of the foregoing Deed of conveyance

WITNESS my hand and notarial seal, this 22nd day of March A.D. 2000.

My commission expires October 7, 2004 Karen Roberts Notary Public

STATE OF COUNTY OF

I, a Notary Public in and for the above County and State do hereby certify that

personally appeared before me this day and acknowledged the due execution by of the foregoing Deed of conveyance

WITNESS my hand and notarial seal, this day of A.D.

My commission expires Notary Public

WARRANTY DEED

RONALD H. JACKSON and wife, BETTY JO JACKSON

TO

HENDERSON COUNTY, a political subdivision of the State of N.C.

NORTH CAROLINA, HENDERSON COUNTY

The foregoing certificate(s) of Karen Roberts

Notary Public/Notaries Public is/are certified to be correct. This instrument presented for registration and recorded in this office this 27 day of March, 2000 at 3:10 Mtg Book 1019 Page 459 and verified.

Register of Deeds By Patricia B. Higgins (Assistant/Deputy)

PREPARED BY
DON H. ELKINS, ATTORNEY
228 Sixth Avenue East, Suite 1-5
Hendersonville, North Carolina 28792

Printed and For Sale By
FLANAGAN PRINTING COMPANY
HENDERSONVILLE, N.C.

OPERATIONS PLAN

STONEY MOUNTAIN ROAD LANDFILL CAPITAL IMPROVEMENTS PROJECT

HENDERSON COUNTY, NORTH CAROLINA

WILLIAM H. SPERRY, P.E.

McGill ASSOCIATES

Engineering • Planning • Finance
Asheville, North Carolina

NORTH CAROLINA PROFESSIONAL SEAL 36132 ENGINEER WILLIAM H. SPERRY

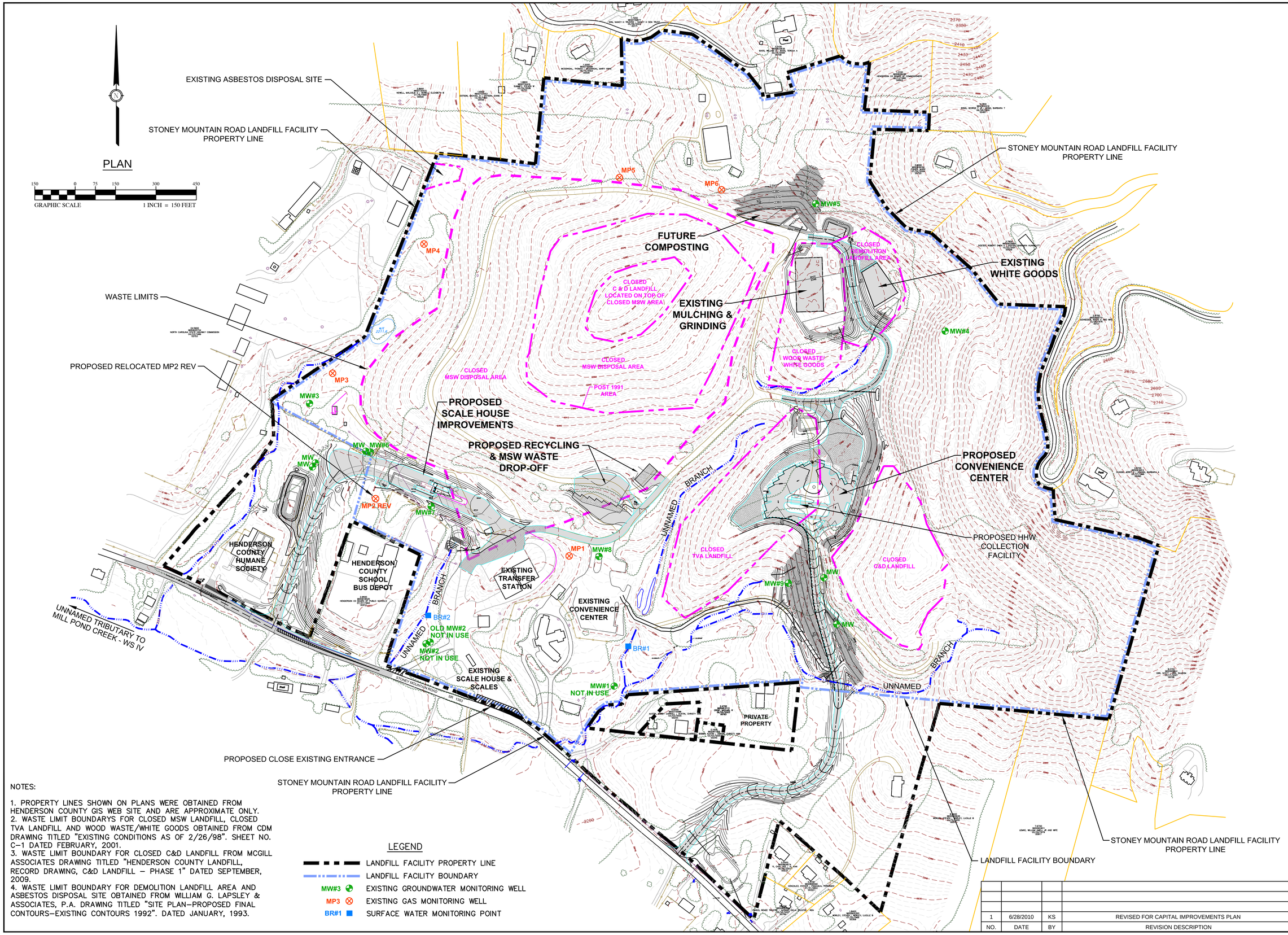
6/30/10

Original Plan: February 22, 2006
Revised Appendix B: June 2010
Appendix C: June 2010

09.00728

Section 2

Revised Operations Plan
Appendix B
Facility Site Plan



NOTES:

1. PROPERTY LINES SHOWN ON PLANS WERE OBTAINED FROM HENDERSON COUNTY GIS WEB SITE AND ARE APPROXIMATE ONLY.
2. WASTE LIMIT BOUNDARYS FOR CLOSED MSW LANDFILL, CLOSED TVA LANDFILL AND WOOD WASTE/WHITE GOODS OBTAINED FROM CDM DRAWING TITLED "EXISTING CONDITIONS AS OF 2/26/98". SHEET NO. C-1 DATED FEBRUARY, 2001.
3. WASTE LIMIT BOUNDARY FOR CLOSED C&D LANDFILL FROM MCGILL ASSOCIATES DRAWING TITLED "HENDERSON COUNTY LANDFILL, RECORD DRAWING, C&D LANDFILL – PHASE 1" DATED SEPTEMBER, 2009.
4. WASTE LIMIT BOUNDARY FOR DEMOLITION LANDFILL AREA AND ASBESTOS DISPOSAL SITE OBTAINED FROM WILLIAM G. LAPSLEY & ASSOCIATES, P.A. DRAWING TITLED "SITE PLAN–PROPOSED FINAL CONTOURS–EXISTING CONTOURS 1992". DATED JANUARY, 1993.

NO.	DATE	BY	REVISION DESCRIPTION
1	6/28/2010	KS	REVISED FOR CAPITAL IMPROVEMENTS PLAN

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
55 BROAD STREET ASHEVILLE, NC 28801 PH (828) 252-0575 FIRM LICENSE # C-0459

CAROLYN H. SPRINKLE
NORTH CAROLINA
REGISTERED
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION
SEAL 026404

STONEY MOUNTAIN ROAD LANDFILL FACILITY
CAPITAL IMPROVEMENTS PROJECT
HENDERSON COUNTY
HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 09.00728
DATE: JUNE, 2010
DESIGNED BY: DAP, KS
CADD BY: DAP, KS
DESIGN REVIEW: ____
CONST. REVIEW: ____
FILE NAME: 09.00728-Appendix B - Facility Site Plan.dwg

FACILITY SITE PLAN

APPENDIX
B

Q:\2009\09.00728\Design\Solid Waste\Drawings\Permit To Construct\09.00728 Appendix B - Facility Site Plan.dwg 6/30/2010 10:33 AM KELLY

Section 2

Operations Plan
Appendix C
Cap Reconstruction, Narrative and Details

Appendix C
Cap Reconstruction

Narrative

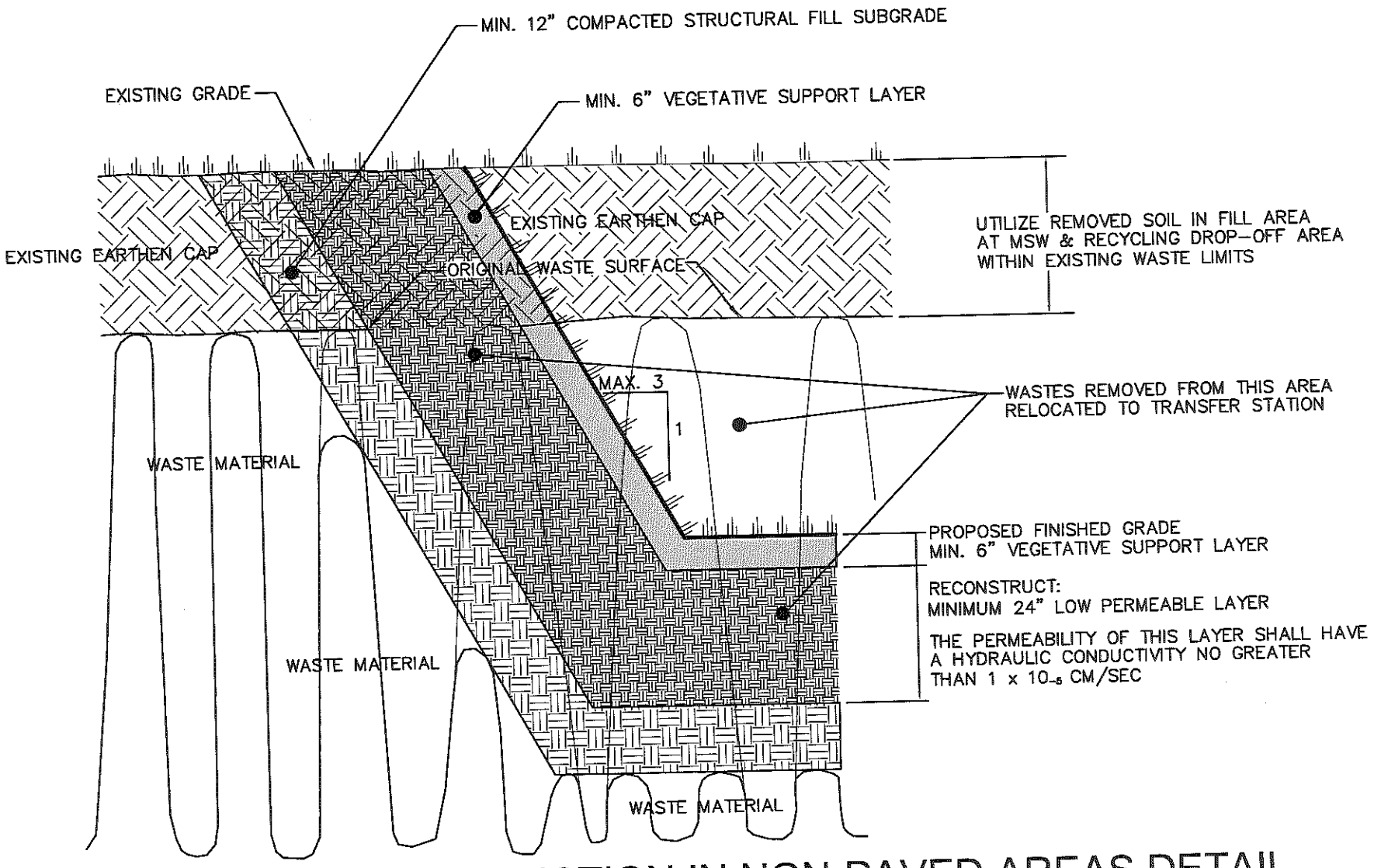
Introduction

Henderson County has identified safety concerns at the existing scale and transfer station areas at the Stoney Mountain Road Landfill and is developing plans to relocate the scales, scale house and citizen's convenience center as part of the Capital Improvements Project. Portions of the proposed scales access road and the citizen's convenience center are being relocated to areas above existing closed disposal sites. In general, fill material will be placed over the existing cap in order to avoid disturbing the cap. However, in areas where the existing landfill cap will be disturbed by grading operations associated with the implementation of the Capital Improvements Project, the landfill cap will be reconstructed to meet the Solid Waste Rules as set forth by the North Carolina Department of Environment and Natural Resources (NCDENR) and to ensure that the cap functions properly to contain leachate. The reconstructed cap will consist of a minimum 24-inches of compacted soil material with a hydraulic conductivity no greater than 1 x 10^{-5} cm/sec with a minimum 6-inches of vegetative support soil layer on top of the low permeable layer (see Figure 1). In proposed paved areas, in lieu of the 6-inch vegetative support layer, the 24-inch low permeable layer will be covered by the stone base and pavement (see Figure 2). A Construction Quality Assurance Plan shall be followed by the Contractor to verify that the reconstructed cap was built in accordance with the Solid Waste Rules and the approved plans.

Construction Practices

The area where it is expected that wastes will be encountered during the grading of the Capital Improvements Project is just to the north of the proposed scales location. In the proposed cut areas of grading plan within the waste limits of the landfill, the existing soil cap will be removed and used as fill material at the nearby proposed MSW/Recycling Drop-off Area (also within the waste limits). The location of the area where waste may be encountered is shown on Figure 3. In proposed fill areas within the waste limits, the existing soil cap will not be disturbed (except for minor grubbing of the area) and fill material shall be placed over the existing cap. The Contractor will install diversion berms as shown on the plans in order to contain leachate within the waste limits. Any leachate collected shall be pumped to the existing wetwell that receives leachate from the adjacent transfer station. This flow is pumped to the City of Hendersonville Wastewater Treatment Facility on Balfour Road. The Contractor will then build the 24-inch low permeable layer, in accordance with Section 02300 of the Specifications. The construction of this layer will be observed by a representative of the Owner to ensure that the requirements of the Site Specific Construction Quality Assurance (SSCQA) Plan are followed. Soil samples of the low permeable layer shall be tested for permeability and the additional requirements as noted in the SSCQA Plan and Technical Specifications. The

Contractor shall auger depth-verification potholes in order to confirm the thickness of the completed low permeable layer. The spacing of the depth-verification potholes are shown on Figure 3, and shall be no greater than 50 feet apart in the areas where waste was removed and the cap was reconstructed. Additional potholes may be requested by the Owner's representative on-site to observe the cap reconstruction. A six-inch vegetative protective layer shall be installed over the 24-inch low permeable layer. In areas where paving is proposed, the pavement section will be installed over the 24-inch low permeable layer. The final location of wastes encountered during grading will be surveyed and the waste limits in this vicinity will be updated on the as-built drawing submittal. The final SSCQA report will be submitted to NCDENR-Solid Waste Section.



CAP RECONSTRUCTION IN NON-PAVED AREAS DETAIL

NTS

FIGURE 1

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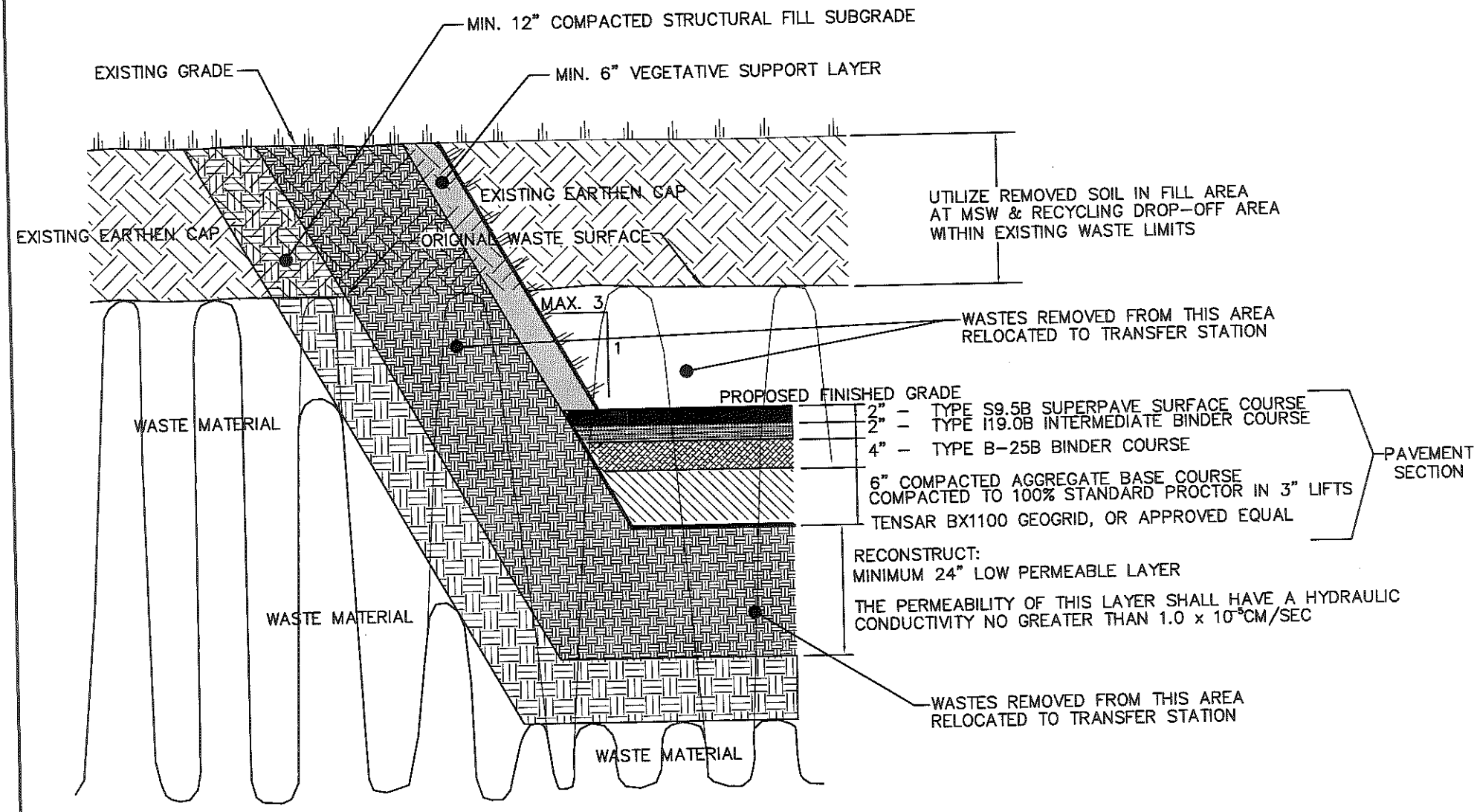

CAP RECONSTRUCTION IN PAVED AREAS DETAIL

NTS

FIGURE 2

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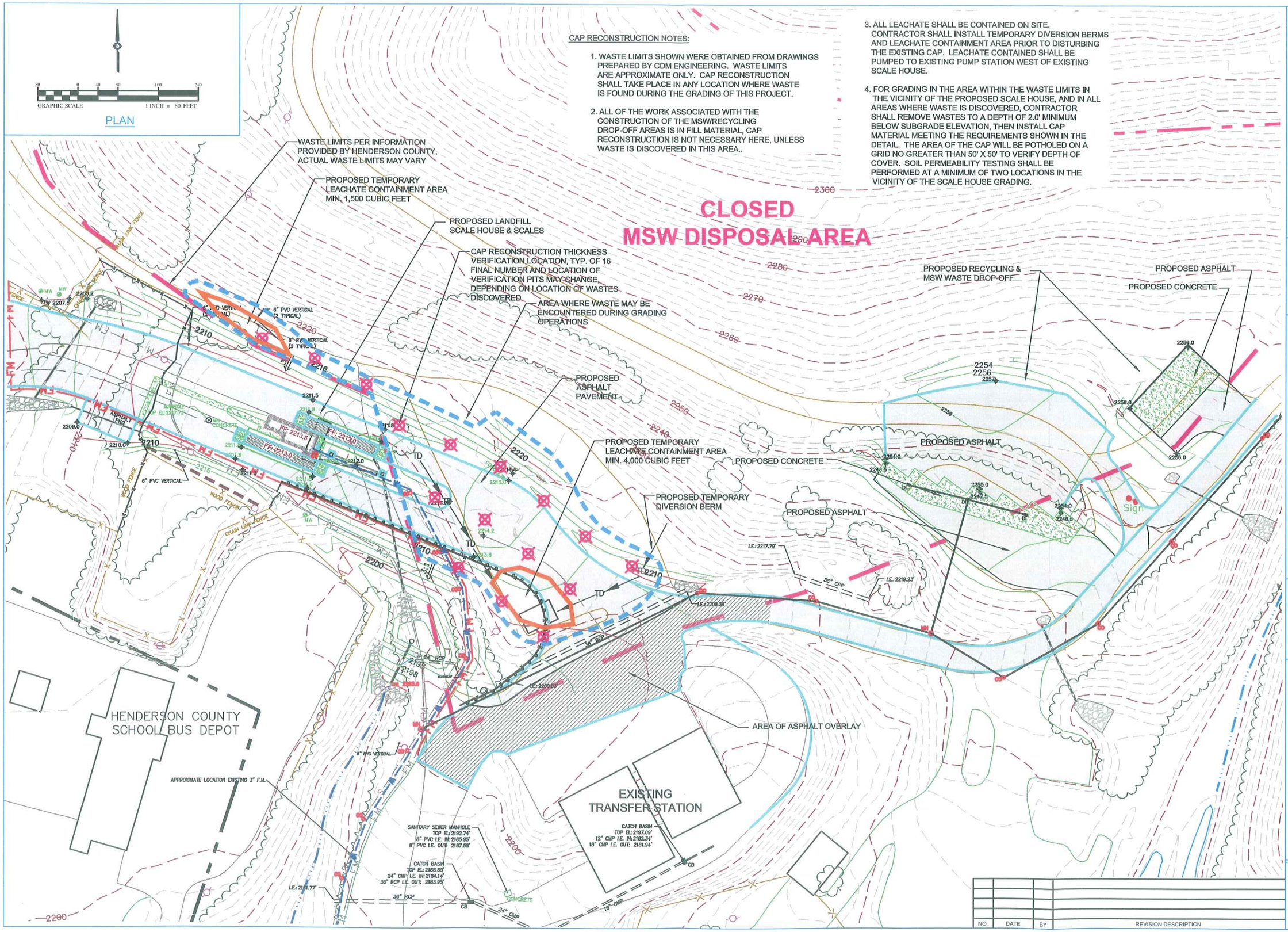


NO.	DATE	BY	REVISION DESCRIPTION

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
55 BROAD STREET ASHEVILLE, NC 28801 PH. (828) 252-0575 FIRM LICENSE # C-0459

STONEY MOUNTAIN ROAD LANDFILL FACILITY
CAPITAL IMPROVEMENTS PROJECT

HENDERSON COUNTY

HENDERSON COUNTY, NORTH CAROLINA

JOB NO. 99.00728
DATE: JUNE 2010
DESIGNED BY: DP
CADD BY: DP
DESIGN REVIEW: ___
CONST. REVIEW: ___
FILE NAME: PTC - Figure 3.dwg

SCALE AREA
CAP RECONSTRUCTION

FIGURE
3

Section 3

Cap Reconstruction
Site Specific Construction Quality Assurance Plan

CAP RECONSTRUCTION
SITE SPECIFIC CONSTRUCTION QUALITY ASSURANCE PLAN

STONEY MOUNTAIN ROAD LANDFILL CAPITAL IMPROVEMENTS PROJECT

HAYWOOD COUNTY, NORTH CAROLINA

WILLIAM H. SPERRY, P.E.

McGill ASSOCIATES

Engineering • Planning • Finance
Asheville, North Carolina

NORTH CAROLINA PROFESSIONAL SEAL 36132 ENGINEER WILLIAM H. SPERRY 6/30/10

June 2010

09.00728

CAP RECONSTRUCTION
SITE SPECIFIC CONSTRUCTION QUALITY ASSURANCE PLAN

Stoney Mountain Road Landfill
Henderson County, North Carolina
Capital Improvements Project

This Construction Quality Assurance Plan has been prepared in accordance with Section 15A NCAC 13B .0505 (3) (c) of the Solid Waste Rules, with the additional requirement that the reconstructed cap cover materials include a 24-inch layer of low permeable soils with a hydraulic conductivity no greater than 1×10^{-5} cm/sec, overlain by a 6-inch vegetative protective layer.

1.0 INTRODUCTION

1.1 Project Background

Henderson County currently operates a transfer station and citizens drop-off center at the Stoney Mountain Road Landfill. The current project involves relocating the scales, scale house, citizens drop-off center, and recycling drop-off location as part of the Capital Improvements Project. The Capital Improvements Project will require the removal of MSW waste from the closed MSW landfill and the reconstruction of the landfill cap. This SSCQA plan addresses the construction practices associated with the reconstructed cap. The Stoney Mountain Road Landfill is located in Henderson County at 802 Stoney Mountain Road (S.R. 1383).

1.2 Project Scope

The purpose of this Site Specific Construction Quality Assurance Plan (SSCQAP) is to provide guidance to McGill Associates and sub-contractor personnel on required documentation activities during the construction of the Capital Improvements Project. This guidance is intended to ensure that the installation of the reconstructed cap meets the requirements of Henderson County and the Site Specific Construction Quality Assurance Plan (SSCQAP) and project drawings and specifications.

The overall goals of the SSCQAP are to ensure that proper construction techniques and procedures are used to verify that the materials and installation techniques used meet Project SSCQAP and project drawings and specifications. Additionally, the program will identify and define problems that may occur during construction and ensure that these problems are corrected before the construction is complete. At completion of work, the program will culminate in a certification report, which documents that, the

reconstructed soil cap has been constructed in substantial compliance with this SSCQAP and project drawings and specifications. The primary emphasis of the SSCQAP is careful documentation during the preparation and placement of the soil cap materials.

1.2.1 Scope of Services

The Scope of Services provided by the On-site Owner Representative responsible for observing the construction of engineered base is as follows:

1. Pre-Construction materials evaluation (structural fill, soil cap material).
2. Subgrade Fill observation (if any), testing, documentation, and verification of construction procedures.
3. Soil cap reconstruction observation, testing, documentation, and verification of construction procedures.
4. Work with Project Engineer to provide information for CQA Report and CQA Certification that Capital Improvements Project was constructed in accordance with this SSCQAP.

1.2.2 Construction Schedule

Construction of the Capital Improvements Project shall be completed within 270 consecutive calendar days. The work associated with the reconstructed cap shall be kept to a minimum and should be completed within 3 weeks from the time that wastes are first exposed for removal.

Description
Preconstruction Meeting
Structural Fill Subgrade Installation
Cap Reconstruction Material Installation
Submit CQA Report and CQA Certification

2.0 Parties Involved

2.1 Henderson County

Contact: Mr. Marcus Jones, PE (828) 694-6950
Title: Henderson County Director of Engineering

Contact: Ms. Natalie Berry, PE (828) 694-6923
Title: Assistant Henderson County Engineer

2.2 McGill Associates, P.A.

Contact: William H. Sperry, PE (828) 252-0575
Title: Project Engineer

2.3 General Contractor

Contact: Unknown

Title:

2.4 Soils Laboratory (permeability testing)

Contact: Unknown

Title:

3.0 Preconstruction Meeting

A Preconstruction meeting will be held prior to the beginning of construction. The following people shall be present: On-site Owner Representative, County Engineer, Project Engineer, General Contractor, and all other subcontractors.

The following items will be discussed at a minimum:

Any questions about the SSCQAP will be addressed and any modifications that result will be documented. Any modifications to the approved SSCQAP must be approved by the North Carolina Department of Environment and Natural Resources, Division of Waste Management, Solid Waste Section (NCDENR-SWS).

- Special permits and state and/or federal regulations.
- Responsibilities, expectations, and roles of each party.
- Lines of authority and proper lines of communication.

- Procedures for documenting and reporting information.
- Distribution and storage of documents and reports.
- Review detailed time schedule for all operations.
- Review work area security, check-in procedure, and safety protocol.
- Review site health and safety requirements.

The Preconstruction Meeting will be documented by McGill Associates and a copy of the meeting minutes will be distributed to all parties who attend.

4.0 Definitions

4.1 Construction Quality Assurance

A planned and systematic application of all means and actions designed to provide adequate confidence that items or services meet design and specifications requirements and will perform satisfactorily in service. Construction quality assurance refers to means and actions employed by the CQA Monitors to ensure conformity of the reconstructed cap soil liner system installation with guidelines set forth in the SSCQAP, construction plans, and construction specifications.

4.2 Construction Quality Control

Those actions which provide a means to measure and regulate the characteristics of an item or services to design, and specifications requirements.

4.3 Project Engineer

The individual or firm responsible for the implementation of this SSCQAP, construction drawings, and construction specifications.

4.4 Owner On-site Representative

The County shall appoint a representative who will be responsible for monitoring the construction procedures for the reconstructed cap. The On-site Representative will work closely with the Project Engineer to ensure that the requirements of the SSCQAP and construction plans and specifications are met. The On-site Representative will provide the required information to the Project Engineer for final certification.

4.4 General Contractor

The firm responsible for the complete construction of the soil components of the landfill as specified in this SSCQAP and as shown on the construction drawings and construction specifications.

5.0 DOCUMENTATION PROCEDURES

5.1 Standard Reporting Procedures

The On-site Representative shall issue a daily report of construction activities. These reports shall include, as a minimum, the following information:

An identifying sheet number for cross-referencing and documentation control.

Date, project name, location and other identification.

1. Weather conditions.
2. Problems encountered and resolutions.
3. Descriptions and locations of ongoing construction.
4. Equipment and personnel in each work area, including subcontractors.
5. Descriptions and specific locations of areas or units of work being tested and/or observed and documented (identified by coordinates or seam/panel numbers).
6. Locations where samples were taken.
7. A summary of test results, failures, and re-tests.

5.3 Applicable Forms

As a minimum, the On-site Representative will utilize the following forms for the project:

1. Daily Field Report
2. Nuclear Density Testing
3. Drive Cylinder Test Report

4. Soil Testing Tracking Log
5. Certificate of Acceptance of Soil Subgrade
6. Depth Verification Pothole Log
7. Weather Log
8. Construction Photo Log
9. Certificate of Completion

5.4 Problem/Deficiency Identification and Corrective Action Report

The On-site Representative is required to inform the General Contractor in a timely manner, of any difference between the interpretation of the SSCQAP, the construction plans and construction specifications by the contractor versus the Representative's interpretation. In addition, any actual or suspect work deficiencies shall be brought to the Project Engineer's and Owner's attention.

A special meeting shall be held when and if a problem or deficiency is present. At a minimum, the meeting shall be attended by the General Contractor, the Owner, the Project Engineer, and the Owner's On-site Representative. The purpose of the meeting is to define and resolve the problem or work deficiency as follows:

1. Define and discuss the problem or deficiency
2. Review alternative solutions
3. Implement an action plan to resolve the problem or deficiency

The On-site Representative will document all proceedings. Any changes and/or modifications to the SSCQAP must be approved by the Owner, Project Engineer, and the NCDENR SWS.

5.5 Plan Modifications

Design and/or specification changes shall be made only with written approval of the Owner, the Design Engineer and the Project Engineer. Substantial design changes shall also require approval from the NCDENR-Solid Waste Section.

5.6 Scope Change

The On-site Representative shall notify the Project Engineer whenever additional engineering services are requested by Owner that exceed the original scope of services.

5.7 Photographic Documentation

Photographs taken to document observations, problems, and/or deficiencies, or work in progress will include identification of the date, location, direction of view, and time period. Photographs will be filed in chronological order in a permanent protective file by the On-site team. One set of prints and digital files shall be turned over to both the Owner and Project Engineer at the conclusion of the project.

The photographic index will include the following information:

1. Date of photograph
2. Provide a location and scale where photographed, including information regarding the orientation of the photograph itself for proper viewing
3. Subject description
4. Photo file number

The following is a list of minimum photographs to be taken during cap construction:

1. Subgrade/subbase proof rolling
2. Pothole depth verification (all potholes, including tape measure in photo to verify depth of cover)
3. On-site lab soil testing
4. Progress photographs
5. Design modifications
6. Construction deficiencies
7. Completed construction

5.8 Final Construction Documentation Report

The Owner's On-site Representative will work with the Contractor and Project Engineer to ensure that all of the necessary documentation is available for the Project Engineer to review. The Project Engineer shall prepare a final certification-documentation report covering the installation and testing of the reconstructed cap. This report shall certify that the reconstructed cap has been constructed in substantial accordance with this SSCQAP, the construction drawings, and the construction specifications.

5.9 Format of CQA Report

As a minimum, the certification report will contain the following items for discussion in the narrative portion of the report. The proposed table of contents is:

5.9.1 Table of Contents

Section

Engineer's Certification

1.0 Summary of Information

1.1 Narrative
1.2 Reference Information

2.0 Soil Preconstruction Data (embankment and reconstructed cap soil)

2.1 Proctors
2.2 Soil Density/Moisture
2.3 Soil Classification

3.0 Subgrade Field Data

3.01 Moisture Content
3.02 Field Density Testing

4.0 Reconstructed cap soil Field Data

3.21 Moisture Content
3.22 Field Density Testing
3.23 Permeability Testing

5.0 Project Meeting Minutes

6.0 Construction Photographs

7.0 Pertinent Information

8.0 Certification Drawings

5.9.2 List of Drawings

As a minimum, the certification will include in an appendix the following proposed list of drawings:

- Map giving elevation of reconstructed cap and the location of the depth-verification potholes, which are at a maximum frequency of every fifty (50) feet within the area that waste was removed and the cap was reconstructed. The location of the waste limits will be surveyed and noted on the map.

5.10 Site Surveying Requirements

The On-site Owner Representative shall coordinate all survey activities with the surveyor, provided by the Contractor. Survey services will be required for initial site layout, staking of waste limits, final grade verification, and depth-verification pothole location, as well as an as-built survey of waste limits and the appurtenances proposed for the Capital Improvements Project. The certification survey will be as directed by the On-Site Owner Representative.

6.0 CAP RECONSTRUCTION-EARTHWORK

6.1 Subgrade Structural Fill Preparation

6.1.1 Subgrade

Subgrade preparation shall be performed by the General Contractor and in accordance with the construction drawings and construction specifications.

The General Contractor shall be responsible for preparing the subgrade prior to placement of the reconstructed cap system and is responsible for constructing the subgrade in accordance with the technical specifications.

Construction Testing SUBGRADE TESTING FREQUENCIES		
TEST	ASTM METHOD	QUANTITY
Field Density	D6938, D1556, D2937	1/5,000 YD^3
Field Moisture	D2216, D6938, D4643	1/5,000 YD^3

6.1.2 Structural Fill Subgrade Installation

After the removal of wastes, structural fill shall be placed to achieve the design subgrade contours.

Before beginning placement of the Compacted Reconstructed cap soil:

1. The Owner On-site Representative shall document that he/she has visually inspected the subgrade surface to evaluate its suitability and that the subgrade meets the criteria specified in the project specifications.

2. The prepared subgrade shall be proof-rolled using a smooth-drum roller (minimum 20 tons) making a minimum of two (2) passes in each direction or other procedures and equipment approved by the Project Engineer.

3. The Onsite Representative shall document that the subgrade has been tested for conformance to the construction specifications as shown in the Table in this section.

The structural fill subgrade material shall be placed in accordance with Section 02200 of the Technical Specifications. The subgrade will be tested for field density and field moisture content at a minimum frequency of one (1) test per 5,000 cubic yards placed (2 tests minimum). Testing will also consist of visual observation and documentation of proof-rolling with a smooth-drum roller (minimum 20 tons) with at least two (2) passes in each direction or by other procedures and equipment approved by the Project Engineer. If a nuclear gauge is used as the primary means of construction testing, the instrument shall be calibrated properly and test data shall be verified using alternate test methods such as drive cylinders. An alternate test method shall be used at least once for every hundred tests performed with the nuclear gauge. The alternate test method should be performed in the same area as an instrument reading in order to allow accurate comparison of the data resulting from the two tests.

Construction Testing **STRUCTURAL FILL TESTING FREQUENCIES**		
TEST	ASTM METHOD	QUANTITY
Field Density	D6938, D1556, D2937	1/5,000 YD^3
Field Moisture	D2216, D6938, D4643	1/5,000 YD^3

6.2 Compacted Reconstructed Cap Soil Material

The compacted reconstructed cap soil shall consist of low-permeability soils placed on the prepared subgrade.

Table 1 - QA Testing Frequencies and Criteria for Compacted Reconstructed Cap Soil Material

Preconstruction Qualification		
Test	**ASTM Method**	**Quantity**
Natural Moisture Content	D2216	1/1,000 YD^3 or Change in Material
Grain Size Analysis	D422 or D1140	1/5,000 YD^3 or Change in Material
Classification	D2487	1/5,000 YD^3 or Change in Material
Atterberg Limits	D4318	1/5,000 YD^3 or Change in Material
Laboratory Compaction	D698 - Standard	1/5,000 YD^3 or Change in Material
Permeability **	D5084	1/5,000 YD^3 or Change in Material Three per Moisture-Density Curve

*** Preconstruction test samples shall be taken from the borrow source and or clay stockpiled prior to construction.**

** The Moisture-Density Curve shall show the region in which the required maximum permeability is met. A minimum of three (3) permeability tests (ASTM D5084) shall be performed per curve to establish the zone of acceptable moistures and densities at which the required maximum permeability may be achieved. If the Contractor elects to run multiple curves to enlarge the zone of acceptance, all curves must be submitted.

Construction Testing		
Test	**ASTM Method**	**Quantity**
Field Density	D6938, D1556, D2937	1/10,000 FT^2/Lift
Field Moisture	D2216, D6938, D4643	1/10,000 FT^2/Lift
Permeability	Extracted per D1587 Tested Per D5084	1/5,000 FT^3 Minimum of 3 Total
Maximum particle Size		3- inch diameter (lower 18 inches) 1/4-inch diameter (top 6 inches)
Soil Layer Thickness	Observation, Field Measurement	Continuous Observation, Minimum of Five (5) per Lift

If a nuclear gauge is used as the primary method for construction testing of the reconstructed cap soil, the test data shall be verified by alternate test methods at least once for every 10 tests performed.

Any modifications made to these testing frequencies will require prior approval from the NCDENR Solid Waste Section.

Reconstructed cap soil material generally consists of cohesive soils with low hydraulic conductivity used as barriers in lining systems. Soils used in reconstructed cap soils shall consist of clean, select material free of debris, excessive coarse particles or other deleterious matter. Soils with a visibly identifiable organic content, or soils classified according to the Unified Soil Classification System as organic silt or organic clay (OL, OH) shall not be used.

Any tests resulting in the penetration of the compacted reconstructed cap soil shall be repaired by backfilling the test area with a hand-tamped 50/50 bentonite/clay mixture.

6.3 Reconstructed cap soils

Prior to the construction of a reconstructed cap soil, soil evaluation tests shall be performed to confirm the adequacy of reconstructed cap soil materials procured from each on-site or off-site source area. All tests shall be performed in a geotechnical laboratory. The General Contractor shall submit the results of source evaluation tests to the Project Engineer. Previous testing and evaluations of the soil sources may also be used to evaluate the soil material. The material shall be accepted or rejected by the Project Engineer according to these results. The acceptance and rejection criteria for the reconstructed cap soil material will be verified by the construction of a test pad in accordance with the construction specifications

6.3.1 Quality Assurance Testing

Permeability tests shall be performed at a confining pressure of 25 psi +/- 1 psi and with a gradient in accordance with ASTM method D5084. Samples taken from each location shall be compared to the approved moisture-density-permeability relation. Test frequencies for construction testing are given in Table 1 of Section 6.2.

6.3.2 Reconstructed cap soil Placement

The reconstructed cap soil shall be placed in accordance with Section 02300 of the technical specifications.

6.3.3 Reconstructed cap soil Acceptance

The Owner's On-site Representative will work with the Project Engineer to approve the condition of the reconstructed cap soil prior to the placement of 6-inch vegetative layer or pavement section.

The soil components of the lining system will be approved by the Project Engineer when:

1. The installation of the soil components is finished.

2. Verification of the adequacy of the constructed components, depth of material, repairs if any, are completed in accordance with this SSCQAP and the technical specifications.

All documentation of installation is completed.

1. The depth and grade of the reconstructed cap soil has been verified and approved by the Project Engineer.

2. The appropriate frequency of permeability tests have been performed and the results have been approved by the Project Engineer.

3. The Project Engineer shall certify that installation of the soil components has proceeded in accordance with this SSCQAP and the Technical Specifications.

Section 5

Technical Specifications

02200 Earthwork
02300 Compacted Reconstructed Soil Cap

Section 4

Technical Specifications

02200 Earthwork
02300 Compacted Reconstructed Soil Cap

TECHNICAL SPECIFICATIONS

PERMIT TO CONSTRUCT
STONEY MOUNTAIN ROAD LANDFILL
CAPTIAL IMPROVEMENTS PROJECT

HENDERSON COUNTY, NORTH CAROLINA

William H. Sperry, PE

McGill ASSOCIATES

Engineering • Planning • Finance
Post Office Box 2259
Asheville, North Carolina 28802

NORTH CAROLINA PROFESSIONAL SEAL 36132 ENGINEER WILLIAM H. SPERRY 6/30/10

June 2010

09.00728

TABLE OF CONTENTS

TECHNICAL SPECIFICATIONS

DIVISION 2 - SITE WORK AND UTILITY PIPING

02200 EARTHWORK
02300 COMPACTED RECONSTRUCTED SOIL CAP

PART 1: GENERAL

1.01 SCOPE OF WORK

A. General: The work included in this section consists of the grading of the project area. The work includes:

1. Site clearing and on-site disposal of all debris and unsuitable material.

2. Removal of all topsoil, organically contaminated soil and existing unsuitable fill. Topsoil shall be stockpiled on site in a location supplied by the owner.

3. Proofrolling and grading of the property to the prescribed elevations.

4. Stockpiling or wasting on site of any excess cut material for providing acceptable material as required to obtain the desired grades.

5. Construction of earthen embankments.

6. Placement of Fill Material in order to bring the site to subgrade elevations, prior to placement of landfill components.

1.02 SITE CONDITIONS

A. Site Information: The boring logs and related information depict approximate subsurface conditions only at these specific locations and at the particular time designated on the logs. Subsurface conditions at other locations may differ from those reported at the boring locations. It is expressly understood that neither the Owner nor the Engineer will be responsible for interpretations or conclusions drawn from the boring data by the Contractor. The data are made available for the convenience of the Contractor. Test borings and other exploratory operations may be undertaken by the Contractor at his own expense, provided such operations are acceptable to the Owner.

PART 2: PRODUCTS

2.01 MATERIALS

A. Unstable Material:

1. The entire area within the limit of work shall be cleared and grubbed and shall be cleaned of all debris. Under the structures, paved, and fill areas; stumps, roots, logs, matted roots and other debris not suitable for foundations purposed shall be removed to a minimum depth of eighteen (18) inches below any subgrade. The resulting excavation shall be backfilled with suitable material and compacted as specified hereinafter for Fill Material. Cleared materials shall be completely removed from within the limits of work and disposed of on site by the Contractor at a location approved by the Owner.

2. Topsoil shall be carefully stripped to its full depth from all areas indicated to be graded, or to be built upon. Stripped topsoil shall be stockpiled on site at a location supplied by the Owner and protected for reuse later.

3. All areas to receive fill shall be stripped of root mat five (5) feet beyond toe of anticipated fills. Topsoil, all vegetation, such as roots, brush, heavy sods, heavy growth of grass, and all decayed vegetable matter, rubbish and other debris within the area upon which fill is to be placed, shall be stripped or otherwise removed before the fill placement begins. In no case will such objectionable material be allowed to remain in or under the fill area.

4. Soft or excessively yielding material shall be removed and replaced with inert controlled fill.

B. Structural Fill Subgrade Material:

1. Material to be used for structural fill shall be approved by the Project Engineer.

2. All roots, organic matter, trash, debris, and other unsuitable materials that may find their way into otherwise acceptable structural fill material shall be removed during the dumping and spreading operations.

3. Broken rock and boulders larger than six inches (6") in any dimension may not be used as structural fill without the specific approval of the Project Engineer.

4. Frozen soil shall not be used for fill.

PART 3: EXECUTION

3.01 PREPARATION

A. Structural Fill Subgrade Preparation:

1. After removal of waste material and other undesirable material, the reconstructed cap area shall receive structural fill in order to achieve the desired subgrade elevations. The following tests on the structural fill material shall be performed at the frequencies indicated:

Test	Test Method	Frequency	Acceptable Values
Field Density	ASTM D-6938, ASTM D-1556, ASTM D-2937	1/5,000 YD^3	95% Maximum Dry Density
Field Moisture	ASTM D-2216, ASTM D-6938, ASTM D-4643	1/5,000 YD^3	+/- 2% Optimum

2. Any soft, or excessively yielding material revealed by the proofrolling shall be removed and replaced with inert controlled fill. The Engineer shall be the sole judge of what constitutes soft or excessively yielding material.

3. Drainage from existing watercourses, springs or other sources should be rerouted out of the earthwork area. The Contractor shall take special care to remove all organically contaminated sediment, saturated soil, and other undesirable material from existing watercourses.

4. The structural fill shall be proofrolled to locate any soft or yielding area. Proofrolling shall be done with a smooth-drum roller (minimum 20 tons) making a minimum of two passes in each direction or other procedures and equipment approved by the Project Engineer.

3.02 INSTALLATION

A. Filling and Compaction:

1. After a stable non-yielding surface has been established, the surface of the area to be filled shall be scarified with a disc or harrow to a depth of four inches (4") to six inches (6"). An initial three inch (3")

layer of fill material shall then be spread over the scarified surface and the entire area compacted as specified below.

2. No fill shall be placed on any area until that area has been inspected and approved by the Engineer. Fill shall not be placed on a snow covered or frozen surface. Fill materials shall be spread in uniform horizontal layers not exceeding 8" in uncompacted thickness. Alternating layers of cohesive and granular fill soils shall not be permitted. Spreading and compacting of fill material should be started at the lowest portion of the site. All fill must be placed in horizontal layers. Sloping fill planes will not be permitted. Fill material shall be distributed over the full width of the embankment, and in no case will deep ruts be allowed to form.

3. Keyways shall be provided at the toe of each fill slope as shown on the drawings. As each layer of fill meets the natural grade of a slope, a bench, approximately 7 to 8 feet wide, shall be cut into the existing grade with each layer of newly placed fill. If rock is encountered at the face of the natural grade, the original ground shall be cut in vertical steps of 4 to 5 feet and a horizontal bench cut into the rock at the top of each vertical increment. A horizontal plateau, approximately 15 to 20 feet wide, should be provided in the existing slope at vertical intervals of roughly 25 feet. Subsurface drains shall be installed at the toe of the slope and wherever springs or excessive seepage are encountered. Drains should be led to the outside face of the embankment and the water picked up and carried away in such a manner as to avoid softening the embankment or its toe, or producing erosion gullies.

4. Before compaction begins, the fill shall be brought to a water content that will permit proper compaction. This may require aerating the material if it is too wet, or the addition of water if it is too dry. If additional water is required, it should be uniformly distributed and shall be thoroughly incorporated into the material by means of discs or other suitable mixing equipment. Care shall be taken to avoid trapping water within the fill.

5. The standard Proctor method of moisture-density relationship test, ASTM D 698, shall be used to determine the maximum laboratory dry density and the optimum moisture content of the material which is to be used for fill.

6. The fill material shall be compacted and tested in accordance with the following requirements:

Test	Test Method	Frequency	Acceptable Values
Field Density	ASTM D-6938, ASTM D-1556, ASTM D-2937	1/5,000 YD^3	95% Maximum Dry Density
Field Moisture	ASTM D-2216, ASTM D-6938, ASTM D-4643	1/5,000 YD^3	+/- 2% Optimum

7. The above compaction requirements are to be satisfied for all soil and weathered or soft rock fills. Weathered or soft rocks are those that can be broken down and disintegrated under normal compaction procedures and equipment.

8. At the close of each day's work, or where work is to be interrupted for a period of time, the surface of the site shall be shaped to drain freely, and sealed. If after a prolonged rainfall, the surface of the area to be filled or cut is too wet to work properly, the unsuitable material shall be removed to expose workable soil. The wet material removed may be dried and reused. Construction traffic shall be controlled so as to prevent rutting of graded areas and to avoid overrolling of any section.

9. All cut areas shall be rolled and compacted to produce a compaction equal to that of the filled area. If soft or yielding material is encountered in cuts, or fills as a result of trapping water, overrolling or improper control of construction traffic, and cannot be satisfactorily stabilized by moisture control, compaction or other means approved by the Engineer, the unstable material shall be excavated to the depth required by the Engineer. The excavation shall then be filled with suitable compacted material in accordance with the requirements outlined above.

B. Grading:

1. Elevations shown on the plans are finished ground unless otherwise noted. Grading shall be maintained in such a manner as to provide free surface drainage of the site at all times without any ponding of water.

2. Provide ditches and swales to the cross-sections and grades shown on the drawings. Cut ditch subgrades four inches (4") below the

grades shown and provide four inches (4") of topsoil where the plans call for seeding or sodding of the ditch. Keep ditches and swales free of accumulations of debris or washed in material until final acceptance of work by the Engineer.

3. Shape all surfaces to within not more than 0.10 feet above or below the required subgrade elevations and free from irregular surface changes.

C. Control and Testing:

1. The services of qualified soils testing personnel will be employed by the Owner for the making of tests to determine the moisture-density relationships, relative densities, plastic and liquid limits and suitability of materials for compaction and for inspection and control of the site preparation, selection, placing and compaction of the fill. A copy of the testing personnel's daily field report including results of in-place density and moisture content tests should be forwarded to the Owner and the Engineer at the end of each working day. If an independent testing firm is hired by the Contractor for the purpose of testing soil used in the construction of the landfill, the testing firm shall submit a field report to the Owner and Engineer at least once per week.

2. The Contractor shall cooperate with the testing personnel so as to permit proper inspection and control of the work without unnecessary delays.

D. Maintenance:

1. The Contractor shall be responsible during construction and until final acceptance for the maintenance of all embankments made under the Contract.

2. During construction and until final acceptance; the Contractor shall construct temporary or permanent earth berms along the outer edges of the top surface of the embankment, construct temporary ditches, shape the embankment surface to provide for the drainage of surface runoff along and throughout the length of the embankments, and use any other methods necessary to maintain the work covered by this section so that the work will not contribute to excessive soil erosion. The Contractor shall construct brush dikes, or install temporary or permanent slope drains or other drainage features to assist in controlling erosion.

3. The Contractor shall replace, at no cost to the Owner, any portion of embankment which have become displaced or damaged due to carelessness or neglect on the part of the Contractor. Where the work has been properly constructed, completely drained and properly maintained, and damage occurs due to natural causes, the Contractor will be paid at the Contract unit price for the excavated material required to make necessary repairs to such damage.

4. All embankments shall be brought to the grade and cross section shown on the plans or established by the Engineer, prior to final inspection and acceptance by the Engineer.

END OF SECTION

SECTION 02300 COMPACTED RECONSTRUCTED SOIL CAP

02300.1 Scope of Work

In areas of the installation of appurtenances associated with the Capital Improvements Project where wastes have been removed, the landfill cap shall be reconstructed to include a minimum 24-inch low permeable compacted soil cap. The Contractor shall furnish all labor, material, supervision, and equipment to complete the Compacted Reconstructed Soil Cap for the cell, including hauling, sieving, raking, discing, compacting, drying, wetting, removal of rainwater and removal of all previously placed material rendered unsuitable due to weather conditions or construction operations, final grading and sealing and all necessary and incidental items as detailed or required to complete the compacted liner, all in accordance with the Contract Documents, and the Site Specific Construction Quality Assurance Plan. A 6-inch protective soil layer, suitable for the establishment of a vegetative cover, shall be placed over the 24-inch low permeable soil cap.

02300.2 Materials

Soil that meets the following requirements of clay liner fill shall be used for construction of the Compacted Reconstructed Soil Cap:

Preconstruction Qualification			
Test	**ASTM Method**	**Frequency**	**Acceptable Values**
Natural Moisture Content	D2216	1/1,000 YD^3 or Change in Material	Reference
Grain Size Analysis	D422 or D1140	1/5,000 YD^3 or Change in Material	< 3" in the lower 18", < ¼" in the upper 6", < 5% greater than No. 4 sieve
Classification	D2487	1/5,000 YD^3 or Change in Material	CL,CH,ML,MH, or SM
Atterberg Limits	D4318	1/5,000 YD^3 or Change in Material	Plasticity Index (PI) > 10
Laboratory Compaction	D698 – Standard	1/5,000 YD^3 or Change in Material	95% Maximum Dry Density
Permeability ** 24-inch compacted reconstructed soil cap	D5084	1/5,000 YD^3 or Change in Material (2 tests minimum)	Less than or equal to 1×10^{-5} cm/sec

* Preconstruction test samples shall be taken from the borrow source prior to construction.

** The Moisture-Density Curve shall show the region in which the required maximum permeability is met. A minimum of 2 permeability tests shall be performed per curve to establish the zone of acceptable moistures and densities at which the required maximum permeability may be achieved. If the Contractor elects to run multiple curves to enlarge the zone of acceptance, all curves must be submitted.

All soil clods will be broken down with tillers and discs to provide a homogeneous cap soil material.

The Reconstructed Compacted Soil Cap may consist of fill material modified by the addition of powdered bentonite in sufficient quantity to meet the specifications. Reconstructed Cap material modified with bentonite will be subject to the same testing criteria and frequencies as natural soil cap material, with the addition of percentage of bentonite used. If a bentonite admix is used, the mixing procedure shall be approved by the Engineer prior to construction.

Continuous and repeated visual inspection of the materials will be performed by the Contractor to ensure proper soils are being used. In addition, the Engineer will make frequent inspections of the Reconstructed Soil Cap placement operations and materials, and will consult with the Contractor on suitable liner fill and locations of such. All Reconstructed Cap soil material fill proposed shall be inspected by the Engineer prior to actual use.

02300.3 Construction

The following testing requirements and acceptable values shall apply to the construction of the Compacted Clay Liner unless specified otherwise:

Construction Testing			
Test	**ASTM Method**	**Frequency**	**Acceptable Values**
Field Density	D6938, D1556, D2973	1/10,000 FT^2/Lift 2 Min./Lift	95% Maximum Dry Density
Field Moisture	D2216, D6938, D4643	1/10,000 FT^2/Lift 2 Min./Lift	+0% - +5% optimum- Cell Floor +2% - +6% optimum – Side Slopes
Classification	D2487	1 per acre per lift	CL,CH,ML,MH, or SM
Permeability	Extracted per	1/5,000 FT^3 (3	Less than or equal

	D1587 Tested per D5084	minimum)	to 1 x 10^{-5} cm/sec
Soil Layer Thickness For 24-inch reconstructed soil cap	Observation, Field Measurement	Continuous Observation, Minimum of Five (5) per Lift	Minimum two (2) foot thick

RECONSTRUCTED SOIL CAP CONSTRUCTION

Prior to fill placement, the prepared subgrade shall be proofrolled with a smooth-drum roller (minimum 20 tons) by a minimum of two passes in each direction. Proofrolling shall be conducted at the discretion of the Engineer or his representative. Any soft, saturated or yielding areas exhibited by pumping and/or rutting will require removal and replacement with the appropriate soil at no additional cost to the Owner.

02300.4 Final soil cap lift thickness, after compaction, shall be a maximum of eight (8) inches. Thinner lifts are permissible to achieve design grade.

02300.5 After the lift to be compacted is conditioned, representative samples will be taken by the **Resident Owner On-site Representative** and tested for moisture content prior to any compactive efforts. If the moisture content is within the range specified by the moisture-density-permeability relation, compaction may begin. If the moisture content is outside of this range, the soil cap will be wetted or dried and reworked accordingly. The soil fill should be sprinkled or sprayed with water utilizing equipment creating a uniform application and dozed, wind-rowed, and/or disc-plowed to uniformly increase the moisture content of the soil if the material moisture content is too low. The soil fill shall be dozed, wind-rowed, and/or disc-plowed to help air dry the soil if the moisture content is too high.

02300.6 Each lift shall be thoroughly compacted to satisfy moisture and density controls through field testing before a subsequent lift is placed.

02300.7 Compaction of lifts shall be as follows:

1) Compaction of lifts shall be performed with an appropriately heavy, properly ballasted compactor. A minimum of four (4) passes will be required on each lift regardless of whether the lift meets density specifications. A pass is defined as one trip of the compacting equipment over the lift and back to the starting point by a single drum roller or one trip across the lift surface from one side to the other if the

compacting equipment has front and back compacting rollers. This requirement is to allow thorough remolding of the soil by kneading action.

2) The daily work area shall extend a distance so as to maintain moist soil conditions (facilitate bonding) and continuous operations. Desiccation and crusting of the lift surface shall be avoided as much as possible. Each lift shall be protected, at all times after placement, from desiccation and crusting.

3) If desiccation and crusting of the lift surface occurs before placement of the next lift, this area shall be scarified to a sufficient depth to mix with moist materials, or sprinkled with water and then scarified at the direction of the Engineer.

4) The transition between the bottom and side slopes shall be accomplished by compacting parallel (bottom to top) to the slope.

5) Dozer equipment may be used for primary compaction efforts.

6) The surface of the underlying lift shall be scarified a minimum of 2 inches prior to compaction of each subsequent lift (i.e., Lift 2 to Lift 3) to facilitate bonding of the lifts.

02300.8 During compaction of the soil liner material, the soil moisture content and dry density shall be maintained within the limits specified below.

1) To assure the moisture content and dry density requirements of the compacted soil are being satisfied, field and laboratory tests shall be made at minimal intervals as specified. Additional testing may be requested at the discretion of the Engineer.

2) Compaction moisture content shall be between 2 and 6 percent wet of optimum moisture content (OMC) on the side slopes.

3) The reconstructed soil cap shall be compacted to a minimum of 95 percent of the maximum dry density. Where densities are less than 95 percent of the maximum dry density, the soil cap shall be recompacted and/or removed and reworked to meet density objectives.

02300.9 The compacted reconstructed soil cap, in addition to the other provisions of this section, shall have a permeability not greater than 1.0×10^{-5} cm/sec on thin wall tube samples taken from the completed soil cap for use with the 24-inch compacted reconstructed soil cap. If representative permeability tests do not achieve the required permeability, the

reconstructed soil cap shall be reworked to meet permeability requirements regardless of its previously achieved density. Representative soil samples taken from the soil cap that fail laboratory permeability testing must be re-sampled until passing results are achieved. Each failing sample must be replaced by one successful sample. The Owner will pay for the permeability testing at the frequency required by the Site Specific Construction Quality Assurance Plan. The Contractor will be responsible for all costs associated with re-sampling and re-testing for failing samples beyond a 5% failure rate by quantity. This includes the cost of lab and Construction Quality Assurance personnel. The minimum charge for re-sampling and re-testing for failing permeability tests exceeding 5% failure rate will be $500.00 per occurrence.

02300.10 Soil fill shall not be placed or compacted during sustained periods with air temperature below 32°F. Soil fill may be placed and compacted during periods of early morning and early evening freezing temperatures with warming trends above 45°F during the day. No fill shall be placed on frozen subgrade. If the reconstructed soil cap or structural fill freezes or ices the fill section shall be rescarified and recompacted, at the discretion of the Engineer.

02300.11 During construction, finished lifts or sections of compacted reonstructed cap shall be sprinkled with water a minimum of twice per day depending on weather conditions.

02300.12 At the end of each construction day's activities, completed lifts or sections of compacted soil cap shall be sealed by rolling with a rubber tired or smooth drum rollers and sprinkled with water as needed.

02300.13 The compacted reconstructed soil cap shall be a minimum of twenty-four (24) inches at a permeability no greater than 1.0×10^{-5} cm/sec. Thickness of the compacted soil cap on the side slopes shall be measured perpendicular to the slope face.

02300.14 The as-built thickness of the compacted soil cap shall be determined by augering test holes (potholing) and measuring the depth of cover. Potholing shall occur at a maximum frequency of every fifty (50) feet within the area that waste was removed and the cap was reconstructed. Any penetration within any portion or lift of the reconstructed soil cap shall be promptly backfilled by the Contractor with a 50/50 mix of hand tamped soil and bentonite fill. Samples of the in place compacted soil liner shall be tested and evaluated in accordance with provisions of the Construction Quality Assurance Plan.

02300.16 The surface of the compacted soil cap shall be smooth drum rolled and maintained free of rocks, organics, voids and sharp edges, prior to installation of the 6-inch vegetative support layer or pavement section.

No vehicles other than a smooth-drum roller will be allowed on the Compacted Soil Cap once the Cap has been approved until the placement of the vegetative layer or pavement base occurs.

END OF SECTION

Section 6

Erosion Control Plan Submittal Cover Letter

Section 5

Erosion Control Plan Submittal Cover Letter

McGill
ASSOCIATES

June 17, 2010

Ms. Janet Boyer, PE
North Carolina Department of Environment and Natural Resources
Land Quality Section
2090 US Highway 70
Swannanoa, North Carolina 28778-8211

RE: Erosion Control Plan Submittal
Capital Improvements Project
Stoney Mountain Road Landfill
Henderson County, North Carolina

Dear Ms. Boyer:

On behalf of Henderson County, McGill Associates is pleased to present this erosion control plan submittal for work associated with the Capital Improvements Project at the Stoney Mountain Road Landfill. The work involves relocating the landfill scales and scale house, citizens drop-off center, and miscellaneous appurtenances. Work on the project is expected to begin in the late summer/early autumn of 2010. The total land disturbance associated with the project is 33.6 acres. This project will impact 135 linear feet of stream, and the appropriate 401/404 permits for the impact will be forwarded to your office upon receipt. One set of the erosion control plan is included, let us know if you need any additional sets. Please find enclosed the following items for your review and approval:

1. One set of project plans.
2. Fully executed Financial Responsibility Form
3. One sets of design calculations supporting the proposed design.
4. Property Deeds
5. Erosion Control Checklist.
6. Check made payable to 'NCDENR' for $2,210 review fee.

Sincerely,
McGill Associates, P.A.

Dave Pasko

DAVE PASKO
Senior Engineering Technician

Enclosures:
cc: Marcus Jones, Henderson County Engineer, wo/enc

P:/2009/09728/Erosion Control Plan/jb6-17-10.doc

FINANCIAL RESPONSIBILITY/OWNERSHIP FORM
SEDIMENTATION POLLUTION CONTROL ACT

No person may initiate any land-disturbing activity on one or more acres as covered by the Act before this form and an acceptable erosion and sedimentation control plan have been completed and approved by the Land Quality Section, N.C. Department of Environment and Natural Resources. (Please type or print and, if the question is not applicable or the e-mail and/or fax information unavailable, place N/A in the blank.)

Part A.

1. Project Name Stoney Mtn. Rd. Landfill - Capital Improvements Project

2. Location of land-disturbing activity: County Henderson City or Township _____

   Highway/Street S.R. 1383 - Stoney Mtn. Road Latitude 35.35558°N Longitude 82.49531°W

3. Approximate date land-disturbing activity will commence: September 1, 2010

4. Purpose of development (residential, commercial, industrial, institutional, etc.): Landfill Infrastructure

5. Total acreage disturbed or uncovered (including off-site borrow and waste areas): 33.6 Acres

6. Amount of fee enclosed: $ 2,210. The application fee of $65.00 per acre (rounded up to the next acre) is assessed without a ceiling amount (Example: a 9-acre application fee is $585).

7. Has an erosion and sediment control plan been filed? Yes _____ No X Enclosed X

8. Person to contact should erosion and sediment control issues arise during land-disturbing activity:

   Name Marcus Jones, PE E-mail Address majones@hendersoncountync.org

   Telephone 828/694-6526 Cell # _____ Fax # _____

9. Landowner(s) of Record (attach accompanied page to list additional owners):

   Henderson County (Name) 828/694-6526 (Telephone) _____ (Fax Number)

   100 North King Street (Current Mailing Address) _____ (Current Street Address)

   Hendersonville (City) NC (State) 28792 (Zip) _____ (City) _____ (State) _____ (Zip)

10. Deed Book No. See deeds, Appendix F Page No. _____ Provide a copy of the most current deed.

Part B.

1. Person(s) or firm(s) who are financially responsible for the land-disturbing activity (Provide a comprehensive list of all responsible parties on an attached sheet):

   Henderson County (Name) majones@hendersoncountync.org (E-mail Address)

   100 North King Street (Current Mailing Address) _____ (Current Street Address)

   Hendersonville (City) NC (State) 28792 (Zip) _____ (City) _____ (State) _____ (Zip)

   Telephone 828/694-6526 Fax Number _____

2. (a) If the Financially Responsible Party is not a resident of North Carolina, give name and street address of the designated North Carolina Agent:

Name _____ E-mail Address _____

Current Mailing Address _____ Current Street Address _____

City _____ State _____ Zip _____ City _____ State _____ Zip _____

Telephone _____ Fax Number _____

(b) If the Financially Responsible Party is a Partnership or other person engaging in business under an assumed name, **attach a copy of the Certificate of Assumed Name.** If the Financially Responsible Party is a Corporation, give name and street address of the Registered Agent:

Name of Registered Agent _____ E-mail Address _____

Current Mailing Address _____ Current Street Address _____

City _____ State _____ Zip _____ City _____ State _____ Zip _____

Telephone _____ Fax Number _____

The above information is true and correct to the best of my knowledge and belief and was provided by me under oath (This form must be signed by the Financially Responsible Person if an individual or his attorney-in-fact, or if not an individual, by an officer, director, partner, or registered agent with the authority to execute instruments for the Financially Responsible Person). I agree to provide corrected information should there be any change in the information provided herein.

Marcus A. Jones, PE
Type or print name

Henderson County Director of Engineering
Title or Authority

Signature

6/14/10
Date

I, Joanna Manley, a Notary Public of the County of Polk State of North Carolina, hereby certify that Marcus Jones appeared personally before me this day and being duly sworn acknowledged that the above form was executed by him.

Witness my hand and notarial seal, this 14 day of June, 2010

OFFICIAL SEAL
Notary Public, North Carolina
County of Polk
JOANNA R. MANLEY
My Commission Expires 6-14-10

Seal

Joanna R. Manley
Notary

My commission expires June 16, 2010

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT & NATURAL RESOURCES
LAND QUALITY SECTION
EROSION and SEDIMENTATION CONTROL PLAN PRELIMINARY REVIEW CHECKLIST

The following items shall be incorporated with respect to specific site conditions, in an erosion & sedimentation control plan:

LOCATION INFORMATION

- x Project location & labeled vicinity map (roads, streets, landmarks)
- x North arrow and scale
- x Identify River Basin.
- N/A Provide a copy of site located on applicable USGS quadrangle and NRCS Soils maps if it is in a River Basin with Riparian Buffer requirements.

GENERAL SITE FEATURES (Plan elements)

- x Property lines & ownership ID for adjoining properties
- x Existing contours (topographic lines)
- x Proposed contours
- x Limits of disturbed area (provide acreage total, delineate limits, and label). Be sure to include all access to measures, lots that will be disturbed, and utilities that may extend offsite.
- x Planned and existing building locations and elevations
- x Planned & existing road locations & elevations, including temporary access roads
- N/A Lot and/or building numbers
- x Hydrogeologic features: rock outcrops, seeps, springs, wetland and their limits, streams, lakes, ponds, dams, etc. (include all required local or state buffer zones and any DWQ Riparian Buffer determinations)
- x Easements and drainageways, particularly required for offsite affected areas. Include copies of any recorded easements and/or agreements with adjoining property owners.
- x Profiles of streets, utilities, ditch lines, etc.
- x Stockpiled topsoil or subsoil locations
- x If the same person conducts the land-disturbing activity & any related borrow or waste activity, the related borrow or waste activity shall constitute part of the land-disturbing activity unless the borrow or waste activity is regulated under the Mining Act of 1971, or is a landfill regulated by the Division of Waste Management. If the land-disturbing activity and any related borrow or waste activity are not conducted by the same person, they shall be considered separate land-disturbing activities and must be permitted either through the Sedimentation Pollution Control Act as a one-use borrow site or through the Mining Act.
- N/A Location and details associated with any onsite stone crushing or other processing of material excavated. If the affected area associated with excavation, processing, stockpiles and transport of such materials will comprise 1 or more acres, and materials will be leaving the development tract, a mining permit will be required.
- pending Required Army Corps 404 permit and Water Quality 401 certification (e.g. stream disturbances over 150 linear feet)

EROSION & SEDIMENT CONTROL MEASURES (on plan)

- x Legend (provide appropriate symbols for all measures and reference them to the construction details)
- x Location of temporary measures
- x Location of permanent measures
- x Construction drawings and details for temporary and permanent measures. Show measures to scale on plan and include proposed contours where necessary. Ensure design storage requirements are maintained through all phases of construction.
- x Maintenance requirements for measures
- x Contact person responsible for maintenance

SITE DRAINAGE FEATURES

- x Existing and planned drainage patterns (include off-site areas that drain through project and address temporary and permanent conveyance of stormwater over graded slopes)
- x Method used to determine acreage of land being disturbed and drainage areas to all proposed measures (e.g. delineation map)
- x Size, pipe material and location of culverts and sewers
- x Soil information: type, special characteristics
- x Soil information below culvert storm outlets
- x Name and classification of receiving water course or name of municipal operator (only where stormwater discharges are to occur)

STORMWATER CALCULATIONS

- x Pre-construction runoff calculations for each outlet from the site (at peak discharge points). Be sure to provide all supporting data for the computation methods used (rainfall data for required storm events, time of concentration/storm duration, and runoff coefficients).
- x Design calculations for peak discharges of runoff (including the construction phase & the final runoff coefficients for the site)
- x Design calcs for culverts and storm sewers (include HW, TW and outlet velocities)
- x Discharge and velocity calculations for open channel and ditch flows (easement & rights-of-way)
- x Design calcs for cross sections and method of stabilization for existing and planned channels (include temporary linings). Include appropriate permissible velocity and/or shear stress data.
- x Design calcs and construction details for energy dissipaters below culvert and storm sewer outlets (include stone/material specs & apron dimensions). Avoid discharges on fill slopes.
- x Design calcs and dimension of sediment basins (note current surface area and dewatering standards as well as diversion of runoff to the basins). Be sure that all surface drains, including ditches and berms, will have positive drainage to the basins.

VEGETATIVE STABILIZATION

- x Area & acreage to be stabilized with vegetation
- x Method of soil preparation
- x Seed type & rates (temporary & permanent)
- x Fertilizer type and rates
- x Mulch type and rates (include mulch anchoring methods to be used)

NOTE: Plan should include provisions for groundcover on exposed slopes within 21 calendar days following completion of any phase of grading; permanent groundcover for all disturbed areas within 15 working days or 90 calendar days (whichever is shorter) following completion of construction or development.

FINANCIAL RESPONSIBILITY/OWNERSHIP FORM

- x Completed, signed & notarized FR/O Form
- x Accurate application fee payable to NCDENR ($65.00 per acre rounded up the next acre with no ceiling amount)
- N/A Certificate of assumed name, if the owner is a partnership
- N/A Name of Registered Agent (if applicable)
- x Copy of the most current Deed for the site. Please make sure the deed(s) and ownership information are consistent between the plan sheets, local records and this form.
- x Provide latitude & longitude (in decimal degrees) at the project entrance.

NOTE: For the Express Permitting Option, inquire at the local Regional Office for availability.

NARRATIVE AND CONSTRUCTION SEQUENCE

- x Narrative describing the nature & purpose of the construction activity
- x Construction sequence related to erosion and sediment contro (including installation of critical measures prior to the initiation o the land-disturbing activity & removal of measures after areas the serve are permanently stabilized). Address all phases c construction and necessary practices associated with temporar stream bypasses and/or crossings.
- x Bid specifications related only to erosion contr

THIS DOCUMENT CONTAINS A MICROPRINT SIGNATURE LINE AND A WATERMARK ON BACK.

66-30/531
561

HENDERSON COUNTY
113 NORTH MAIN STREET
HENDERSONVILLE, NC 28792

FIRST CITIZENS BANK
HENDERSONVILLE, NC

VOID AFTER 90 DAYS

CHECK NO. 387959

387959

VENDOR	CHECK DATE	CHECK AMOUNT
5137	06/11/2010	$2,210.00

PROVISION FOR THE PAYMENT OF THIS CHECK (OR DRAFT) HAS BEEN MADE BY AN APPROPRIATION DULY MADE PURSUANT TO THE LOCAL GOVERNMENT BUDGET AND FISCAL CONTROL ACT.

PAY ******2,210 DOLLARS AND NO CENTS

TO THE ORDER NCDENR-DIVISION OF WASTE MGMT
SOLID WASTE SECTION
1646 MAIL SERVICE CENTER
RALEIGH NC 27699-1646

FINANCE OFFICER

CHAIRMAN OF THE BOARD

⑈387959⑈ ⑆053100300⑆0056 1 1 1 2 6 6 4⑈

387959

HENDERSON COUNTY

INVOICE DATE	INVOICE NUMBER	INVOICE DESCRIPTION	NET INVOICE AMOUNT	PO NO.	VOUCHER
06/07/10	06042010	EROSION CONTROL PERMIT/SO	2,210.00		365373

5137 NCDENR-DIVISION OF WASTE MGMT 2,210.00 387959

NCDENR
North Carolina Department of Environment and Natural Resources
Division of Land Resources
Land Quality Section

James D. Simons, PG, PE
Director and State Geologist

Beverly Eaves Perdue, Governor
Dee Freeman, Secretary

June 18, 2010

LETTER OF RECEIPT OF EROSION CONTROL PLAN

Henderson County
ATTN: Marcus Jones
100 North King Street
Hendersonville, NC 28792

RE: Project Name: Stoney Mtn. Rd. Landfill – Capital Improvements Project
Project ID: HENDE-2010-006
County: Henderson
Disturbed Acres: 33.6
Fee: $2,210.00
Telephone Number: 828-694-6526
Street and City: Stoney Mtn. Road, Hendersonville
River Basin: French Broad
Submitted By: McGill Associates
Date Received by LQS: June 17, 2010
Plan Type: New Submittal

Dear Mr. Jones:

This office has received a soil erosion and sediment control plan for the project listed above which was submitted as required by the North Carolina Sedimentation Pollution Control Act (G.S. 113A-57 (4)).

The Act requires that all persons disturbing an area of one or more acres of land must obtain approval of a soil erosion control plan prior to the commencement of the land-disturbing activity (G.S. 113A-54(d) (4)). The Act further states that this plan must be filed a minimum of 30 days prior to the activity and the approving authority must approve or disapprove the submitted plan within 30 days of receipt. Failure of the approving authority to approve or disapprove the submitted plan within the 30-day period will be deemed approval of the plan.

Commencement or continuation of a land-disturbing activity under the jurisdiction of this Act prior to the approval of an erosion and sediment control plan is a violation of the Act.

The approval of an erosion and sediment control plan is conditioned on the applicant's compliance with Federal and State water quality laws, regulations and rules.

If you have questions please do not hesitate to contact this office. Your cooperation in this matter is appreciated and we look forward to working with you on this project.

Sincerely,

Jason Fulton

Jason Fulton, E.I., CPESC
Land Quality Section

cc: McGill Associates

Section 6

U.S. Army Corps of Engineers Submittal Cover Letter

McGill
ASSOCIATES

June 30, 2010

Ms. Tasha McCormick
US Army Corps of Engineers
Regulatory Field Office
151 Patton Avenue, Room 143
Asheville, North Carolina 28801

RE: Nationwide Permit
Stoney Mountain Road Landfill Facility
Improvements – Henderson County
Henderson County, North Carolina

Dear Ms. McCormick:

Thank you for meeting with us on Thursday, June 10 regarding the Henderson County Stoney Mountain Road Landfill Facility Improvements. On behalf of Henderson County, please find enclosed two (2) copies of a Nationwide Permit Application Form and two (2) copies of the 8 ½" x 11" and 11" x 17" drawings and supporting documentation for the above mentioned project. In general, this project consists of the roadway construction and grading associated with the convenience center and the scale access road. The project will provide Henderson County residents safer access to the Stoney Mountain Road Landfill facility. During construction, Henderson County is proposing to impact 135 linear feet of Unnamed Tributaries to the Mill Pond Creek (WS IV). These streams are not visible on the USGS quad map.

If you have any questions or require further information please do not hesitate to call.

Sincerely,
McGILL ASSOCIATES, P.A.

Michael G. Clark

MICHAEL G. CLARK
Senior Engineering Technician

Enclosures
cc: Marcus Jones, PE, Henderson County
Jeff Bishop, PE, McGill Associates
Bill Sperry, PE, McGill Associates

09.00728/permits/beckwith6-15-10.doc

Section 7

Capital Improvements Plan
Preliminary Plans

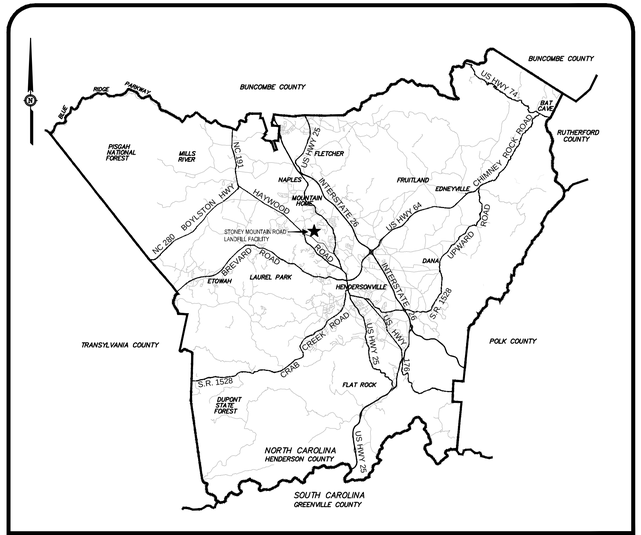
STONEY MOUNTAIN ROAD LANDFILL FACILITY
CAPITAL IMPROVEMENTS PROJECT

PRELIMINARY PLAN

HENDERSON COUNTY

HENDERSON COUNTY, NORTH CAROLINA

County Manager: Steve Wyatt
County Engineer: Marcus Jones, PE



VICINITY MAP NOT TO SCALE

McGill ASSOCIATES
ENGINEERING · PLANNING · FINANCE
55 BROAD STREET ASHEVILLE, NC 28801 PH. (828) 252-0575 FIRM LICENSE # C-0459

NORTH CAROLINA PROFESSIONAL SEAL 36187 ENGINEER WILLIAM H. SPEER

PRELIMINARY NOT FOR CONSTRUCTION

JUNE 2010

SCHEDULE OF DRAWINGS

G-001 . . . . . COVER SHEET

G-002 . . . . . GENERAL NOTES AND LEGENDS

CIVIL DRAWINGS
CD-101 . . . . DEMOLITION PLAN

CD-102 . . . . SCALE AREA CAP RECONSTRUCTION

C-101 . . . . . OVERALL SITE PLAN

C-102 . . . . . SCALE HOUSE IMPROVEMENTS

C-103 . . . . . SCALE HOUSE SITE PLAN

C-104 . . . . . CONVENIENCE CENTER IMPROVEMENTS

C-105 . . . . . CONVENIENCE CENTER IMPROVEMENTS

C-106 . . . . . CONVENIENCE CENTER IMPROVEMENTS

C-107 . . . . . SCALE ACCESS ROAD PROFILE

C-108 . . . . . CONVENIENCE CENTER ACCESS ROAD PROFILE

C-501 . . . . . MISCELLANEOUS DETAILS

C-502 . . . . . MISCELLANEOUS DETAILS

C-503 . . . . . MISCELLANEOUS DETAILS

C-504 . . . . . MISCELLANEOUS DETAILS

C-505 . . . . . MISCELLANEOUS DETAILS

C-506 . . . . . MISCELLANEOUS DETAILS

ARCHITECTURAL DRAWINGS
A1 . . . . . .SCALE HOUSE FLOOR PLAN & ELEVATIONS

A2 . . . . . .SCALE HOUSE FLOOR PLAN & ELEVATIONS

Q:\2009\09.00728\Design\Solid Waste\Drawings\Preliminary Plan\09.00728 G-001 Cover_G-002-Notes.dwg 6/24/2010 9:05 AM KELLY

GENERAL NOTES

1. ALL CONSTRUCTION OUTSIDE RIGHTS–OF–WAY SHALL TAKE PLACE WITHIN THE PERMANENT AND TEMPORARY ACCESS EASEMENTS SHOWN.
2. CONTRACTOR SHALL REPAIR ALL DISTURBED AREAS TO EQUAL OR BETTER CONDITION THAN THE ORIGINAL SITE, OR AS NOTED.
3. LOCATIONS OF EXISTING UTILITIES AS SHOWN ARE APPROXIMATE ONLY. EXACT LOCATIONS ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR. AT LEAST THREE DAYS PRIOR TO CONSTRUCTION, CONTRACTOR MUST NOTIFY EXISTING UTILITY OWNERS. CALL BEFORE YOU DIG. NORTH CAROLINA ONE CALL (1–800–632–4949).
4. ALL WORK NEAR AND AROUND WATERWAYS MUST CONFORM TO THE RULES OF THE STATE OF NORTH CAROLINA.
5. CONTRACTOR MUST PROVIDE EROSION CONTROL DEVICES TO CONTROL RUNOFF FROM THE CONSTRUCTION SITE. CONTRACTOR WILL BE RESPONSIBLE FOR ANY FINES THAT MAY BE LEVIED DUE TO POLLUTION CREATED DURING CONSTRUCTION.
6. CONTRACTOR SHALL FOLLOW ALL FEDERAL, STATE AND LOCAL HEALTH AND SAFETY REGULATIONS PERTAINING TO CONSTRUCTION OPERATIONS.
7. WATER LINES SHALL HAVE 3'–0" MINIMUM COVER UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
8. WATER AND SEWER LINES SHALL HAVE A MINIMUM 10' HORIZONTAL SEPARATION OR A MINIMUM 18" VERTICAL SEPARATION WITH THE WATER OVER SEWER, OR BOTH WATER AND SEWER LINES SHALL BE DUCTILE IRON PIPE 10' EITHER SIDE OF THE CROSSING.
9. WATER AND STORM SEWER LINES SHALL HAVE A MINIMUM 12" VERTICAL SEPARATION.
10. SEE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.
11. LEGAL DESCRIPTIONS FOR PROPOSED EASEMENTS BY OTHERS.
12. CONTRACTOR SHALL NOTIFY THE PROPER LOCAL AUTHORITIES 24 HOURS PRIOR TO ANY ROAD BEING CLOSED FOR CONSTRUCTION, INCLUDING BUT NOT LIMITED TO LOCAL NEWSPAPER, RADIO STATION, FIRE DEPARTMENT, COUNTY SHERIFF'S DEPARTMENT, AMBULANCE, AND COUNTY EMERGENCY AGENCY. ALL TRAFFIC CONTROL SHALL CONFORM TO THE REQUIREMENTS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION.
13. CONTRACTOR SHALL NOTIFY THE ENGINEER AFTER EXISTING BURIED UTILITIES HAVE BEEN LOCATED AND 24 HOURS PRIOR TO CONSTRUCTION.
14. ALL FENCE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH LIKE MATERIALS IN A WORKMANLIKE MANNER AND IN ACCORDANCE WITH STANDARD FENCE CONSTRUCTION PRACTICES AT THE CONTRACTOR'S EXPENSE.
15. CONTRACTOR SHALL FIELD LOCATE ALL BURIED TELEPHONE LINE IN CONFLICT WITH THE PROPOSED WATER LINE. WHERE NECESSARY, EXISTING BURIED TELEPHONE LINE SHALL BE TEMPORARILY MOVED DURING CONSTRUCTION OF THE PROPOSED WATER LINE AND RE–LAID AT NO ADDITIONAL COST TO THE OWNER.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING ROADS DURING CONSTRUCTION AND SHALL REPAIR ROADS PER REQUIREMENTS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION. NO OPEN CUTS OF EXISTING ROADS SHALL BE ALLOWED EXCEPT WHERE INDICATED ON THE DRAWINGS OR WHERE SPECIFIC PERMISSION IS GRANTED BY THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION. SAND OR A SIMILAR MATERIAL APPROVED BY THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION SHALL BE PLACED ON THE ROAD TO AID IN THE CLEAN UP AFTER CONSTRUCTION. A MINIMUM OF 2" OF SAND SHALL BE PLACED ON THE ROAD PRIOR TO STOCKPILING SPOIL MATERIAL ON THE ROAD SURFACE TO FACILITATE CLEANUP.

SCALE AREA CONSTRUCTION SEQUENCE NOTES

1. NO GRADING, TEMPORARY OR PERMANENT PAST STREAM IMPACT LIMITS SHOWN. NO EROSION OR SEDIMENT PAST LIMITS SHOWN. ALL RIP RAP MUST TERMINATE AT LIMITS SHOWN.
2. INSTALL SILT FENCE AND CONSTRUCTION ENTRANCE. INSTALL TREE PROTECTION AND MONITORING WELL PROTECTION.
3. INSTALL UNDERDRAIN IN AREA OF STREAM IMPACT. INSTALL PIPES P15 AND P15A AND JUNCTION BOX S4, ALONG WITH ASSOCIATED RIPRAP, IN ORDER TO BY–PASS STORM WATER DISCHARGE AROUND SEDIMENT BASIN 2.
4. BEGIN GRADING WORK ALONG STONEY MOUNTAIN ROAD AFTER CONSTRUCTING PROPOSED TEMPORARY SEDIMENT TRAPS 1 & 2. COMPLETE WORK ASSOCIATED WITH SEDIMENT BASIN 2 PRIOR TO BEGINNING WORK AT SCALES.
5. BEGIN DEMOLITION WORK OF EXISTING INFRASTRUCTURE TO BE REMOVED.
6. AS GRADING PROGRESSES, INSTALL SEDIMENT BASIN 1. ENSURE THAT ALL DISCHARGE FROM DISTURBED AREAS IS DIRECTED TO SEDIMENT CONTROL STRUCTURES.
7. GRASS AREAS AS SOON AS POSSIBLE AFTER REACHING FINAL GRADES.

CONVENIENCE CENTER AREA CONSTRUCTION SEQUENCE NOTES

1. NO GRADING, TEMPORARY OR PERMANENT PAST STREAM IMPACT LIMITS SHOWN. NO EROSION OR SEDIMENT PAST LIMITS SHOWN. ALL RIP RAP MUST TERMINATE AT LIMITS SHOWN.
2. INSTALL PROTECTION AROUND MONITORING WELLS.
3. INSTALL SILT FENCE IN AREA OF STREAM IMPACT, NEAR PIPE P52. INSTALL P52 AND ASSOCIATED ENDWALLS AND RIPRAP.
4. INSTALL SEDIMENT TRAPS 4, 5, 6, & 7 NEAR PIPE P52. INSTALL SEDIMENT BASIN 4.
5. INSTALL STABILIZED CONSTRUCTION ENTRANCE NEAR STONEY MTN. ROAD. INSTALL SEDIMENT BASIN 3. BEGIN ACCESS ROAD GRADING WORK. INSTALL SEDIMENT BASIN 8 NEAR SOIL BORROW AREA PRIOR TO GRADING OPERATIONS IN THIS VICINITY.
6. AS GRADING PROCEEDS UP ACCESS ROAD TOWARDS CONVENIENCE CENTER, INSTALL SEDIMENT TRAPS 8 & 9. UTILIZE EXISTING SEDIMENT BASIN WEST OF C&D LANDFILL, AS LONG AS POSSIBLE, UNTIL READY TO PERFORM GRADING AT CONVENIENCE CENTER.
7. INSTALL SEDIMENT BASIN 5 JUST NORTH OF CONVENIENCE CENTER, PRIOR TO GRADING IN THIS VICINITY.
8. PRIOR TO GRADING WORK IN THE VICINITY OF THE WHITE GOODS PAD, MULCHING AREA, AND COMPOSTING AREA, INSTALL SEDIMENT BASINS 6, 7, & 9.
9. GRASS AREAS AS SOON AS POSSIBLE AFTER REACHING FINAL GRADES.

GENERAL CONSTRUCTION NOTES

REVISION DATE - JUNE 16, 2009

1. FINISH GRADE TOLERANCES SHALL BE AS NOTED IN THE SPECIFICATIONS. THE ENGINEER MAY MAKE GRADE CHANGES AS REQUIRED IN THE FIELD WITHOUT EFFECTING THE UNIT BID PRICE FOR UNCLASSIFIED EXCAVATION.
2. UNLESS OTHERWISE STATED, ALL FILL AREAS SHALL BE CONSTRUCTED IN LAYERS OF 8" MAXIMUM THICKNESS, WITH WATER ADDED OR SOIL CONDITIONED TO THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY THE ENGINEER AND COMPACTED WITH A SHEEP'S FOOT ROLLER TO A COMPACTION EQUAL TO OR GREATER THAN 95% (100% IN THE TOP 2' OF THE SUB GRADE BELOW ROADWAYS AND PARKING LOTS) OF THE DENSITY OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH THE STANDARD PROCTOR METHOD OF MOISTURE–DENSITY RELATIONSHIP TEST, ASTM D698 OR AASHTO–99 UNLESS SPECIFIED IN OTHER SPECIFICATIONS.
3. ENTIRE AREA TO BE GRADED SHALL BE CLEARED AND GRUBBED. NO FILL SHALL BE PLACED ON ANY AREA NOT CLEARED AND GRUBBED.
4. ALL SOIL EROSION CONTROL MEASURES REQUIRED BY THE GRADING PLAN SHALL BE PERFORMED PRIOR TO GRADING, CLEARING OR GRUBBING. ALL EROSION CONTROL DEVICES SUCH AS SILT FENCES, ETC., SHALL BE MAINTAINED IN WORKABLE CONDITION FOR THE LIFE OF THE PROJECT AND SHALL BE REMOVED AT THE COMPLETION OF THE PROJECT ONLY ON THE ENGINEER'S APPROVAL. PAYMENT SHALL BE CONSIDERED INCIDENTAL TO CLEARING AND GRUBBING. IF DURING THE LIFE OF THE PROJECT, A STORM CAUSES SOIL EROSION WHICH CHANGES FINISH GRADES OR CREATES "GULLIES" AND "WASHED AREAS", THESE SHALL BE REPAIRED AT NO EXTRA COST, AND ALL SILT WASHED OFF OF THE PROJECT SITE ONTO ADJACENT PROPERTY SHALL BE REMOVED AS DIRECTED BY THE ENGINEER AT NO EXTRA COST. THE CONTRACTOR SHALL ADHERE TO ANY APPROVED EROSION CONTROL PLANS WHETHER INDICATED IN THE CONSTRUCTION PLANS OR UNDER SEPARATE COVER.
5. DISPOSABLE MATERIAL
   - A. CLEARING AND GRUBBING WASTES SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF BY THE CONTRACTOR AT HIS EXPENSE, UNLESS SPECIFIED OTHERWISE.
   - B. SOLID WASTES TO BE REMOVED, SUCH AS SIDEWALKS, CURBS, PAVEMENT, ETC., MAY BE PLACED IN SPECIFIC DISPOSAL AREAS DELINEATED ON THE PLANS OR REMOVED FROM THE SITE AS REQUIRED BY THE SPECIFICATIONS. THIS MATERIAL SHALL HAVE A MINIMUM COVER OF 2'. THE CONTRACTOR SHALL MAINTAIN SPECIFIED COMPACTION REQUIREMENTS IN THESE AREAS. WHEN DISPOSAL SITES ARE NOT PROVIDED, THE CONTRACTOR SHALL REMOVE THIS WASTE FROM THE SITE AND PROPERLY DISPOSE OF IT AT HIS EXPENSE.
   - C. ABANDONED UTILITIES SUCH AS CULVERTS, WATER PIPE, HYDRANTS, CASTINGS, PIPE APPURTENANCES, UTILITY POLES, ETC., SHALL BE THE PROPERTY OF THE SPECIFIC UTILITY AGENCY, OR COMPANY HAVING JURISDICTION. BEFORE THE CONTRACTOR CAN REMOVE, DESTROY, SALVAGE, REUSE, SELL OR STORE FOR HIS OWN USE ANY ABANDONED UTILITY, HE MUST PRESENT TO THE OWNER WRITTEN PERMISSION FROM THE UTILITY INVOLVED.
   - D. ON SITE BURNING IS AN ACCEPTABLE METHOD OF DISPOSING OF FLAMMABLE WASTES. WHEN BURNING IS ANTICIPATED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND MEETING GOVERNING CODES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OR HIS REPRESENTATIVE AS TO THE SPECIFIC LOCATION OF BURNING.

     AFTER BURNING IS COMPLETED, PURE ASH MAY BE DISPOSED OF BY MIXING WITH FILL DIRT. ALL MATERIAL NOT TOTALLY BURNED SHALL BE DISPOSED OF AS SPECIFIED IN "B" ABOVE. THE CONTRACTOR SHALL NOT HOLD UP WORK PROGRESS FOR THE PURPOSE OF WAITING FOR A "BURNING DAY".
6. IN THE EVENT EXCESSIVE GROUNDWATER OR SPRINGS ARE ENCOUNTERED WITHIN THE LIMITS OF CONSTRUCTION, THE CONTRACTOR SHALL INSTALL NECESSARY UNDER DRAINS AND STONE AS DIRECTED BY THE ENGINEER. ALL WORK SHALL BE PAID BASED UPON UNIT BIDS, UNLESS SPECIFIED OTHERWISE.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ADJUSTMENT OF ALL UTILITY SURFACE ACCESSES WHETHER HE PERFORMS THE WORK OR A UTILITY COMPANY PERFORMS THE WORK.
8. THE CONTRACTOR SHALL CONTROL ALL "DUST" BY PERIODIC WATERING AND SHALL PROVIDE ACCESS AT ALL TIMES FOR PROPERTY OWNERS WITHIN THE PROJECT AREA AND FOR EMERGENCY VEHICLES. ALL OPEN DITCHES AND HAZARDOUS AREAS SHALL BE CLEARLY MARKED IN ACCORDANCE WITH THE SPECIFICATIONS.
9. ALL AREAS WHERE THERE IS EXPOSED DIRT SHALL BE SEEDED, FERTILIZED AND MULCHED ACCORDING TO THE SPECIFICATIONS. THE FINISHED SURFACE SHALL BE TO GRADE AND SMOOTH, FREE OF ALL ROCKS LARGER THAN 3", EQUIPMENT TRACKS, DIRT CLODS, BUMPS, RIDGES AND GOUGES PRIOR TO SEEDING; THE SURFACE SHALL BE LOOSENED TO A DEPTH OF ±4"–6" TO ACCEPT SEED. THE CONTRACTOR SHALL NOT PROCEED WITH SEEDING OPERATIONS WITHOUT FIRST OBTAINING THE ENGINEER'S APPROVAL OF THE GRADED SURFACE. ALL SEEDING SHALL BE PERFORMED BY A MECHANICAL "HYDRO–SEEDER". HAND SEEDING SHALL BE AUTHORIZED ON AN AREA BY AREA APPROVAL BY THE ENGINEER. DISTURBED AREAS SHOULD THEN BE MATTED WITH SHORT–TERM PHOTODEGRADABLE EROSION CONTROL MATTING.
10. WHERE SPECIFIED, STORM DRAIN PIPE SHALL BE CORRUGATED METAL PIPE (CMP) CONFORMING TO AASHTO M–36, WITH REROLLED ENDS TO ACCOMMODATE CORRUGATED COUPLING BANDS. 18" PIPE SHALL BE 16 GAUGE, 24" AND 30" PIPE SHALL BE 14 GAUGE AND 36" PIPE AND OVER SHALL BE 12 GAUGE AS SPECIFIED ON THE PLANS, PIPE AND COUPLING BANDS SHALL CONFORM TO NCDOT 1032–3 FOR PLAIN PIPE OR 1032–4 (A) FOR BITUMINOUS COATED AND PARTIALLY PAVED PIPE. DIMPLE BANDS SHALL NOT BE USED.

    WHERE SPECIFIED, STORM DRAIN PIPE SHALL BE REINFORCED CONCRETE PIPE (RCP) CONFORMING TO AASHTO M–170, AS CONTAINED IN NCDOT STANDARD SPECIFICATION 1032–9 FOR WALL "B" TYPE.

    WHERE SPECIFIED, ALL STORM DRAIN PIPE SHALL BE HIGH DENSITY POLYETHYLENE (HDPE). SMOOTH WALL INTERIOR, WITH WATER TIGHT JOINTS, BACKFILLED WITH # 57 WASHED STONE UP TO MIN. 6" OVER THE TOP OF THE PIPE. HDPE PIPE USED FOR STORM DRAINAGE DETENTION SYSTEMS SHALL BE ADS N12 WT OR APPROVED EQUAL.

    WHERE SPECIFIED, ALL CORRUGATED METAL STORM DRAIN PIPE (CMP) SHALL BE ALUMINIZED TYPE 2 CORRUGATED STEEL MANUFACTURED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO M–36. THE PIPE SHALL BE MANUFACTURED FROM ALUMINIZED STEEL TYPE 2 MATERIAL CONFORMING TO THE REQUIREMENTS OF AASHTO M–274. ALL PIPE SHALL BE FURNISHED WITH REROLLED ENDS AND SHALL BE JOINED WITH HUGGER BANDS. THE USE OF DIMPLE BANDS WILL NOT BE ALLOWED. PIPE THROUGH 24" DIAMETER SHALL BE 16 GAUGE, PIPE THROUGH 42" DIAMETER SHALL BE 14 GAUGE, PIPE THROUGH 54" DIAMETER SHALL BE 12 GAUGE.
11. CONTRACTOR SHALL VERIFY ALL ELEVATIONS BEFORE INSTALLATION OF FACILITIES.
12. CATCH BASINS CAST–IN–PLACE SHALL CONFORM TO THE REQUIREMENTS OF NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES (LATEST EDITION) ARTICLES 840–1 THROUGH 840–3. CURB INLET CATCH BASIN SHALL CONFORM TO NCDOT STANDARD DETAILS 840.02 THROUGH 840.04. DROP INLETS SHALL CONFORM TO STANDARD DETAIL 840.14. JUNCTION BOXES SHALL CONFORM TO STANDARD DETAIL 840.31.
13. CURB INLET FRAME, GRATE AND HOOD SHALL BE NEENAH R–3233D, PRODUCTS BY DEWEY BROS., U.S. FOUNDRY OR EQUAL. DROP INLET FRAME AND GRATE SHALL BE NEENAH R–3339A OR EQUAL. FIELD INLET COVER SHALL CONFORM TO NCDOT STANDARD DETAIL 840.04, OPENING FACING UPSTREAM.
14. CONCRETE AND MASONRY SHALL MEET THE REQUIREMENTS OF APPROPRIATE SECTION OF NCDOT STANDARD SPECIFICATIONS FOR ROAD AND STRUCTURES (LATEST EDITION). CONCRETE SHALL BE CLASS A OR B, 4000 PSI MINIMUM, MEETING THE REQUIREMENTS OF SECTION 1000, CONSTRUCTED IN ACCORDANCE WITH SECTION 825. MASONRY SHALL MEET THE REQUIREMENTS OF SECTION 1040, CONSTRUCTED IN ACCORDANCE WITH SECTION 830 AND/OR 834.
15. TOPS OF PROPOSED FRAMES AND GRATES SHALL BE FLUSH WITH FINISHED GRADE.
16. PRE CAST CONCRETE BOXES ARE ACCEPTABLE ALTERNATIVES FOR PROPOSED CATCH BASINS.

NORTH CAROLINA LAND QUALITY SECTION
EROSION CONTROL NOTES

REVISION DATE - NOVEMBER 24, 2008

GENERAL: ALL EROSION CONTROL MEASURES ARE TO BE PERFORMED IN STRICT ACCORDANCE WITH REQUIREMENTS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF LAND RESOURCES, LAND QUALITY SECTION. THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE COMPLIED WITH FOR ALL WORK.

1. – PRIOR TO BEGINNING WORK ON THE PROJECT THE CONTRACTOR SHALL OBTAIN FROM THE OWNER A COPY OF THE "EROSION AND SEDIMENT CONTROL APPROVAL" FROM THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF LAND QUALITY, OR THE LOCAL AUTHORIZED PROGRAM. THE APPROVAL NOTICE MUST BE AVAILABLE ON–SITE DURING ALL GRADING AND CONSTRUCTION ACTIVITIES.

2. – INSTALL ALL EROSION CONTROL MEASURES AS REQUIRED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF LAND RESOURCES, LAND QUALITY SECTION.

   NOTE: ALL UTILITY INSTALLATION WITHIN 25' OF A RIVER OR STREAM BANK SHALL BE INSTALLED PER ***STREAM PROTECTION DURING EXCAVATION*** DETAIL. SEEDING AND MULCHING SHALL BE COMPLETED DAILY IN AREAS NOTED AS STREAM PROTECTION AREAS. SILT FENCE IN THESE AREAS SHALL NOT BE INSTALLED CLOSER THAN 5' FROM CREEK BANK UNLESS FIELD CONDITIONS PREVENT SUFFICIENT CLEARANCE. ALL SILT FENCES SHALL BE INSPECTED AND CLEANED AS NEEDED AFTER EACH RAIN.

3. – NO WORK SHALL BE PERFORMED IN STREAM FROM OCTOBER 15 TO APRIL 15 (TO ACCOMMODATE COE AND DWQ RECOMMENDATIONS CONCERNING WORK IN TROUT WATERS).

4. – CONTRACTOR IS TO PLACE PERMANENT STAKES MARKING CLEARLY THE 25' BUFFER FOR STREAMS WHERE SHOWN ON THE PLANS AND THE MARKERS ARE TO BE VISIBLE AT ALL TIMES DURING CONSTRUCTION.

5. – OBTAIN CERTIFICATE OF COMPLIANCE THROUGH ON–SITE INSPECTION BY A REPRESENTATIVE OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF LAND RESOURCES, LAND QUALITY SECTION.

6. – CONSTRUCTION SHALL BE LIMITED TO 2000' OF CONTIGUOUS ROAD CORRIDOR UNTIL ALL CUTS, FILLS, AND DITCHES ARE STABILIZED FOR THAT 2000' SECTION. UPON STABILIZATION OF THAT SECTION ANOTHER 2000' SECTION CAN BE CONSTRUCTED AND STABILIZED.

7. – ALL STREAM CROSSINGS AND PERENNIAL STREAMS WILL BE ALIGNED WITH THE NATURAL STREAM PATTERNS ABOVE AND BELOW THE PROPOSED ROAD. ARCH CULVERTS WILL BE USED AND FOOTERS WILL BE CONSTRUCTED IN UNDISTURBED BANKS AWAY FROM THE STREAM FLOW.

8. – PROCEED WITH GRADING, CLEARING AND GRUBBING. NOTE: NO OFF SITE DISPOSAL OF MATERIAL IS ALLOWED UNLESS THE DISPOSAL SITE HAS AN APPROVED EROSION CONTROL PLAN.

9. – SEED AND PLACE EROSION CONTROL MATTING ON ALL CUT AND FILL SLOPES THAT ARE NOT ROCK IMMEDIATELY UPON COMPLETION OF SLOPE STABILIZATION.

10. – ALL TEMPORARY STREAM AND CREEK CROSSINGS FOR EQUIPMENT DURING CONSTRUCTION SHALL BE MADE USING TEMPORARY BRIDGES. NO STREAM BANK OR STREAM BED DISTURBANCE SHALL BE ALLOWED FOR EQUIPMENT CROSSINGS.

11. – SEED AND MULCH DENUDED AREA WITHIN 15 DAYS AFTER FINISHED GRADE ARE ESTABLISHED. SEED AND SOIL AMENDMENTS SHALL BE PLACED ON A PREPARED SEEDBED AT THE FOLLOWING RATES PER ACRE. STRAW MULCH SHALL BE TACKED WITH TACKING AGENT APPLIED BY HYDROSEEDER.

LIME	4,000 LBS
FERTILIZER (10–10–10)	1,000 LBS
KY–31 FESCUE	100 LBS
STRAW MULCH	60–80 BALES
FOR SUMMER SEEDING ADD TO THE ABOVE:	
GERMAN MILLET	40 LBS
SMALL–STEMMED SUDAN GRASS	50 LBS
FOR WINTER SEEDING ADD TO THE ABOVE:	
RYE GRAIN	120 LBS

IF HYDROSEEDING, WOOD CELLULOSE MAY BE USED IN ADDITION TO STRAW MULCH AT THE RATE OF 1,000 LBS PER ACRE.

ALL SEEDING SHALL BE MAINTAINED, WATERED ETC.., UNTIL A PERMANENT VEGETATIVE GROUND COVER IS ESTABLISHED OVER ALL DISTURBED AREAS.

FOR ALL SLOPES 2:1 OR STEEPER ADD TO THE ABOVE:

PURE LIVE SEED SWITCHGRASS	4 LBS
BROWNTOP MILLET	8 LBS
GRAIN SORGHUM	2 LBS

ALL SLOPES 2:1 OR STEEPER SHALL BE COVERED BY EROSION CONTROL MATTING.

NATIVE SEEDING:

THE CORRECT SEEDBED pH IS 5.5 TO 6.5.

APPLY ZERO NITROGEN AT PLANTING.

INCORPORATE SOIL AMENDMENTS INTO TOPSOIL/ROOT ZONE BEFORE SEEDING.

FIRM SEEDBED BEFORE SEEDING (TRAVEL WITH DOZER CLEATS).

SEEDING DEPTH FOR ALL NATIVE SSP. (EXCEPT E.GAMAGRASS) NEED TO BE 1/4" – 1/2". GREATER DEPTHS CAUSE HIGH SEED MORTALITY.

SPECIALIZED SEEDING IMPLEMENTS ARE REQUIRED. SEED MIXES AND RATES TO MATCH SEEDER USED. A NO–TILL, DROP SEEDER OR BROADCASTER WITH PRECISION METERING TO CONTROL SMALL SEED FLOW AND PICKER WHEEL AGITATORS TO HANDLE FLUFFY SEED ARE BEST SUITED FOR NATIVE SEED.

NATIVE PLANT SEEDING MIX FOR STREAM OR RIVERBANK STABILIZATION

SEEDING FOR STREAM OR RIVERBANK STABILIZATION SHALL BE A MIXTURE OF NATIVE GRASSES, PLANTS AND TREES. NATIVE PLANT MIX SHALL INCLUDE THE FOLLOWING:

GRASSES – BIG BLUESTEM, INDIAN GRASS, LITTLE BLUESTEM, SWITCHGRASS	5 LBS/ACRE EACH
AUGUST THRU MAY – GREENRYE	25 LBS/ACRE EACH
MAY 1 THRU AUGUST – MILLET	25 LBS/ACRE EACH

TREES – SILKY DOGWOOD (CORNUS AMONUM), SILKY WILLOW (SALIX SERICEA), HAZEL ALDER (ALMUS SERRULATA) AND ELDERBERRY (SAMBUEUS CANADENSIS)

NATIVE PLANT MIX VARIATIONS SHALL BE APPROVED BY ENGINEER.

NOTE: NO FERTILIZER SHALL BE USED WITHIN 10' OF TOP OF STREAM OR RIVER BANK.

12. – MAINTAIN SOIL EROSION CONTROL MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

13. – REMOVE SOIL EROSION CONTROL MEASURES AND STABILIZE THESE AREAS.

14. – REQUEST FINAL APPROVAL BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF LAND RESOURCES, LAND QUALITY SECTION.

Know what's **below.** **Call** before you dig.
N.C. One-Call Center
Dial 811 or 1-800-632-4949

EXISTING CONDITIONS LEGEND

Symbol	Description
TEL PED	TELEPHONE PEDESTAL
ELEC PED	ELECTRIC PEDESTAL
CATV PED	CABLE TV PEDESTAL
SIGN	SIGN
CATV	UNDERGROUND CABLE TV SIGN
UG FOC	UNDERGROUND FIBER OPTIC CABLE SIGN
UG FOC	UNDERGROUND TELEPHONE CABLE SIGN
UG GAS	UNDERGROUND GAS LINE SIGN
UG ELEC	UNDERGROUND ELECTRIC LINE SIGN
LP	LIGHT POLE
PP	UTILITY POLE
	GUY WIRE ANCHOR
MH	MANHOLE
SSMH	SANITARY SEWER MANHOLE
SDMH	STORM DRAIN MANHOLE
COMMH	COMMUNICATION MANHOLE
ELMH	ELECTRICAL MANHOLE
J.B.	JUNCTION BOX
SPIGOT	SPIGOT/YARD HYDRANT
C.O.	SEWER CLEAN–OUT
E.SS	ELECTRIC SERVICE STUB–OUT
G.SS	GAS SERVICE STUB–OUT
CB	CATCH BASIN
CI	CURB INLET
WM	WATER METER
FH	FIRE HYDRANT
WV	WATER VALVE
BLOW OFF VALV.	BLOW OFF VALVE
G/M	GAS METER
G/V	GAS VALVE
ICV	IRRIGATION CONTROL VALVE
PIV	POST INDICATOR VALVE
E.JUNC	ELECTRIC JUNCTION BOX OR OUTLET

Symbol	Description
	CALCULATED POINT
IPS	1/2" REBAR SET WITH CAP
	CONCRETE MONUMENT
CM–R/W	RIGHT–OF–WAY MONUMENT
DOT MON	D.O.T. CONTROL POINT
RBF	REBAR FOUND
PK NL	PK NAIL FOUND / SET
SPINDLE	SPINDLE FOUND / SET
CPHUB	HUB & TACK SET
CP/NL	CONTROL POINT NAIL SET / FOUND
CP/NL GPS	CONTROL POINT/NAIL SET GPS
CP/TEMP	CONTROL POINT TEMPORARY MARK
STAKE	STAKE FOUND
40	INTERSTATE HIGHWAY
66	U.S. HIGHWAY
FFE ELEVATION	FINISHED FLOOR ELEVATION
MW	MONITORING WELL
PZ	PIEZOMETER
	LANDFILL GAS MONITORING PROBE
	SURFACE WATER SAMPLING LOCATION
	LANDFILL GAS VENT
	LANDFILL GAS COLLECTION WELLHEAD
W	POTABLE WATER WELL
MB	MAILBOX OR PAPER BOX
PB	POSTAL DROP BOX
SAT DISH	SATELLITE DISH
YARD ORNAMENT	STATUE, BIRD BATHS, ETC.
	TREES
	SHURBS / BUSHES

Line type	Description
================	CULVERT
—X—X—X—	FENCE
—□—□—□—	SILT FENCE
—o—o—o—	GUARD RAIL
— — S — — S —	APPROXIMATE LOCATION OF EXISTING SEWER LINES
— — W — — W —	APPROXIMATE LOCATION OF EXISTING WATER LINES
— — G — — G —	APPROXIMATE LOCATION OF EXISTING GAS LINES
| | | | | |	TOP & TOE LINES
— DL — DL — DL —	DITCH LINES
— — CTV — — CTV —	APPROXIMATE LOCATION OF UNDERGROUND CABLE TV LINE
—— CTV ——	APPROXIMATE LOCATION OF OVERHEAD CABLE TV LINE
— — FOC — — FOC —	APPROXIMATE LOCATION OF UNDERGROUND FIBER OPTIC CABLE LINE
— — E — — E —	APPROXIMATE LOCATION OF UNDERGROUND ELECTRIC LINE
—— E —— E ——	APPROXIMATE LOCATION OF OVERHEAD ELECTRIC LINE
— — T — — T —	APPROXIMATE LOCATION OF UNDERGROUND TELEPHONE LINES
—— T —— T ——	APPROXIMATE LOCATION OF OVERHEAD TELEPHONE LINES
— — ROW — — ROW —	RIGHT–OF–WAY
	TREELINE
	SHRUBLINE
—— – – —— – – ——	PROPERTY LINE NOT SURVEYED
oooooooooooo	ROCKLINE
—…—…—…—	STREAM LINE
——— – ——— – ———	CENTERLINE ROADS
—℄—℄—℄—	CENTERLINE OTHER THAN ROADS
	SWAMPLINE/WETLANDS

Abbreviation	Description
IPS	IRON PIN SET
RBF	REBAR FOUND
OTIPF	OPEN TOP IRON PIN FOUND
CTIPF	CRIMPED TOP IRON PIN FOUND
CMU	CONCRETE MASONRY UNIT
R/W	RIGHT OF WAY
℄	CENTERLINE
C	CURVE (SEE CURVE TABLE)
POB	POINT OF BEGINNING
CP	CALCULATED POINT
PB	PLAT BOOK
DB	DEED BOOK
L	LINE (SEE LINE TABLE)
BLDG	BUILDING
CIP	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CMU	CONCRETE MASONRY UNIT
CPP	CORRUGATED PLASTIC PIPE
DIP	DUCTILE IRON PIPE
E&T	ELECTRIC & TELEPHONE
FOC	FIBER OPTIC CABLE
GIP	GALVANIZED IRON PIPE
O/H	OVERHEAD
RCP	REINFORCED CONCRETE PIPE
U/G	UNDERGROUND
VCP	VITRIFIED CLAY PIPE
PVC	POLYVINYL CHLORIDE PIPE
FFE	FINISHED FLOOR ELEVATION
PG	PAGE
REF	REFERENCE
DOT	DEPARTMENT OF TRANSPORTATION
NGS	NATIONAL GEODETIC SYRVEY
NCSP	NORTH CAROLINA STATE PLANE

NO.	DATE	BY	REVISION DESCRIPTION

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
55 BROAD STREET ASHEVILLE, NC 28801 PH. (828) 252-0575 FIRM LICENSE # C-0459

PRELIMINARY NOT FOR CONSTRUCTION

STONEY MOUNTAIN ROAD LANDFILL FACILITY
CAPITAL IMPROVEMENTS PROJECT
PRELIMINARY PLAN
HENDERSON COUNTY
HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 09.00728
DATE: JUNE, 2010
DESIGNED BY: DAP, KS
CADD BY: DAP, KS
DESIGN REVIEW: ____
CONST. REVIEW: ____
FILE NAME:
09.00728 G-001 Cover_G-002-Notes.dwg

GENERAL NOTES AND LEGENDS

SHEET
G-002

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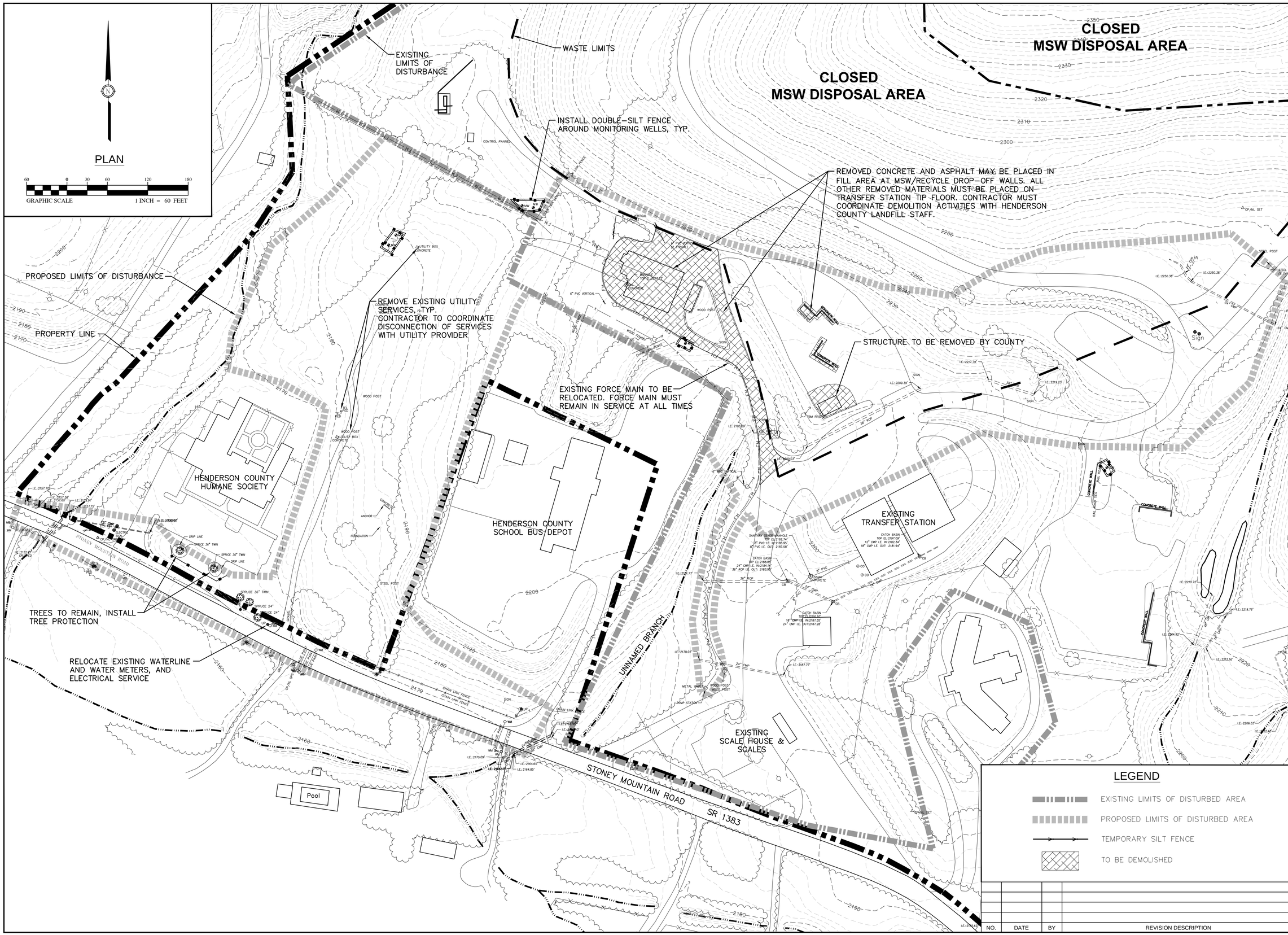

NO.	DATE	BY	REVISION DESCRIPTION

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
55 BROAD STREET ASHEVILLE, NC 28801 PH: (828) 252-0575 FIRM LICENSE # C-0459

CAROLINA PRELIMINARY NOT FOR CONSTRUCTION

STONEY MOUNTAIN ROAD LANDFILL FACILITY
CAPITAL IMPROVEMENTS PROJECT
PRELIMINARY PLAN

HENDERSON COUNTY

HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 09.00728
DATE: JUNE, 2010
DESIGNED BY: DAP
CADD BY: DAP
DESIGN REVIEW: ____
CONST. REVIEW: ____
FILE NAME: 09.00728 CD-101 Demolition Plan.dwg

DEMOLITION PLAN

SHEET
CD-101

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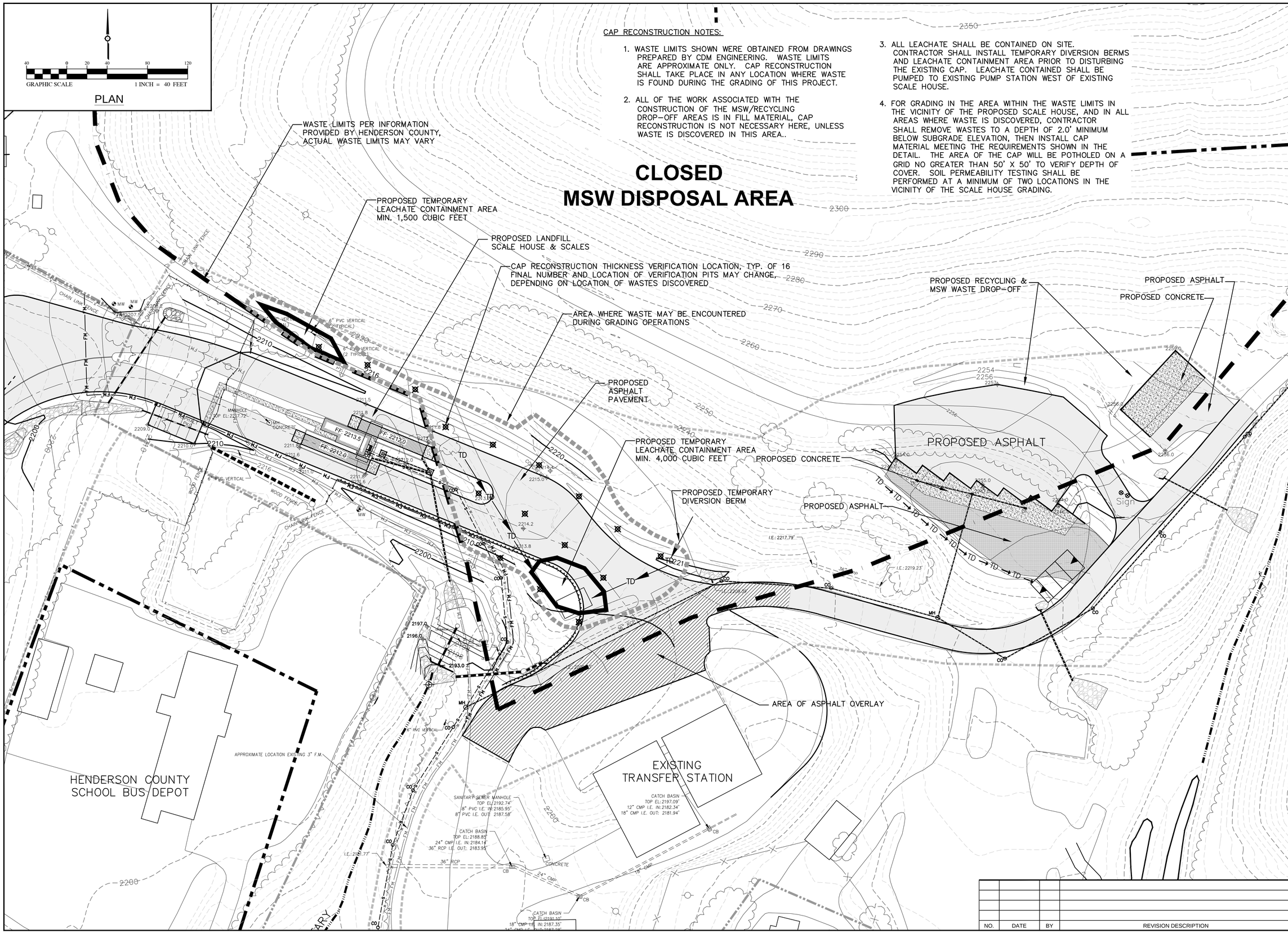

CAP RECONSTRUCTION NOTES:

1. WASTE LIMITS SHOWN WERE OBTAINED FROM DRAWINGS PREPARED BY CDM ENGINEERING. WASTE LIMITS ARE APPROXIMATE ONLY. CAP RECONSTRUCTION SHALL TAKE PLACE IN ANY LOCATION WHERE WASTE IS FOUND DURING THE GRADING OF THIS PROJECT.

2. ALL OF THE WORK ASSOCIATED WITH THE CONSTRUCTION OF THE MSW/RECYCLING DROP-OFF AREAS IS IN FILL MATERIAL, CAP RECONSTRUCTION IS NOT NECESSARY HERE, UNLESS WASTE IS DISCOVERED IN THIS AREA..

3. ALL LEACHATE SHALL BE CONTAINED ON SITE. CONTRACTOR SHALL INSTALL TEMPORARY DIVERSION BERMS AND LEACHATE CONTAINMENT AREA PRIOR TO DISTURBING THE EXISTING CAP. LEACHATE CONTAINED SHALL BE PUMPED TO EXISTING PUMP STATION WEST OF EXISTING SCALE HOUSE.

4. FOR GRADING IN THE AREA WITHIN THE WASTE LIMITS IN THE VICINITY OF THE PROPOSED SCALE HOUSE, AND IN ALL AREAS WHERE WASTE IS DISCOVERED, CONTRACTOR SHALL REMOVE WASTES TO A DEPTH OF 2.0' MINIMUM BELOW SUBGRADE ELEVATION, THEN INSTALL CAP MATERIAL MEETING THE REQUIREMENTS SHOWN IN THE DETAIL. THE AREA OF THE CAP WILL BE POTHOLED ON A GRID NO GREATER THAN 50' X 50' TO VERIFY DEPTH OF COVER. SOIL PERMEABILITY TESTING SHALL BE PERFORMED AT A MINIMUM OF TWO LOCATIONS IN THE VICINITY OF THE SCALE HOUSE GRADING.

NO.	DATE	BY	REVISION DESCRIPTION

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55 BROAD STREET ASHEVILLE, NC 28801 PH (828) 252-0575 FIRM LICENSE # C-0459

PRELIMINARY NOT FOR CONSTRUCTION

STONEY MOUNTAIN ROAD LANDFILL FACILITY
CAPITAL IMPROVEMENTS PROJECT
PRELIMINARY PLAN
HENDERSON COUNTY
HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 09.00728
DATE: JUNE 2010
DESIGNED BY: DP
CADD BY: DP
DESIGN REVIEW: ___
CONST. REVIEW: ___
FILE NAME: 09.00728 CD-102 Scale Area Cap Reconstruction.dwg

SCALE AREA
CAP RECONSTRUCTION

SHEET
CD-102

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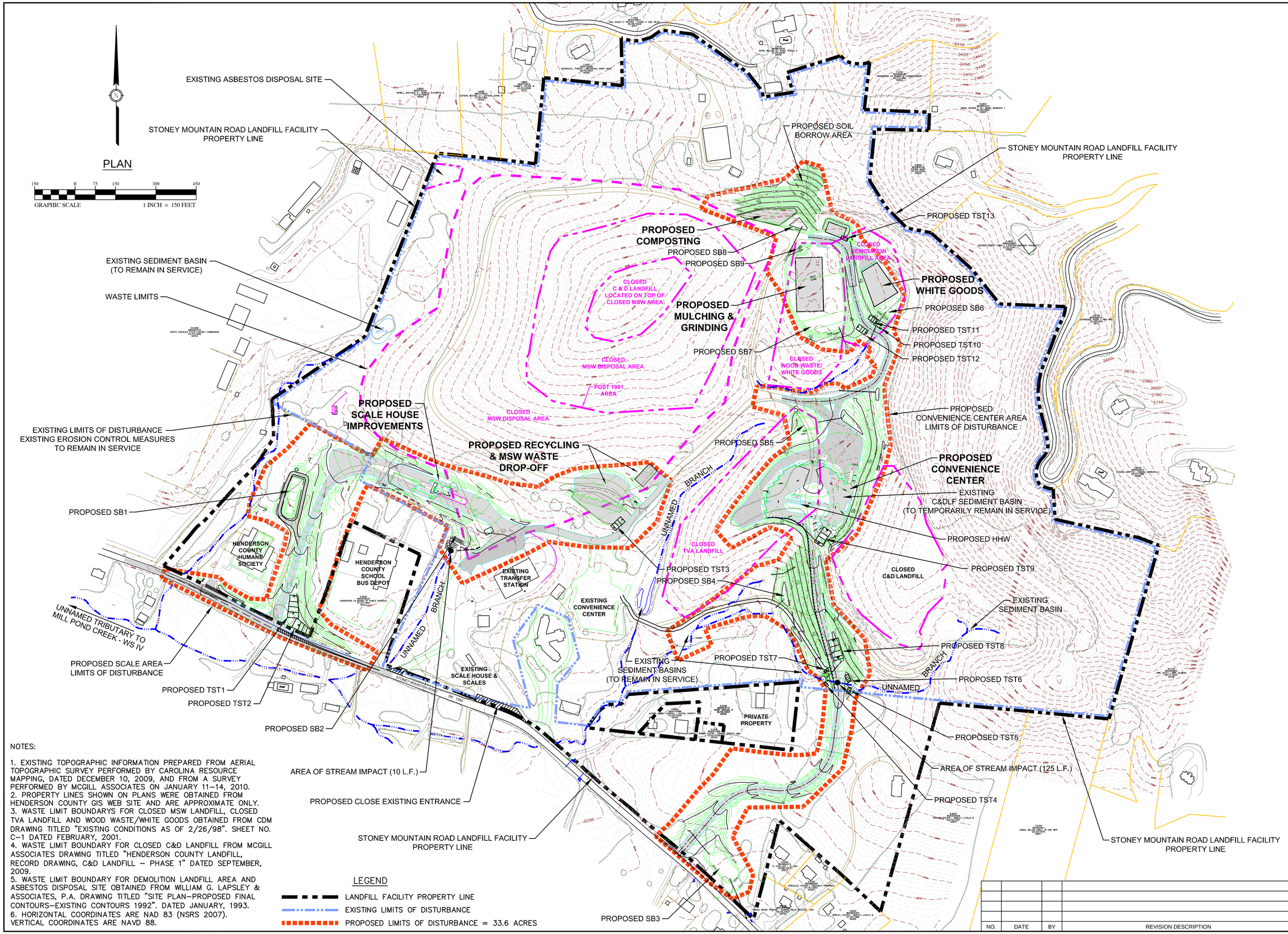

NOTES:

1. EXISTING TOPOGRAPHIC INFORMATION PREPARED FROM AERIAL TOPOGRAPHIC SURVEY PERFORMED BY CAROLINA RESOURCE MAPPING, DATED DECEMBER 10, 2009, AND FROM A SURVEY PERFORMED BY MCGILL ASSOCIATES ON JANUARY 11–14, 2010.
2. PROPERTY LINES SHOWN ON PLANS WERE OBTAINED FROM HENDERSON COUNTY GIS WEB SITE AND ARE APPROXIMATE ONLY.
3. WASTE LIMIT BOUNDARYS FOR CLOSED MSW LANDFILL, CLOSED TVA LANDFILL AND WOOD WASTE/WHITE GOODS OBTAINED FROM CDM DRAWING TITLED "EXISTING CONDITIONS AS OF 2/26/98". SHEET NO. C–1 DATED FEBRUARY, 2001.
4. WASTE LIMIT BOUNDARY FOR CLOSED C&D LANDFILL FROM MCGILL ASSOCIATES DRAWING TITLED "HENDERSON COUNTY LANDFILL, RECORD DRAWING, C&D LANDFILL – PHASE 1" DATED SEPTEMBER, 2009.
5. WASTE LIMIT BOUNDARY FOR DEMOLITION LANDFILL AREA AND ASBESTOS DISPOSAL SITE OBTAINED FROM WILLIAM G. LAPSLEY & ASSOCIATES, P.A. DRAWING TITLED "SITE PLAN–PROPOSED FINAL CONTOURS–EXISTING CONTOURS 1992". DATED JANUARY, 1993.
6. HORIZONTAL COORDINATES ARE NAD 83 (NSRS 2007). VERTICAL COORDINATES ARE NAVD 88.

NO.	DATE	BY	REVISION DESCRIPTION

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55 BROAD STREET ASHEVILLE, NC 28801 PH (828) 252-0575 FIRM LICENSE # C-0459

CAROLINA
PRELIMINARY
NOT FOR CONSTRUCTION
WILLIAM H. SPEARS III
NO. 22002

STONEY MOUNTAIN ROAD LANDFILL FACILITY
CAPITAL IMPROVEMENTS PROJECT
PRELIMINARY PLAN
HENDERSON COUNTY
HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 09.00728
DATE: JUNE, 2010
DESIGNED BY: DAP, KS
CADD BY: DAP, KS
DESIGN REVIEW: ____
CONST. REVIEW: ____
FILE NAME: 0900728 C-101 Overall Site Plan.dwg

OVERALL SITE PLAN

SHEET
C-101

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PLAN

GRAPHIC SCALE 1 INCH = 60 FEET

CLOSED MSW DISPOSAL AREA

CLOSED MSW DISPOSAL AREA

EXISTING LIMITS OF DISTURBANCE

WASTE LIMITS

PROPOSED GATE, TYP.

PROPOSED LANDFILL SCALE HOUSE & SCALES

PROPOSED RECYCLING & MSW WASTE DROP-OFF

PROPOSED ASPHALT

PROPOSED CONCRETE

PROPOSED NCDOT STANDARD GUARDRAIL

PROPOSED FENCING, TYP.

PROPOSED LIMITS OF DISTURBANCE

PROPERTY LINE

PROPOSED CONCRETE

PROPOSED ASPHALT

PROPOSED ASPHALT

PROPOSED ASPHALT PAVEMENT

LFG 2REV

RELOCATE EXISTING FORCE MAIN THIS AREA TO ACCOMODATE GRADING. FORCE MAIN SHALL REMAIN IN SERVICE AT ALL TIMES

MH#2

MH#1

PROPOSED LEACHATE SYSTEM COLLECTION MANHOLE, SEE SHEET C-504

AREA OF ASPHALT OVERLAY

UNNAMED BRANCH

HENDERSON COUNTY HUMANE SOCIETY

PROPOSED TREE TYP. OF 15 THIS AREA

(TO REMAIN)

(TO REMAIN)

HENDERSON COUNTY SCHOOL BUS DEPOT

EXISTING TRANSFER STATION

PROPOSED MANHOLE

PROPOSED 2" WATERLINE

PROPOSED 6" SEWERLINE

UNNAMED BRANCH

INSTALL BLOCK MODULAR WALL TREE PROTECTION AT DRIP LINE OF TREE, TYP. OF 2

UNNAMED TRIBUTARY TO MILL POND CREEK

EXISTING SCALE HOUSE & SCALES

Pool

STONEY MOUNTAIN ROAD SR 1383

ABANDON EXISTING LANDFILL ENTRANCE

LEGEND

P1	PROPOSED DRAINAGE PIPE
D1	PROPOSED DRAINAGE DITCH
S1	PROPOSED DRAINAGE STRUCTURE
DI/YI	DROP INLET WITH TEMPORARY INLET PROTECTION
	EXISTING LIMITS OF DISTURBED AREA
	PROPOSED LIMITS OF DISTURBED AREA
	TEMPORARY SILT FENCE
	STORM DRAINAGE PIPE WITH FLARED END SECTION AND RIPRAP OUTLET PROTECTION
TD → TD →	TEMPORARY DIVERSION DITCH
	TEMPORARY SEDIMENT TRAP
	SKIMMER SEDIMENT BASIN
	STABILIZED CONSTRUCTION ENTRANCE

NO.	DATE	BY	REVISION DESCRIPTION

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
55 BROAD STREET ASHEVILLE, NC 28801 PH: (828) 252-0575 FIRM LICENSE # C-0459

PRELIMINARY NOT FOR CONSTRUCTION

STONEY MOUNTAIN ROAD LANDFILL FACILITY
CAPITAL IMPROVEMENTS PROJECT
PRELIMINARY PLAN

HENDERSON COUNTY

HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 09.00728
DATE: JUNE, 2010
DESIGNED BY: DAP
CADD BY: DAP
DESIGN REVIEW: ___
CONST. REVIEW: ___
FILE NAME: 09.00728 C-102_C-106.dwg

SCALE HOUSE IMPROVEMENTS

SHEET

C-102

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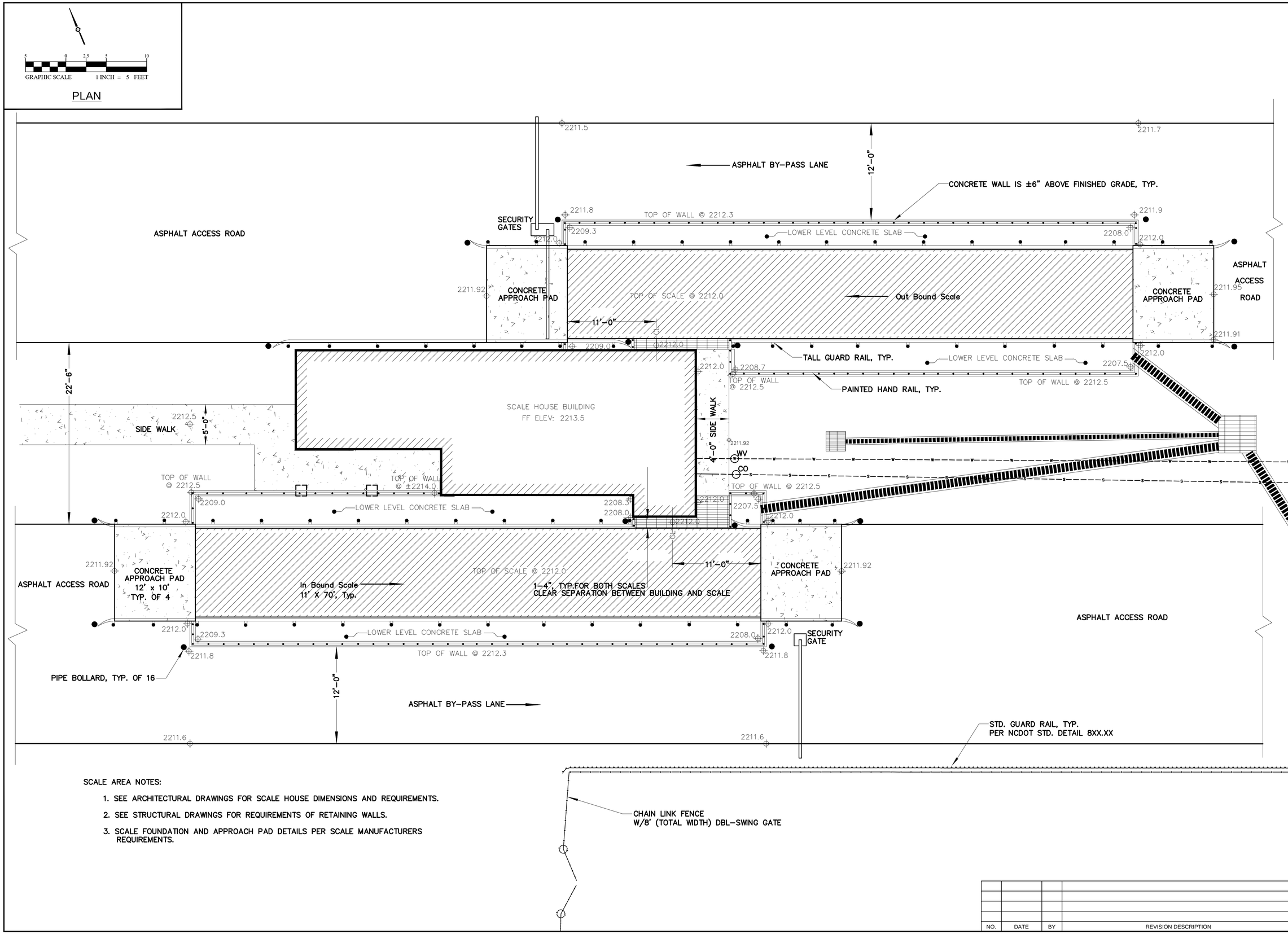

SCALE AREA NOTES:

1. SEE ARCHITECTURAL DRAWINGS FOR SCALE HOUSE DIMENSIONS AND REQUIREMENTS.
2. SEE STRUCTURAL DRAWINGS FOR REQUIREMENTS OF RETAINING WALLS.
3. SCALE FOUNDATION AND APPROACH PAD DETAILS PER SCALE MANUFACTURERS REQUIREMENTS.

NO.	DATE	BY	REVISION DESCRIPTION

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
55 BROAD STREET ASHEVILLE, NC 28801 PH (828) 252-0575 FIRM LICENSE # C-0459

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
PRELIMINARY NOT FOR CONSTRUCTION

STONEY MOUNTAIN ROAD LANDFILL FACILITY
CAPITAL IMPROVEMENTS PROJECT
PRELIMINARY PLAN
HENDERSON COUNTY
HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 09.00728
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FILE NAME: 09.00728 C-102_C-106.dwg

SCALE HOUSE
SITE PLAN

SHEET
C-103

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PLAN

GRAPHIC SCALE 1 INCH = 50 FEET

MATCH LINE

STA 19+00

PROPOSED STREET TREE, TYP. OF 36, THIS AREA

PROPOSED LIMITS OF DISTURBANCE

PROPOSED DOUBLE SWING BAR GATE

STONEY MOUNTAIN ROAD

SR 1383

PROPOSED MATCH EXISTING GRADE

PROPOSED GATE

PROPOSED FENCING

PROPERTY LINE

PROPOSED EROSION CONTROL AND STORM DRAINAGE LEGEND

P1	PROPOSED DRAINAGE PIPE
D1	PROPOSED DRAINAGE DITCH
	PROPOSED LIMITS OF DISTURBED AREA
	TEMPORARY SILT FENCE
	STORM DRAINAGE PIPE WITH FLARED END SECTION AND RIPRAP OUTLET PROTECTION
TD → TD →	TEMPORARY DIVERSION DITCH
	SKIMMER SEDIMENT BASIN
	STABILIZED CONSTRUCTION ENTRANCE

NO.	DATE	BY	REVISION DESCRIPTION

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55 BROAD STREET ASHEVILLE, NC 28801 PH (828) 252-0575 FIRM LICENSE # C-0459

PRELIMINARY NOT FOR CONSTRUCTION

STONEY MOUNTAIN ROAD LANDFILL FACILITY
CAPITAL IMPROVEMENTS PROJECT
PRELIMINARY PLAN

HENDERSON COUNTY

HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 09.00728
DATE: JUNE, 2010
DESIGNED BY: KS
CADD BY: KS
DESIGN REVIEW: ____
CONST. REVIEW: ____
FILE NAME: 09.00728 C-102_C-105.dwg

CONVENIENCE CENTER IMPROVEMENTS

SHEET

C-104

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PLAN

GRAPHIC SCALE 1 INCH = 50 FEET

WASTE LIMITS

PROPOSED HHW LOCATION, BUILDING DESIGN BY OTHERS

PROPOSED RETAINING WALL TO ACCOMODATE RECYCLE COLLECTION ROLL-OFF, SEE DETAIL, SHEET C-505, TYP OF 10.

PROPOSED RECYCLING DROP-OFF AREA

PROPOSED FENCING

PROPOSED GRAVEL

EXISTING SEDIMENT BASIN (TO REMAIN IN SERVICE)

CLOSED TVA LANDFILL

PROPOSED ASPHALT

PROPOSED GRAVEL

PROPOSED GATE, TYP.

PROPOSED LEACHATE SYSTEM COLLECTION MANHOLE, SEE SHEET C-504

PROPOSED ASPHALT

PROPOSED RETAINING WALL TO ACCOMODATE 40-YARD ROLL-OFF, SEE DETAIL, SHEET C-505, TYP OF 4.

PROPOSED PAVED CONVENIENCE CENTER

PROPOSED WASTE OOIL DROP-OFF AREA

PROPERTY LINE

PROPOSED LIMITS OF DISTURBANCE

EXISTING LIMITS OF DISTURBANCE

PROPOSED ATTENDENT BUILDING, DESIGN BY OTHERS

EXISTING SEDIMENT/BASIN (TO REMAIN IN SERVICE)

PROPOSED NCDOT STANDARD GUARDRAIL

PROPOSED 18" CURB & GUTTER, THIS SIDE OF ROAD ONLY

WASTE LIMITS

PROPOSED CONCRETE FLUME AT END OF CURB & GUTTER. DISCHARGE TO RIPRAP OUTLET PROTECTION FOR PIPE P52

CLOSED C&D LANDFILL

LIMITS OF STREAM IMPACT N: 601308.89 E: 958588.50

PROPOSED 'L' WALL W/ CONCRETE APRON

MATCH LINE

STA 19+00

LIMITS OF STREAM IMPACT N: 601283.75 E: 958710.19

UNNAMED BRANCH

PROPOSED EROSION CONTROL AND STORM DRAINAGE LEGEND

- P1 — PROPOSED DRAINAGE PIPE
- D1 — PROPOSED DRAINAGE DITCH
- S1 — PROPOSED DRAINAGE STRUCTURE
- CI — CURB INLET WITH TEMPORARY INLET PROTECTION
- EXISTING LIMITS OF DISTURBED AREA
- PROPOSED LIMITS OF DISTURBED AREA
- TEMPORARY SILT FENCE
- STORM DRAINAGE PIPE WITH FLARED END SECTION AND RIPRAP OUTLET PROTECTION
- TD → TD → TEMPORARY DIVERSION DITCH
- TEMPORARY SEDIMENT TRAP
- SKIMMER SEDIMENT BASIN

NO.	DATE	BY	REVISION DESCRIPTION

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
55 BROAD STREET ASHEVILLE, NC 28801 PH: (828) 252-0575 FIRM LICENSE # C-0459

PRELIMINARY NOT FOR CONSTRUCTION

STONEY MOUNTAIN ROAD LANDFILL FACILITY
CAPITAL IMPROVEMENTS PROJECT
PRELIMINARY PLAN

HENDERSON COUNTY

HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 09.00728
DATE: JUNE, 2010
DESIGNED BY: KS
CADD BY: KS
DESIGN REVIEW: ____
CONST. REVIEW: ____
FILE NAME: 09.00728 C-105.dwg

CONVENIENCE CENTER IMPROVEMENTS

SHEET

C-105

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PLAN

GRAPHIC SCALE 1 INCH = 40 FEET

SOIL BORROW AREA

PROPERTY LINE

PROPOSED COMPOSTING AREA (8,000 SF CONCRETE PAD)

PROPOSED COMPOSTING MATERIAL STAGING (2,800 SF CONCRETE PAD)

WASTE LIMITS

CLOSED DEMOLITION LANDFILL AREA

EXISTING LIMITS OF DISTURBANCE

PROPOSED MULCHING AREA (20,000 SF CONCRETE PAD)

PROPOSED WHITE GOODS AREA (11,500 SF CONCRETE PAD)

CLOSED MSW DISPOSAL AREA

WASTE LIMITS

WASTE LIMITS

CLOSED WOOD WASTE / WHITE GOODS AREA

PROPOSED LIMITS OF DISTURBANCE

PROPOSED EROSION CONTROL AND STORM DRAINAGE LEGEND

- P1 — PROPOSED DRAINAGE PIPE
- D1 — PROPOSED DRAINAGE DITCH
- EXISTING LIMITS OF DISTURBED AREA
- PROPOSED LIMITS OF DISTURBED AREA
- TEMPORARY SILT FENCE
- STORM DRAINAGE PIPE WITH FLARED END SECTION AND RIPRAP OUTLET PROTECTION
- CHECK DAM
- TD → TD → — TEMPORARY DIVERSION DITCH
- TEMPORARY SEDIMENT TRAP
- SKIMMER SEDIMENT BASIN

NO.	DATE	BY	REVISION DESCRIPTION

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
55 BROAD STREET ASHEVILLE, NC 28801 PH (828) 252-0575 FIRM LICENSE # C-0459

PRELIMINARY NOT FOR CONSTRUCTION

STONEY MOUNTAIN ROAD LANDFILL FACILITY
CAPITAL IMPROVEMENTS PROJECT
PRELIMINARY PLAN
HENDERSON COUNTY
HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 09.00728
DATE: JUNE, 2010
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CADD BY: KS
DESIGN REVIEW: ___
CONST. REVIEW: ___
FILE NAME: 09.00728 C-102_C-106.dwg

CONVENIENCE CENTER IMPROVEMENTS

SHEET
C-106

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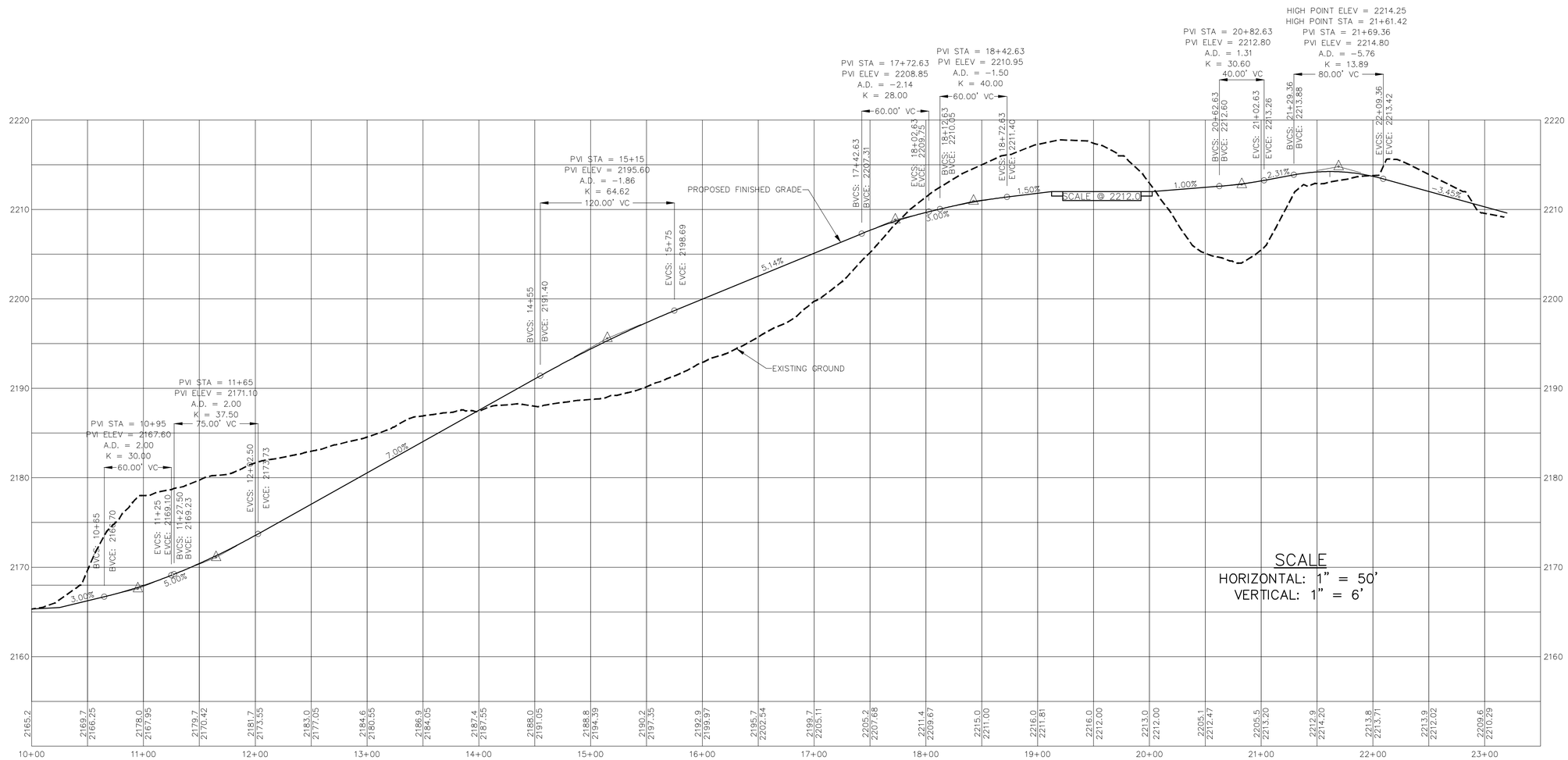

SCALE ACCESS ROAD CENTERLINE PROFILE

NO.	DATE	BY	REVISION DESCRIPTION

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
55 BROAD STREET ASHEVILLE, NC 28801 PH (828) 252-0575 FIRM LICENSE # C-0459

PRELIMINARY NOT FOR CONSTRUCTION

STONEY MOUNTAIN ROAD LANDFILL FACILITY
CAPITAL IMPROVEMENTS PROJECT
PRELIMINARY PLAN
HENDERSON COUNTY
HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 09.00728
DATE: MAY 19, 2010
DESIGNED BY: DP
CADD BY: DP
DESIGN REVIEW: ____
CONST. REVIEW: ____
FILE NAME: 09.00728 C-107 Scale Access Road Profile.dwg

PROPOSED
SCALE ACCESS ROAD
PROFILE

SHEET
C-107

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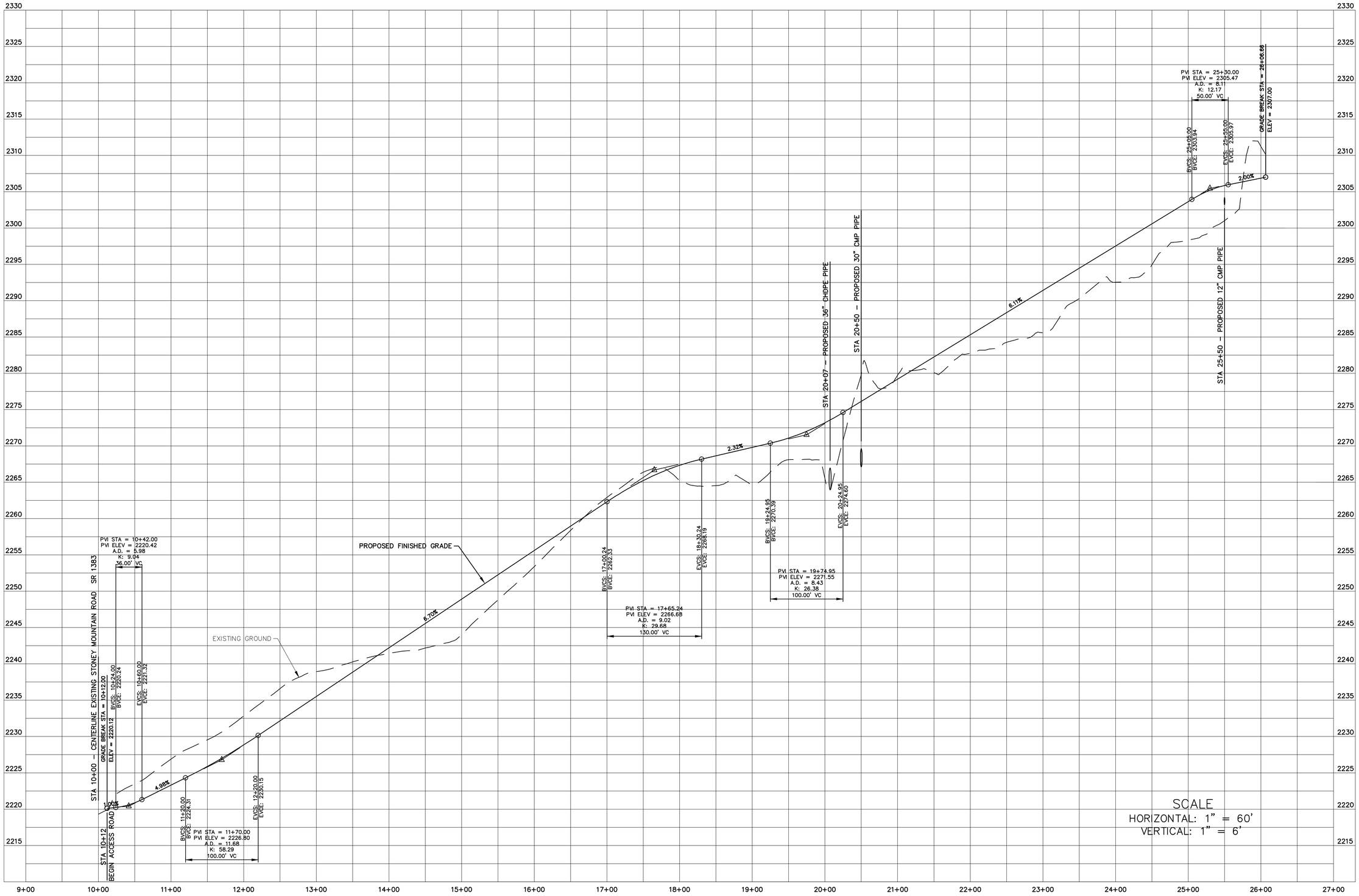

CONVENIENCE CENTER ACCESS ROAD CENTERLINE PROFILE

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
55 BROAD STREET ASHEVILLE, NC 28801 PH: (828) 252-0575 FIRM LICENSE # C-0459

PRELIMINARY
NOT FOR CONSTRUCTION

STONEY MOUNTAIN ROAD LANDFILL FACILITY
CAPITAL IMPROVEMENTS PROJECT
PRELIMINARY PLAN
HENDERSON COUNTY
HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 09.00728
DATE: JUNE, 2010
DESIGNED BY: KS
CADD BY: KS
DESIGN REVIEW: ____
CONST. REVIEW: ____
FILE NAME: Q:\2009\09.00728\Design\Solid Waste\Drawings\Preliminary Plan\09.00728 C-108 Proposed Convenience Center Access Road Profile.dwg

PROPOSED CONVENIENCE CENTER ACCESS ROAD PROFILE

SHEET
C-108

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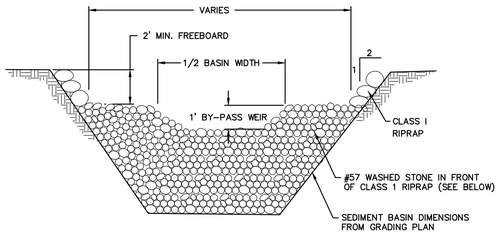
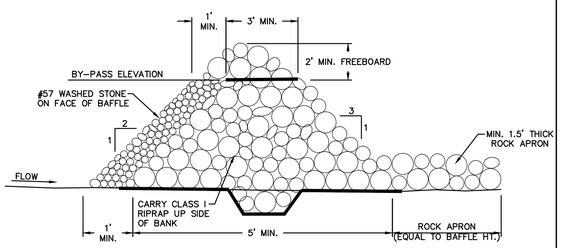


FACE VIEW



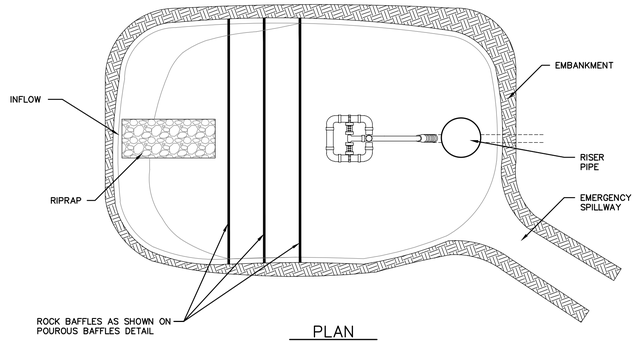
SIDE VIEW

NOTES:

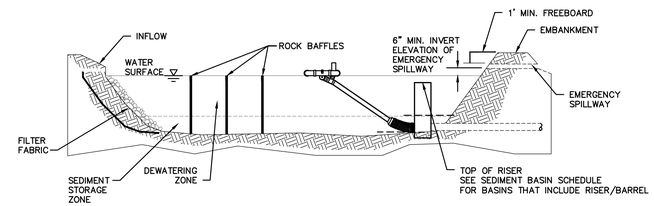
1. RIRAP AND WASHED STONE SHALL BE CHECKED AFTER EACH RAINFALL TO ENSURE AGAINST EROSION AND SHALL BE REPAIRED AS REQUIRED.
2. SEDIMENT SHALL BE REMOVED WHEN DEPTH OF SEDIMENT REACHES 1/2 HEIGHT OF BAFFLE.
3. SEDIMENT BASINS REQUIRE A MIN. OF 3 BAFFLES.

ROCK BAFFLE FOR SEDIMENT BASINS

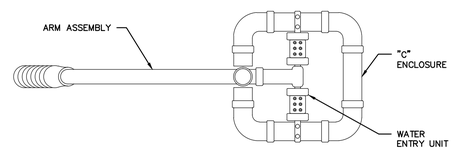
N.T.S.



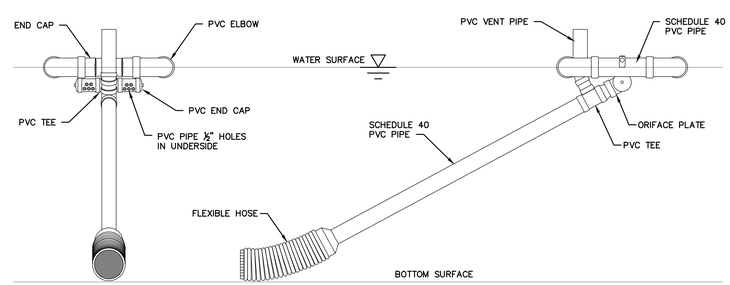
PLAN



SECTION



TOP VIEW



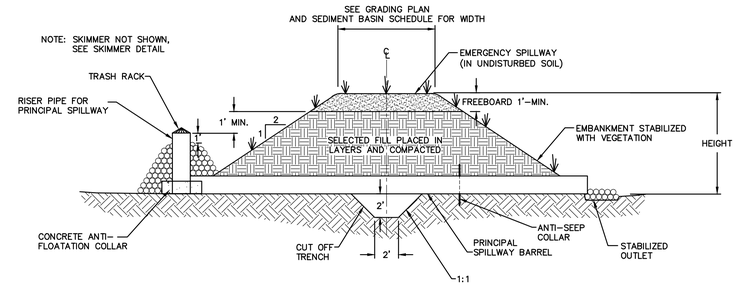
END VIEW

FRONT VIEW

NOTE:

ALL SLOPE SIDES AND WEIRS WILL BE SEEDED AND MATTED (NAG S75 OR APPROVED EQUAL)AT THE CONCLUSION OF CONSTRUCTION.

SKIMMER DETAIL

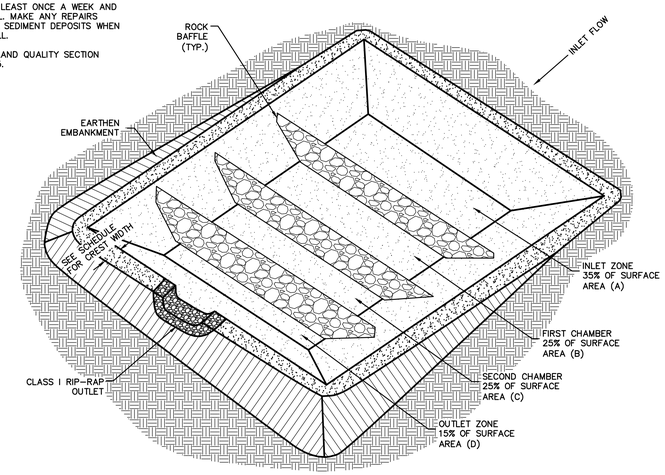


SEDIMENT BASIN WITH RISER

REVISION DATE - NOVEMBER 3, 2008

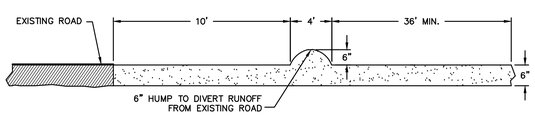
NOTES:

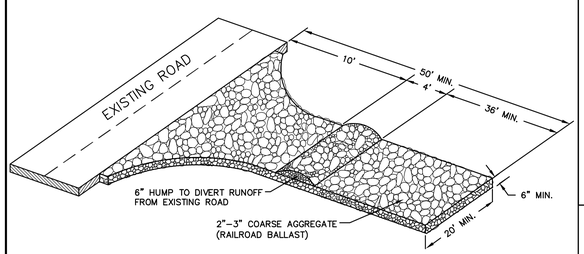
1. INLET ZONE (A) SHOULD HAVE 35% OF SURFACE AREA. FIRST CELL (B) SHOULD HAVE 25% OF SURFACE AREA. SECOND CELL (C) SHOULD HAVE 25% OF SURFACE AREA AND THE OUTLET ZONE (D) SHOULD HAVE 15% OF SURFACE AREA.
2. INSPECT BAFFLES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REPAIRS IMMEDIATELY. REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL.
3. REFERENCE NCDENR LAND QUALITY SECTION DESIGN MANUAL: 6.65.



POROUS BAFFLES FOR SEDIMENT BASINS

N.T.S.





NOTES:

1. A STABILIZED PAD OF CRUSHED STONE SHALL BE LOCATED WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM AN EXISTING ROAD.
2. STONE TO BE 2 – 3 INCH WASHED STONE RAILROAD BALLAST.
3. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC STREETS OR EXISTING PAVEMENT. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
4. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC STREETS MUST BE REMOVED IMMEDIATELY.
5. WHEN NECESSARY WHEELS MUST BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTERING A PUBLIC STREET, WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT BASIN.
6. REFERENCE NCDENR LAND QUALITY SECTION DESIGN MANUAL: 6.06.

STABILIZED CONSTRUCTION ENTRANCE

REVISION DATE - NOVEMBER 3, 2008

SEDIMENT BASIN SCHEDULE

BASIN#	TOP BERM ELEV. (ft)	EMERGENCY SPILLWAY ELEV. (ft)	TOP OF RISER (ft)	EMERGENCY SPILLWAY (D x WIDTH)	BERM WIDTH (FT)	RISER SIZE (inches)	BARREL SIZE (inches)	BARREL INV. IN ELEV. (ft)	BARREL INV. OUT ELEV. (ft)	FLOTATION BLOCK DIMENSIONS (FT)	AVG. LENGTH (FT)	AVG. WIDTH (FT)	SKIMMER ORIFICE SIZE (IN)	SKIMMER INVERT ELEV. (FT)
1	2181.0	2179.5	2178.0	1.5'X10'	16'	36"	24"	2171.0	2170.0	3'X3'X1.5'	150	50	3.5"	2171.0
2	2198.0	2197.0	2196.0	1'X10'	10'	24"	15"	2191.5	2190.0	2.5X2.5'X1'	80	35	1.8"	2191.5
3	2218.0	2216.5	2215.0	1'X10'	22'	24"	15"	2212.0	2206.5	2.5X2.5'X1'	130	65	2.75"	2212.0
4	2254.0	2252.5	2251.0	1'X8'	14'	30"	18"	2246.5	2246.0	3X3'X1'	100	30	1.0"	2246.5
5	2297.0	2295.0	N/A	2'X12'	10'	N/A	N/A	N/A	N/A	N/A	80	50	2.75"	2291.0
6	2346.0	2344.5	2343.0	1'X8'	10'	24"	15"	2340.0	2327.0	2.5X2.5'X1'	60	30	1.0"	2340.0
7	2346.0	2344.5	2343.0	1'X8'	10'	24"	15"	2340.0	2330.0	2.5X2.5'X1'	130	40	1.5"	2340.0
8	2344.0	2342.5	2341.0	1'X8'	10'	30"	18"	2338.0	2337.0	3X3'X1'	80	40	1.5"	2338.0
9	2346.0	2344.0	N/A	1.5'X10'	10'	N/A	N/A	N/A	N/A	N/A	42	21	1.25"	2341.0

NO.	DATE	BY	REVISION DESCRIPTION

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
55 BROAD STREET ASHEVILLE, NC 28801 PH: (828) 252-0575 FIRM LICENSE # C-0459

NORTH CAROLINA PROFESSIONAL SEAL WILLIAM H. SPEARS JR. 025449
PRELIMINARY NOT FOR CONSTRUCTION

STONEY MOUNTAIN ROAD LANDFILL FACILITY
CAPITAL IMPROVEMENTS PROJECT
PRELIMINARY PLAN
HENDERSON COUNTY
HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 09.00728
DATE: JUNE, 2010
DESIGNED BY: DAP, KS
CADD BY: DAP, KS
DESIGN REVIEW: ____
CONST. REVIEW: ____
FILE NAME: 09.00728-C-501_C-506 Miscellaneous Details.dwg

MISCELLANEOUS DETAILS

SHEET
C-501

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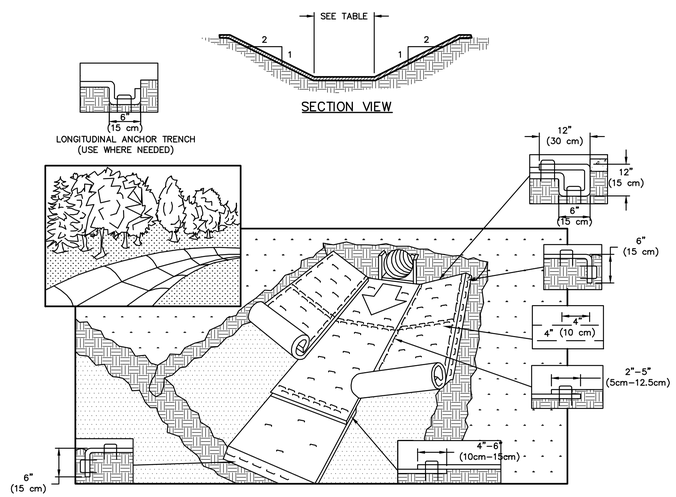
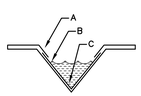


NOTES:

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP'S IN A 12" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP'S EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECP'S.
3. ROLL CENTER RECP'S IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP'S WILL UNROLL WITH APPROXIMATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES PER MANUFACTURER'S RECOMMENDATIONS.
4. PLACE CONSECUTIVE RECP'S END OVER END WITH A 4" – 6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE RECP'S
5. FULL LENGTH EDGE OF OF RECP'S AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT RECP'S MUST BE OVERLAPPED APPROXIMATELY 2" – 5" (DEPENDING ON TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF CHANNEL.
8. THE TERMINAL END OF THE RECP'S MUST BE ANCHORED WITH A ROW OF STAPLE/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
9. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.
10. SEE SCHDULE FOR PRODUCT TYPES.
11. PRESS ENDS OF MATTING 4" INTO GROUND AROUND STRUCTURES AND STAPLE SECURELY.



CRITICAL POINTS

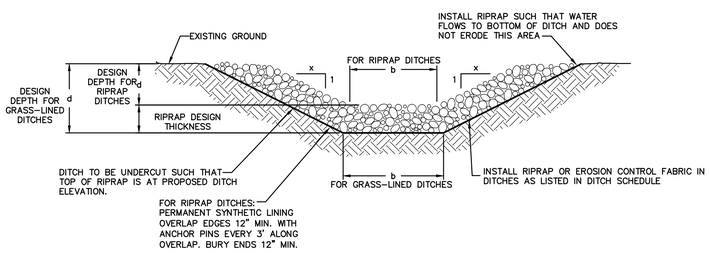
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

NOTES:

1. HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.
2. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 cm) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP'S.

CHANNEL STABILIZATION WITH MATTING

REVISION DATE - NOVEMBER 3, 2008



TYPICAL DITCH DETAIL

REVISION DATE - NOVEMBER 3, 2008

DITCH SCHEDULE

DITCH#	DITCH SLOPE(%)	BOTTOM WIDTH (FEET)	DEPTH (FEET)	SIDE SLOPES	RIPRAP THICKNESS	CHANNEL LINING
D1	2.0	4.0	1.5	2:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S150
D2	7.8	2.0	1.5	3:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S75
D3	6.3	1.0	1.0	3:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S75
D4	7.0	3.0	2.0	3:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S150
D5	6.3	6.0	2.0	3:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S150
D6	2.5	3.0	1.5	3:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S75
D7	10.2	3.0	1.0	3:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S150
D8	6.8	3.0	2.0	3:1	18"	RIPRAP, D_{50}= 9"
D8A	4.5	2.0	2.0	3:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S75
D9	5.8	0.0	2.0	3:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S75
D10*	13.7	3.0	2.0	3:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S75
D11	1.7	2.0	1.5	3:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S150
D12	3.4	1.0	1.0	3:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S75
D50	10.0	6.0	2.0	3:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S150
D51	6.7	2.0	2.0	3:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S150
D52	6.7	2.0	2.0	3:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S150
D53	11.5	2.0	2.0	2:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S150
D54	14.7	3.0	2.0	2:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S75
D55	5.9	4.0	2.0	2:1	18"	RIPRAP, D_{50}= 9"
D56	7.1	2.0	1.0	2:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S75
D57	6.5	4.0	2.0	2:1	18"	RIPRAP, D_{50}= 9"
D58	2.2	2.0	2.0	2:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S75
D59	8.5	1.0	1.0	2:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S75
D60*	2.0	3.5	2.0	3:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S75
D61*	5.7	6.0	2.0	3:1	21"	RIPRAP, D_{50}= 9"
D62*	15.0	6.0	1.0	4:1	21"	RIPRAP, D_{50}= 9"
D63	4.6	4.0	2.0	2:1	18"	RIPRAP, D_{50}= 9"
D64	3.5	2.0	2.0	2:1	—	NORTH AMERICAN GREEN SYNTHETIC LINER S75

* DITCH WIDENS AS NOTED ON THE GRADING PLAN. AVERAGE NOTED HERE.

NOTES:
1. NORTH AMERICAN GREEN SYNTHETIC LINER OR APPROVED EQUIVALENT SHALL BE USED WHERE NOTED. INSTALL PER MANUFACTURERS RECOMMENDATION.
2. ALL RIPRAP DITCHES AND RIPRAP INLET/OUTLET PROTECTION TO INCLUDE MIRAFI 140N, OR APPROVED EQUAL.
3. DITCHES D13 THRU D49 NOT USED.

STORM DRAINAGE PIPE SCHEDULE

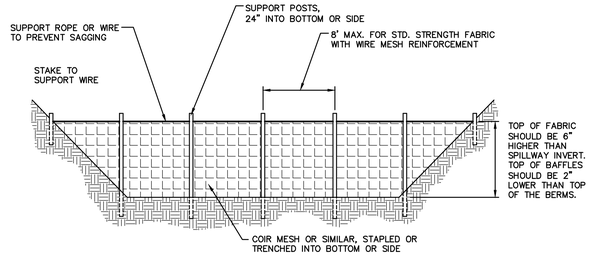
PIPE	MATERIAL	SIZE	LENGTH	INV. IN ELEV.	INV. OUT ELEV.	SLOPE
P1A	MATCH EXISTING	MATCH EXISTING	8 LF	2152.69	MATCH EXISTING	0.35%
P1	HDPE	24"	105 LF	2156.5	2155.6	0.77%
P2	HDPE	24"	140 LF	2162.4	2160.8	1.1%
P3	HDPE	30"	94 LF	2195.0	2180.0	16.0%
P4	BCCMP+	30"	28 LF	2179.5	2179.0	1.8%
P5	BCCMP+	12"	28 LF	2180.0	2179.0	3.6%
P6	BCCMP+	18"	28 LF	2179.5	2179.0	1.8%
P7	BCCMP+	12"	28 LF	2180.0	2179.0	3.6%
P8	BCCMP+	24"	80 LF	2171.0	2170.0	1.3%
P9	BCCMP+	24"	102 LF	2205.5	2204.0	1.5%
P10	BCCMP+	12"	70 LF	2207.5	2205.5	2.9%
P11	BCCMP+	18"	108 LF	2206.2	2197.0	8.5%
P12	BCCMP+	18"	57 LF	2207.5	2206.7	1.4%
P13	BCCMP+	8"	46 LF	2208.2	2207.5	1.5%
P14	BCCMP+	18"	14 LF	2207.5	2206.7	5.7%
P15	BCCMP+	36"	65 LF	2198.6	2195.0	5.5%
P15A	RCP	36"	17 LF	2200.03	2199.1	5.0%
P16	BCCMP+	18"	40 LF	2191.0	2190.0	2.5%
P17	BCCMP+	18"	78 LF	2235.0	2228.0	9.0%
P18	BCCMP+	18"	72 LF	2251.0	2246.0	6.9%
P50	BCCMP+	18"	153 LF	2212.0	2206.5	2.9%
P51	BCCMP+	18"	116 LF	2220.0	2214.0	5.2%
P52	BCCMP+	36"	76 LF	2263.0	2259.0	5.3%
P53	BCCMP+	30"	90 LF	2273.5	2259.0	16.1%
P54	BCCMP+	18"	68 LF	2256.0	2253.0	4.4%
P55	BCCMP+	18"	40 LF	2246.5	2246.0	1.3%
P56	BCCMP+	24"	70 LF	2290.0	2284.0	8.6%
P57	BCCMP+	12"	83 LF	2303.8	2303.0	1.0%
P58	BCCMP+	12"	100 LF	2305.3	2304.3	1.0%
P59	BCCMP+	12"	38 LF	2318.0	2306.0	30.2%
P60	BCCMP+	18"	92 LF	2297.5	2295.5	2.2%
P61	BCCMP+	18"	137 LF	2318.0	2304.0	10.0%
P62	BCCMP+	24"	100 LF	2327.0	2325.0	3.8%
P63	HDPE	12"	59 LF	2341.0	2327.0	24.0%
P64	BCCMP+	18"	70 LF	2341.0	2330.0	15.9%
P65	BCCMP+	24"	77 LF	2342.0	2340.0	2.6%
P66	BCCMP+	18"	116 LF	2239.0	2237.0	1.7%

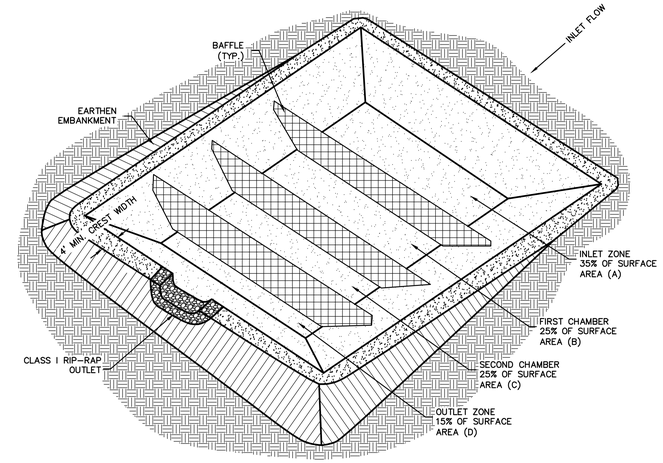
STORM DRAINAGE PIPE NOTES:

1. * HDPE IS HANCOR BLUE SEAL, OR APPROVED EQUAL.
2. + FULLY BITUMINOUS COATED WITH ASPHALT PAVED INVERT.
3. PIPES P19 THRU P49 NOT USED.

NOTES:

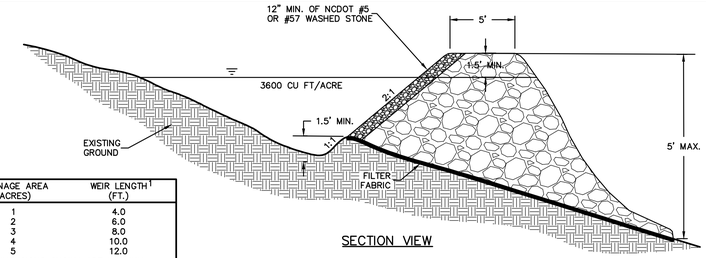
1. INLET ZONE (A) SHOULD HAVE 35% OF SURFACE AREA. FIRST CELL (B) SHOULD HAVE 25% OF SURFACE AREA, SECOND CELL (C) SHOULD HAVE 25% OF SURFACE AREA AND THE OUTLET ZONE (D) SHOULD HAVE 15% OF SURFACE AREA.
2. GRADE THE BASIN SO THAT THE BOTTOM IS LEVEL FRONT TO BACK AND SIDE TO SIDE.
3. STEEL POSTS SHOULD BE DRIVEN TO A DEPTH OF 24 INCHES, SPACED A MAXIMUM OF 4 FEET APART.
4. DO NOT SPLICE FABRIC. USE ONE CONTINUOUS PIECE ACROSS BASIN.
5. INSPECT BAFFLES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REPAIRS IMMEDIATELY. REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL.
6. REFERENCE NCDENR LAND QUALITY SECTION DESIGN MANUAL: 6.65.





POROUS BAFFLES FOR TEMPORARY SEDIMENT TRAPS

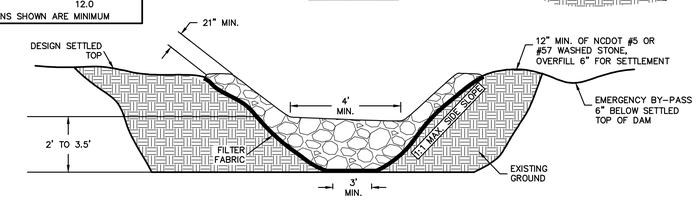
REVISION DATE - NOVEMBER 3, 2008



SECTION VIEW

DRAINAGE AREA (ACRES)	WEIR LENGTH[1] (FT.)
1	4.0
2	6.0
3	8.0
4	10.0
5	12.0

[1] DIMENSIONS SHOWN ARE MINIMUM



WEIR VIEW

MAINTENANCE SCHEDULE:

1. AT A MINIMUM, TEMPORARY SEDIMENT TRAPS SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL EVENT GREATER THAN 1/2–INCH.
2. REMOVE SEDIMENT AND RESTORE TRAP TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE–HALF THE DESIGN DEPTH OF THE TRAP.
3. PLACE THE SEDIMENT THAT IS REMOVED IN A DESIGNATED DISPOSAL AREA AND REPLACE THE CONTAMINATED PART OF THE GRAVEL FACING. DISPLACED RIP–RAP SHALL BE REPLACED IMMEDIATELY.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ACCESS WITHIN LIMITS OF DISTURBED AREA TO ALL SEDIMENT TRAPS FOR MAINTENANCE DURING CONSTRUCTION AND REMOVAL UPON PROJECT COMPLETION.

NOTE:
1. SEE BAFFLE DETAIL FOR BAFFLE INSTALLATION PROCEDURE AND SPACING.

TEMPORARY SEDIMENT TRAP

REVISION DATE - NOVEMBER 3, 2008

TEMPORARY SEDIMENT TRAP SCHEDULE

TRAP NUMBER	DISTURBED AREA (ACRES)	LENGTH (FT.)	WIDTH (FT.)	AVG. DEPTH (FT.)	WEIR LENGTH (FT)
1	0.8	80	40	2	8
2	0.4	72	36	1.5	8
3	0.9	50	25	2.6	8
4	0.1	18	9	1.5	4
5	0.15	25	12	1.8	4
6	0.2	28	14	1.9	4
7	0.1	18	9	1.5	4
8	1.1	78	39	2	10
9	0.6	66	33	1.5	8
10	0.1	14	6	2.5	4
11	0.4	35	17	2.5	4
12	0.5	42	21	2.5	6
13	0.2	26	13	2.2	6

TEMPORARY SEDIMENT TRAP SCHEDULE

REVISION DATE - NOVEMBER 3, 2008

NO.	DATE	BY	REVISION DESCRIPTION

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
55 BROAD STREET ASHEVILLE, NC 28801 PH: (828) 252-0575 FIRM LICENSE # C-0459

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
PRELIMINARY NOT FOR CONSTRUCTION
WILLIAM H. SPENCER JR.

STONEY MOUNTAIN ROAD LANDFILL FACILITY
CAPITAL IMPROVEMENTS PROJECT
PRELIMINARY PLAN
HENDERSON COUNTY
HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 09.00728
DATE: JUNE, 2010
DESIGNED BY: DAP, KS
CADD BY: DAP, KS
DESIGN REVIEW: ____
CONST. REVIEW: ____
FILE NAME: 09.00728 C-501, C-506 Miscellaneous Details.dwg

MISCELLANEOUS DETAILS

SHEET
C-502

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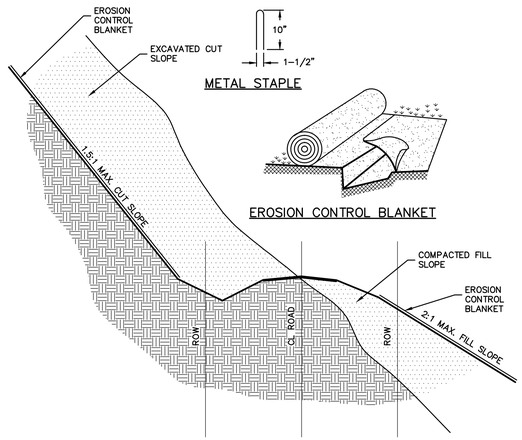
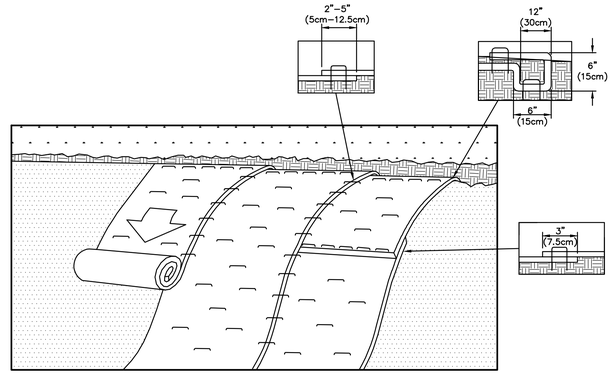


NOTES:

1. INSTALLATION OF MATTING SHALL CONFORM TO MANUFACTURER'S REQUIREMENTS.
2. RECP TO BE USED ON SLOPES 2:1 OR GREATER.
3. MATTING SHALL BE: NORTH AMERICAN GREEN SC150, AMERICAN EXCELSIOR EROSION CONTROL BLANKET, OR EQUAL, INSTALL ON ALL DISTURBED SLOPES (CHOSEN PRODUCT MUST BE RATED FOR SLOPES 2:1 TO 1:1).
4. ALLOW 3" MIN. OVERLAP BETWEEN PARALLEL STRIPS.
5. BURY THE TOP END OF THE MAT IN A TRENCH 4" OR MORE IN DEPTH. TAMP THE TRENCH FULL OF SOIL. SECURE WITH ROW OF STAPLES, 10" SPACING, 4" DOWN FROM THE TRENCH. OVERLAP END OF TOP STRIP 4" AND STAPLE.

SLOPE STABILIZATION WITH MATTING



NOTES:

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECP'S.
3. ROLL THE RECP'S DOWN OR HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING AND SPACING STAPLES/STAKES IN APPROPRIATE LOCATIONS PER MANUFACTURER RECOMMENDATIONS.
4. THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON RECP'S TYPE.
5. CONSECUTIVE RECP'S SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECP'S WIDTH.
6. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.

STAPLE/ROLL INSTALLATION

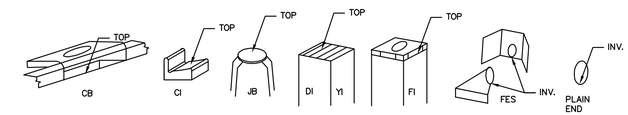
REVISION DATE - NOVEMBER 3, 2008

STORM DRAINAGE STRUCTURE NOTES:

1. SEDIMENT PROTECTION REQUIRED AROUND EACH STRUCTURE IMMEDIATELY AFTER INSTALLATION OF STRUCTURE.

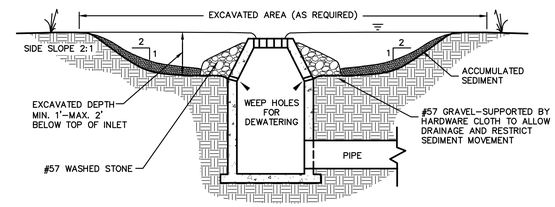
STORM DRAINAGE STRUCTURE SCHEDULE

DRAINAGE STRUCTURE	TYPE	STRUCTURE I.D. DIMENSIONS	TOP ELEVATION	INV. IN ELEV.	INV. OUT ELEV.
S1	JB	4'x3'	2185.0	2180.0	2179.5
S2	YI	4'x4'	2211.2	8" – 2207.5 18" – 2206.7	2206.2
S3	YI	2'x2'	2211.5	–	2208.2
S4	JB	4'x3'	2205.0	2199.1	2198.6
S5	CI	4'x3'	2307.0	2304.3	2303.8
S6	CI	4'x3'	2307.6	–	2305.3

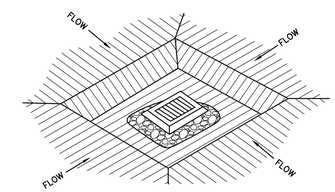


STRUCTURE & PIPE SCHEDULES

REVISION DATE - NOVEMBER 3, 2008



SECTION VIEW



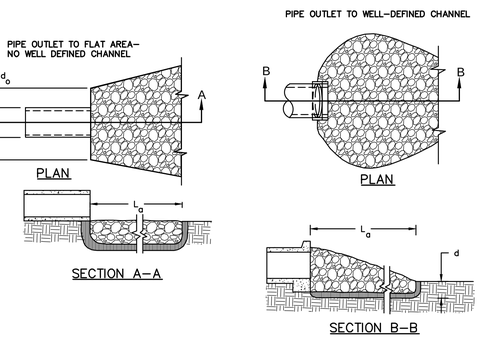
PLAN VIEW

NOTES:

1. SIDE SLOPES TO BE NO STEEPER THAN 2:1.
2. MINIMUM VOLUME TO BE 35 CU.YDS PER DISTURBED ACRE.
3. CLEAN BASIN WHEN VOLUME IS DECREASED BY HALF.

EXCAVATED DROP INLET PROTECTION

REVISION DATE - NOVEMBER 3, 2008



NOTES

1. La IS THE LENGTH OF THE RIPRAP APRON
2. d= 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6".
3. IN A WELL-DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.
4. FILTER FABRIC (MIRAFI 140N, OR APPROVED EQUAL) SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.
5. REFERENCE NCDENR LAND QUALITY SECTION DESIGN MANUAL: 6.41.
6. INSTALL INLET PROTECTION AS SHOWN ON THE GRADING PLAN, D_{50}= 6", THICKNESS=12".

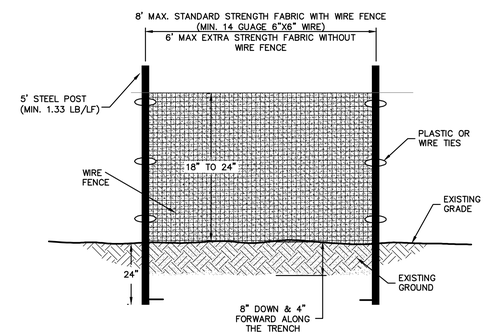
RIPRAP APRON SIZING (PER FIG. 8.06a)

PIPE No.	APRON LENGTH (La)	APRON WIDTH	RIPRAP SIZE D_{50}
5,6,7,9,10,51,54,57,63	14'	8'	6"
1,2,4,8,11,15,65,66	20'	12'	9"
52,53,55,59,59A,60,62	26'	14'	9"
17,18,61,64	35'	14'	9"

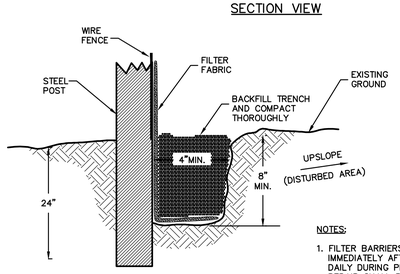
NOTE: PB APRON LENGTH = ±50'
NOTE: SOME PIPES DAYLIGHT INTO RIPRAP DITCH, SEE DITCH SCHEDULE FOR RIPRAP REQUIREMENTS

OUTLET PROTECTION

NOT TO SCALE
REVISION DATE - NOVEMBER 3, 2008



SECTION VIEW



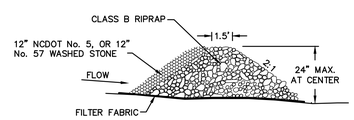
SLOPE	SLOPE LENGTH(FT)	MAXIMUM AREA(SQFT)
<2%	100	10,000
2 TO 5%	75	7,500
5 TO 10%	50	5,000
10 TO 20%	25	2,500
>20%	15	1,500

NOTES:

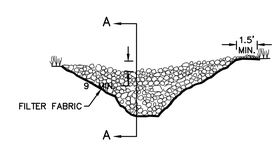
1. FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND DAILY DURING PROLONGED RAINFALL. REPAIR SHALL BE MADE AS NECESSARY.
2. FABRIC SHALL BE REPLACED PROMPTLY IF FOUND TO BE IN DISREPAIR.
3. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT AND WHEN DEPOSITS REACH APPROXIMATELY 1/3 HEIGHT OF BARRIER.
4. REFERENCE NCDENR LAND QUALITY SECTION DESIGN MANUAL: 6.62.

SEDIMENTATION/SILT FENCE

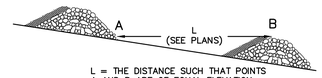
REVISION DATE - NOVEMBER 3, 2008



SECTION A-A



FACE VIEW



L = THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION

DETAIL

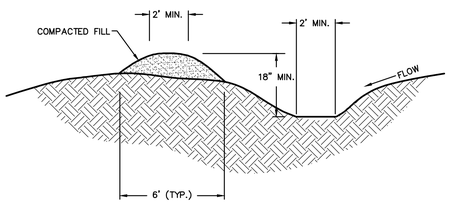
THE FOLLOWING CRITERIA SHOULD BE USED WHEN DESIGNING A CHECK DAM:
- DRAINAGE AREA IS LIMITED TO ONE HALF ACRE.
- KEEP THE MAXIMUM HEIGHT OF 2 FT AT THE CENTER OF THE CHECK DAM.
- KEEP THE CENTER OF THE CHECK DAM AT LEAST 9 INCHES LOWER THAN THE OUTER EDGES AT NATURAL GROUND ELEVATION.
- KEEP THE SIDE SLOPES OF THE DAM AT 2:1 OR FLATTER.
- KEY THE STONE INTO THE DITCH BANKS AND EXTEND BEYOND THE ABUTMENTS 1.5 FEET MINIMUM TO AVOID WASHOUTS FROM OVERFLOW AROUND DAM.
- STABILIZE OUTFLOW AREAS ALONG THE CHANNEL TO RESIST EROSION CAUSED BY CHECK DAMS.

NOTES:

1. INSPECT CHECK DAMS AND CHANNELS WEEKLY AND AFTER EACH RAINFALL OF 1/2" OR GREATER AND REPAIR IMMEDIATELY.
2. CLEAN OUT SEDIMENT AND DEBRIS.
3. ADD STONES TO DAM IF NEEDED TO MAINTAIN DESIGN HEIGHT AND WIDTH.
4. REFERENCE NCDENR LAND QUALITY SECTION DESIGN MANUAL: 6.83

RIPRAP CHECK DAM

REVISION DATE - NOVEMBER 3, 2008



TEMPORARY DIVERSION DITCH

NO.	DATE	BY	REVISION DESCRIPTION

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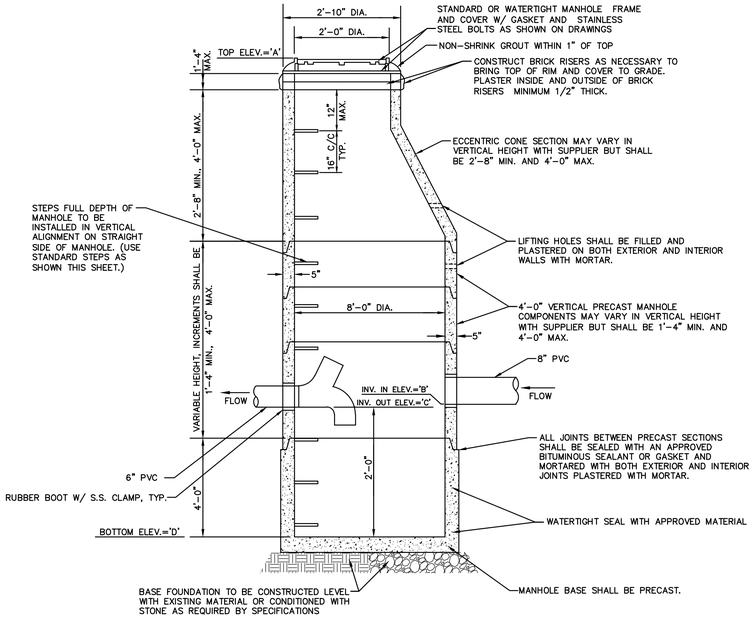


ELEVATION VIEW

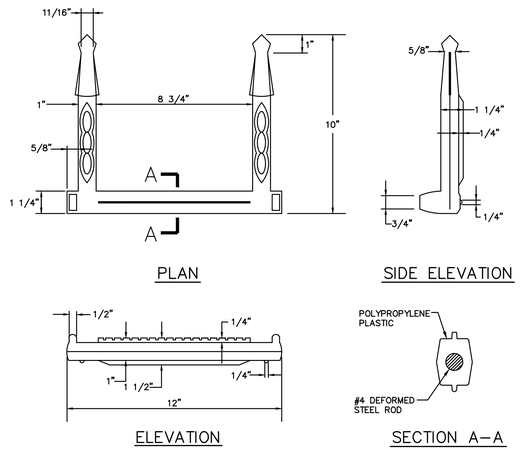
MANHOLE SCHEDULE

MANHOLE	TOP ELEVATION 'A'	INV. IN ELEV. 'B'	INV. OUT ELEV. 'C'	BOTTOM ELEVATION 'D'
MH#1	XXXX.X	XXXX.X	XXXX.X	XXXX.X
MH#2	2229.0	2223.5	2223.3	2221.3
MH#3	2300.0	2294.5	2294.3	2292.3

PRECAST MANHOLE NOTES:

1. ALL PRECAST MANHOLE COMPONENTS SHALL MEET REQUIREMENTS OF ASTM C-478, LATEST REVISION.
2. ALL MANHOLES SHALL BE CONSTRUCTED PLUMB
3. ALL MANHOLE GRADES SHOWN ON THE PLANS ARE FOR THE INVERT OF THE MANHOLE CENTER.
4. IF MANHOLE IS SET IN LOCATION OF HIGH WATER TABLE OR UNDERGROUND WATER IS ENCOUNTERED, THE CONTRACTOR SHALL INSTALL UNDERDRAINS AND STONE AS DIRECTED IN THE FIELD BY THE ENGINEER.

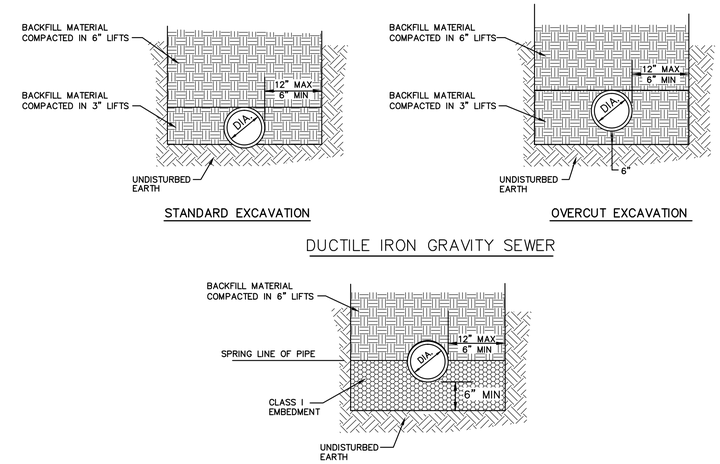
LEACHATE SYSTEM COLLECTION MANHOLE



CONSTRUCTION NOTES 1. ALL STEPS SHALL PROTRUDE A MINIMUM OF 5" AND A MAXIMUM OF 7" FROM INSIDE FACE OF STRUCTURE WALL. 2. STEPS DIFFERING IN DIMENSIONS, CONFIGURATION, OR MATERIALS FROM THOSE SHOWN MAY ALSO BE USED PROVIDED THE CONTRACTOR HAS FURNISHED THE ENGINEER WITH DETAILS OF THE PROPOSED STEPS AND HAS RECEIVED PRIOR WRITTEN APPROVAL FROM THE ENGINEER FOR THE USE OF SAID STEPS.

MANHOLE STEPS

REVISION DATE - NOVEMBER 3, 2008



PIPE IN WET OR UNSTABLE CONDITIONS
ALL PIPE TYPES
(AS DIRECTED BY ENGINEER)

NOTES:

1. CONSTRUCTION OF TRENCHES SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL SAFETY AND HEALTH REGULATIONS WHICH HAVE JURISDICTION AT THE PROJECT SITE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE APPLICABLE REGULATIONS AND FOLLOW THEM ACCORDINGLY.
2. FOR UNIT PRICE CONTRACTS ONLY, PAYMENT FOR ROCK EXCAVATION AND SELECT BACKFILL IN TRENCH SHALL BE FOR ACTUAL QUANTITIES AND SHALL NOT EXCEED THE WIDTH OF TRENCH SHOWN ON THIS DETAIL.
3. FOR UNIT PRICE CONTRACTS ONLY, PAYMENT FOR FOUNDATION STONE UNDERCUT SHALL BE FOR THE LENGTH OF THE TRENCH REQUIRING UNDERCUT X 6" DEPTH INCREMENTS TO THE DEPTH REQUIRED.
4. CLASS I EMBEDMENT SHALL BE NCDOT STANDARD # 67 STONE OR APPROVED EQUAL. FOUNDATION STONE SHALL BE NCDOT STANDARD # 57 OR # 67 STONE OR APPROVED EQUAL.

TYPICAL GRAVITY SEWER TRENCHING DETAILS

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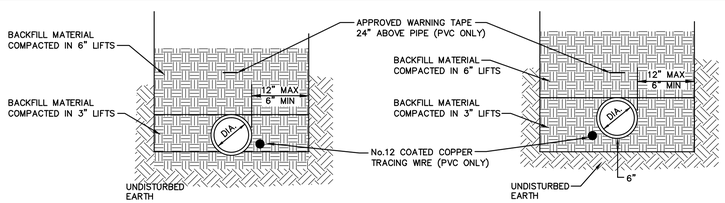

NOTE:
BELL HOLES NOT SHOWN

NOTES:
1. CONSTRUCTION OF TRENCHES SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL SAFETY AND HEALTH REGULATIONS WHICH HAVE JURISDICTION AT THE PROJECT SITE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE APPLICABLE REGULATIONS AND FOLLOW THEM ACCORDINGLY.

2. PAYMENT FOR ROCK EXCAVATION AND SELECT BACKFILL IN TRENCH SHALL BE FOR ACTUAL QUANTITIES AND SHALL NOT EXCEED THE WIDTH OF TRENCH SHOWN ON THIS DETAIL.

TYPICAL TRENCHING DETAILS
SEWER FORCE MAIN

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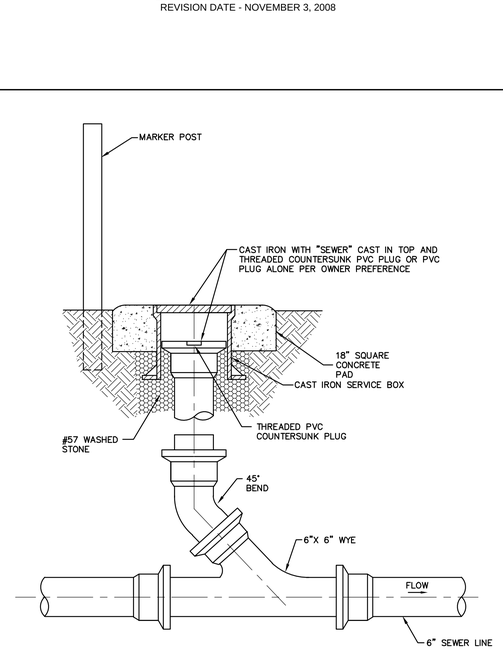
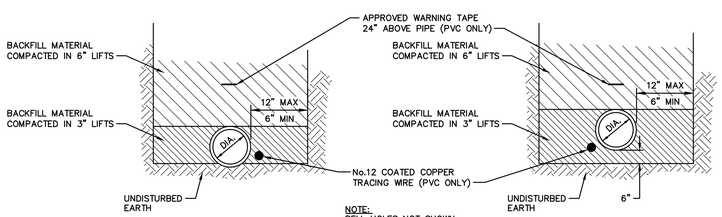


CLEANOUT DETAIL

REVISION DATE - NOVEMBER 3, 2008



NOTE:
BELL HOLES NOT SHOWN

NOTE:
1. CONSTRUCTION OF TRENCHES SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL SAFETY AND HEALTH REGULATIONS WHICH HAVE JURISDICTION AT THE PROJECT SITE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE APPLICABLE REGULATIONS AND FOLLOW THEM ACCORDINGLY.
2. PAYMENT FOR ROCK EXCAVATION AND SELECT BACKFILL IN TRENCH SHALL BE FOR ACTUAL QUANTITIES AND SHALL NOT EXCEED THE WIDTH OF TRENCH SHOWN ON THIS DETAIL.

TYPICAL TRENCHING DETAILS
WATER LINES

REVISION DATE - NOVEMBER 3, 2008

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PRELIMINARY NOT FOR CONSTRUCTION

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C-504

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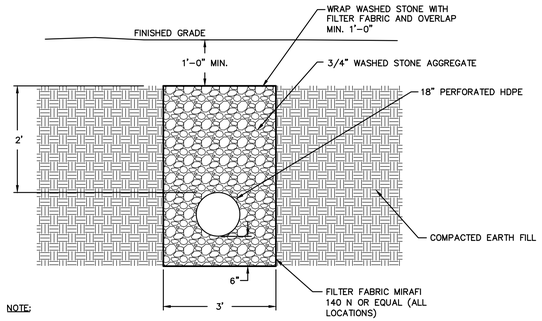
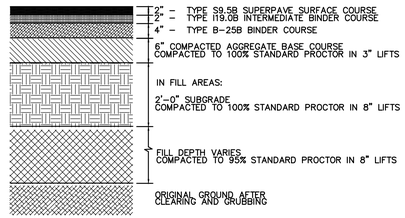


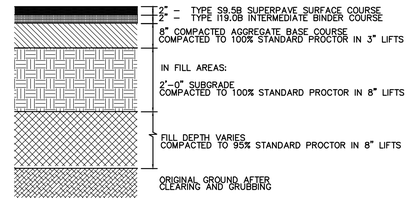
NOTE:

1. PIPE SHALL BE SLOPED TOWARDS OUTLET AS INDICATED ON PLANS.

UNDERDRAIN IN AREA OF CLOSED TVA CAP REPAIR

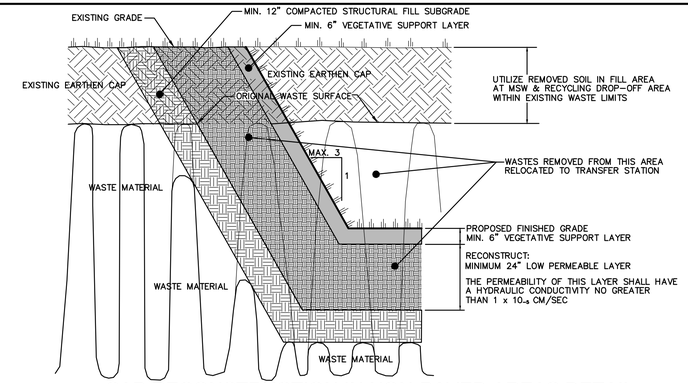


SCALE AREA ACCESS ROAD



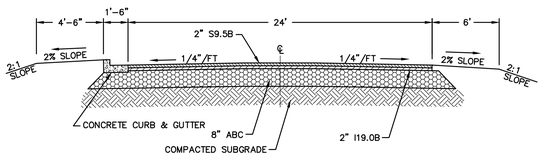
CONVENIENCE CENTER AREA ACCESS ROAD

TYPICAL NEW ASPHALT PAVEMENT CROSS-SECTION



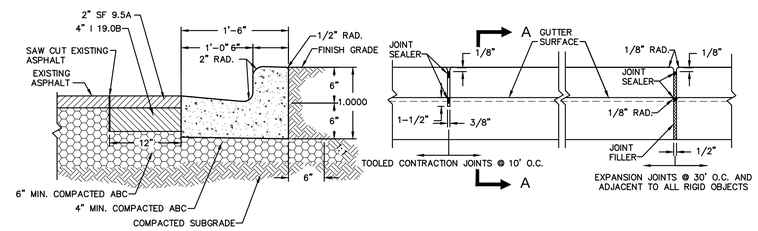
CAP RECONSTRUCTION IN NON-PAVED AREAS DETAIL

NTS



TYPICAL ROAD CROSS-SECTION WITH CURB & GUTTER

NOT TO SCALE



SECTION A-A

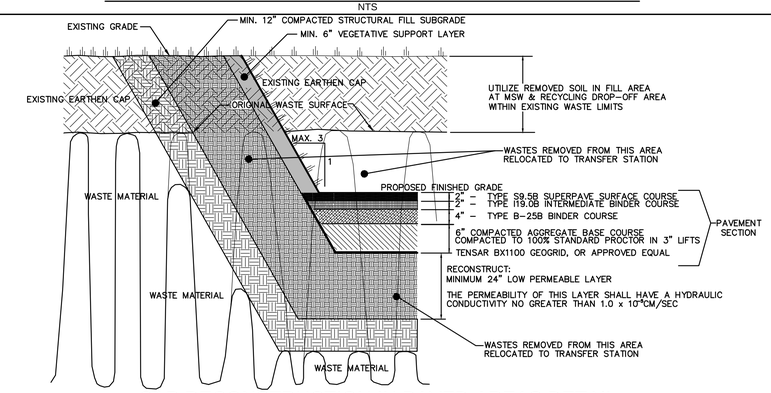
CONSTRUCTION NOTES:

1. CURB SHALL BE CONSTRUCTED WITH CLASS B 4000 psi CONCRETE.
2. SURFACE SHALL BE GIVEN A LIGHT BROOM FINISH WITH THE BRUSH MARKS PARALLEL TO THE CURB.
3. FILL AND SEAL THE TOP 1/2" OF EXPANSION JOINTS AND TOP 1" OF CONTRACTION JOINTS WITH APPROVED JOINT SEALING COMPOUND.
4. REFERENCE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, SECTION 846-3.

CONCRETE CURB & GUTTER (1'-6")

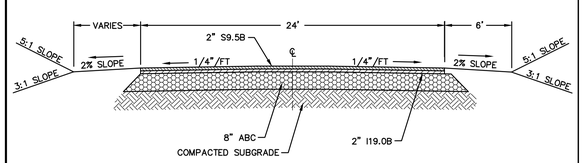
NOT TO SCALE

REVISION DATE - NOVEMBER 3, 2008



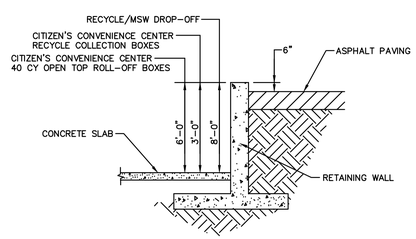
CAP RECONSTRUCTION IN PAVED AREAS DETAIL

NTS



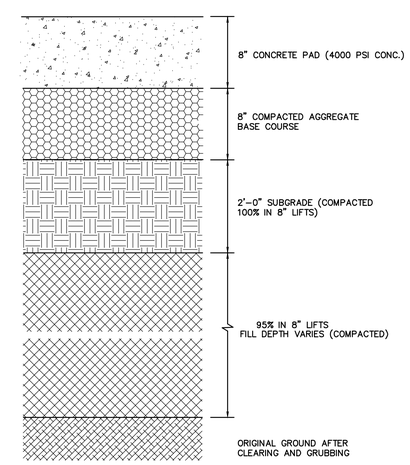
TYPICAL ROAD CROSS-SECTION

NOT TO SCALE

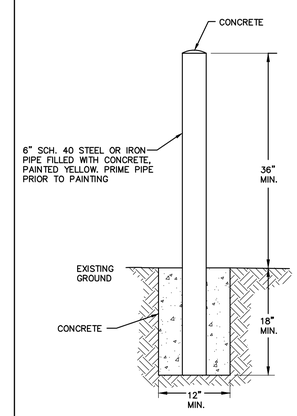


RETAINING WALL DETAIL

NTS

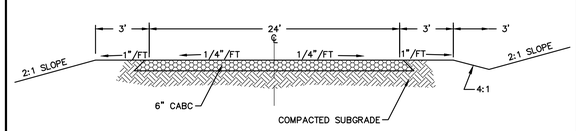


CONCRETE APPROACH SECTION



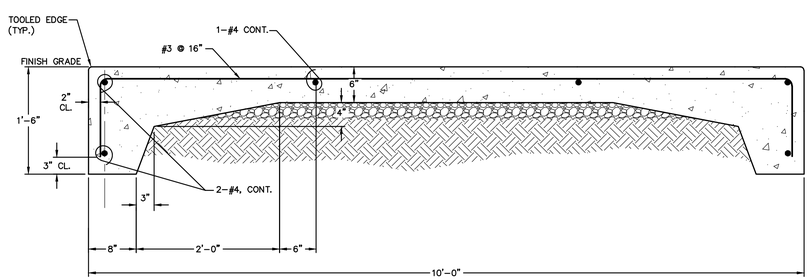
BOLLARD DETAIL

REVISION DATE - NOVEMBER 3, 2008



TYPICAL GRAVEL ROAD CROSS-SECTION

NOT TO SCALE



TYPICAL SLAB DETAIL

REVISION DATE - NOVEMBER 3, 2008

NO.	DATE	BY		REVISION DESCRIPTION

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
55 BROAD STREET ASHEVILLE, NC 28801 PH: (828) 252-0575 FIRM LICENSE # C-0459

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
PRELIMINARY NOT FOR CONSTRUCTION
WILLIAM H. SPAIN

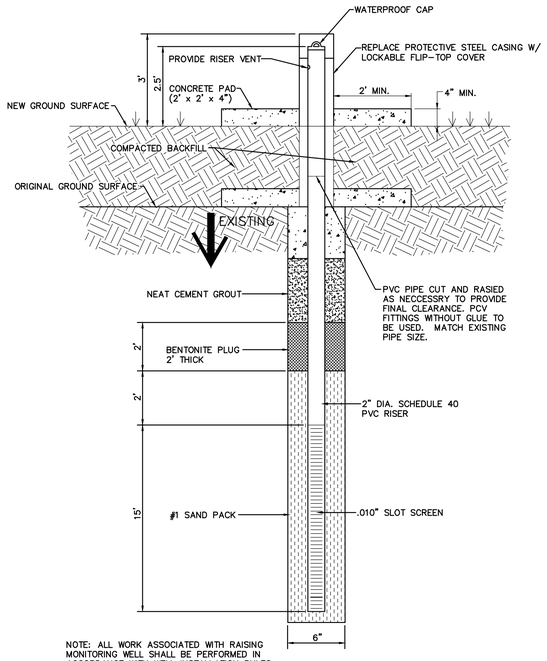
STONEY MOUNTAIN ROAD LANDFILL FACILITY
CAPITAL IMPROVEMENTS PROJECT
PRELIMINARY PLAN
HENDERSON COUNTY
HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 09.00728
DATE: JUNE, 2010
DESIGNED BY: DAP, KS
CADD BY: DAP, KS
DESIGN REVIEW: ____
CONST. REVIEW: ____
FILE NAME: 09.00728-C-501, C-506 Miscellaneous Details.dwg

MISCELLANEOUS DETAILS

SHEET
C-505

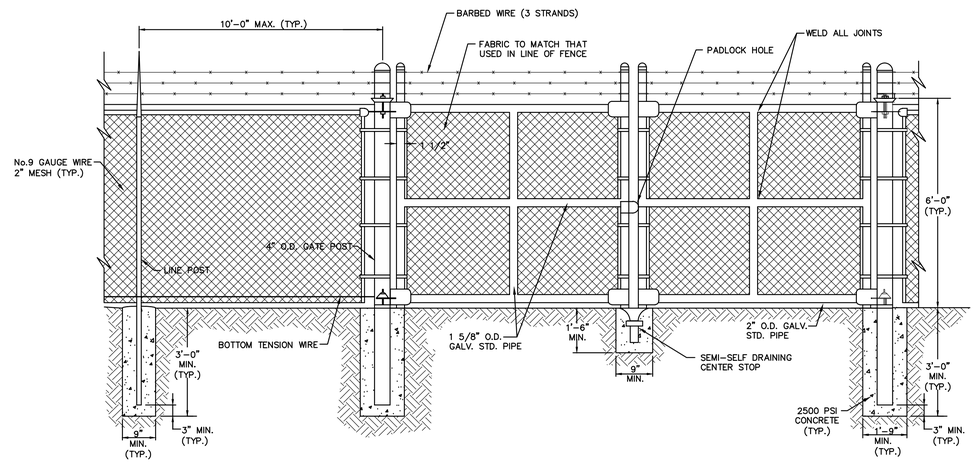
Q:\2009\09.00728\Design\Solid Waste\Drawings\Preliminary Plan\09.00728-C-501_C-506 Miscellaneous Details.dwg 6/30/2010 11:15 AM KELLY



NOTE: ALL WORK ASSOCIATED WITH RAISING MONITORING WELL SHALL BE PERFORMED IN ACCORDANCE WITH WELL INSTALLATION RULES OF THE NCDENR-SOLID WASTE SECTION

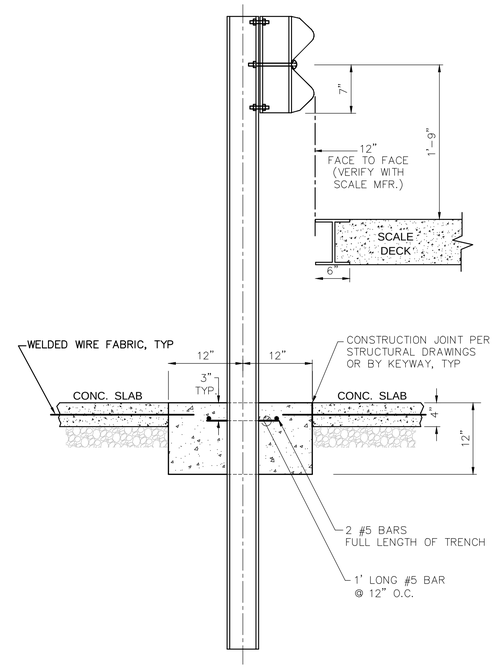
MONITORING WELL RAISING DETAIL

N.T.S.



CHAIN LINK FENCE AND DOUBLE GATE ACROSS ACCESS ROAD DETAIL

REVISION DATE - NOVEMBER 3, 2008

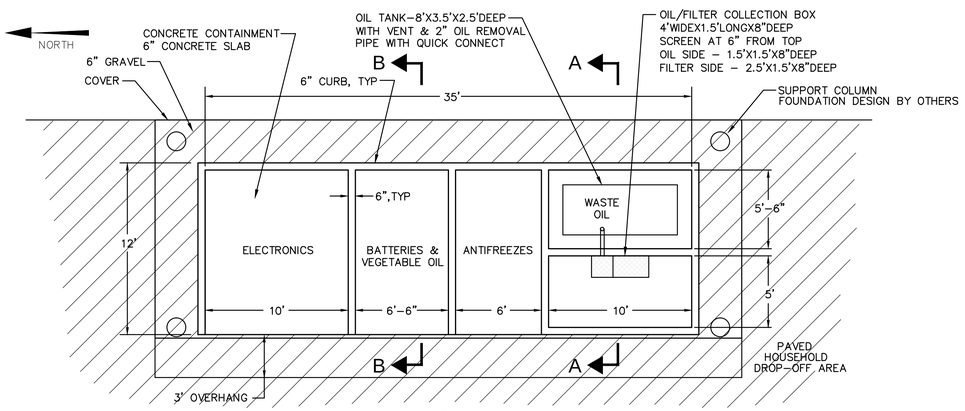


TALL GUARDRAIL AT SCALE

N.T.S.

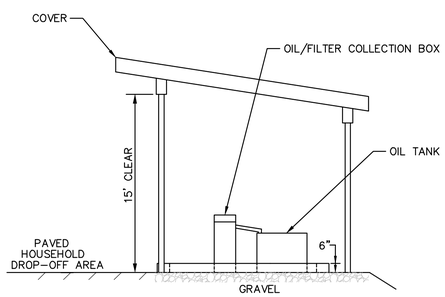
NOTES:

1. GUARDRAIL INSTALLATION PER NCDOT STANDARD DETAIL 862.02, EXCEPT AS SHOWN IN THIS DETAIL.
2. FOR ALL GUARDRAIL, USE TERMINAL END SECTION PER NCDOT DETAIL 862.02, SHEET 9 OF 10.



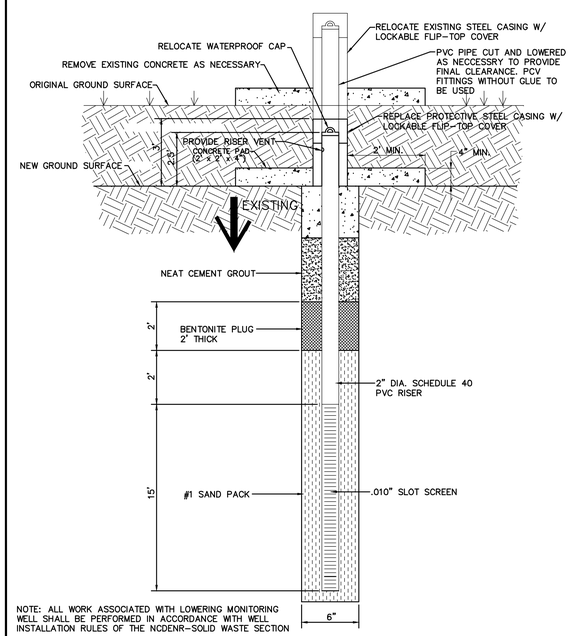
PLAN

N.T.S.



ELEVATION

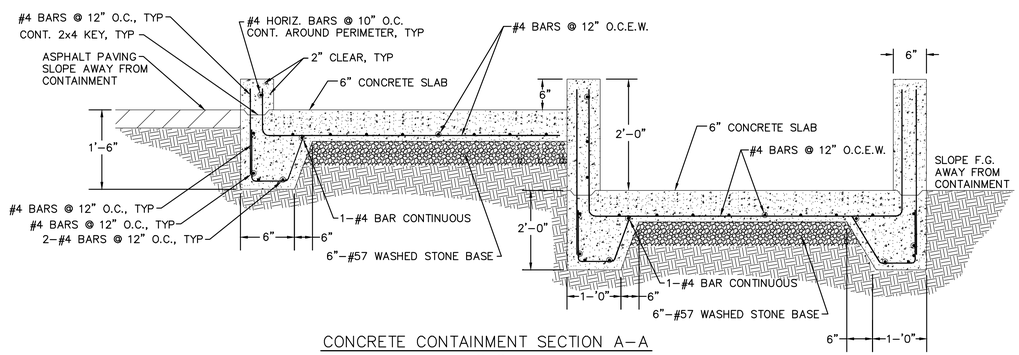
N.T.S.



NOTE: ALL WORK ASSOCIATED WITH LOWERING MONITORING WELL SHALL BE PERFORMED IN ACCORDANCE WITH WELL INSTALLATION RULES OF THE NCDENR-SOLID WASTE SECTION

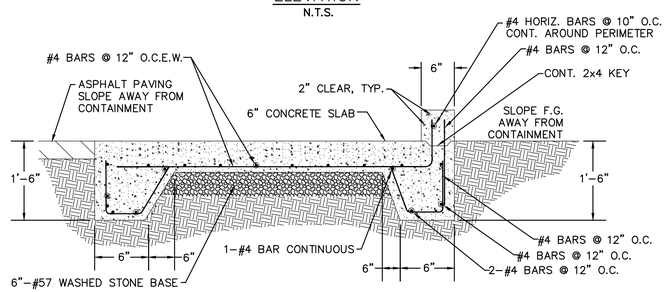
MONITORING WELL LOWERING DETAIL

N.T.S.



CONCRETE CONTAINMENT SECTION A-A

N.T.S.



CONCRETE CONTAINMENT SECTION B-B

N.T.S.

RECYCLE COLLECTION SHED

N.T.S.

NO.	DATE	BY	REVISION DESCRIPTION

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
55 BROAD STREET ASHEVILLE, NC 28801 PH: (828) 252-0575 FIRM LICENSE # C-0459

NO FOR CONSTRUCTION

STONEY MOUNTAIN ROAD LANDFILL FACILITY
CAPITAL IMPROVEMENTS PROJECT
PRELIMINARY PLAN
HENDERSON COUNTY
HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 09.00728
DATE: JUNE, 2010
DESIGNED BY: DAP, KS
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DESIGN REVIEW: ____
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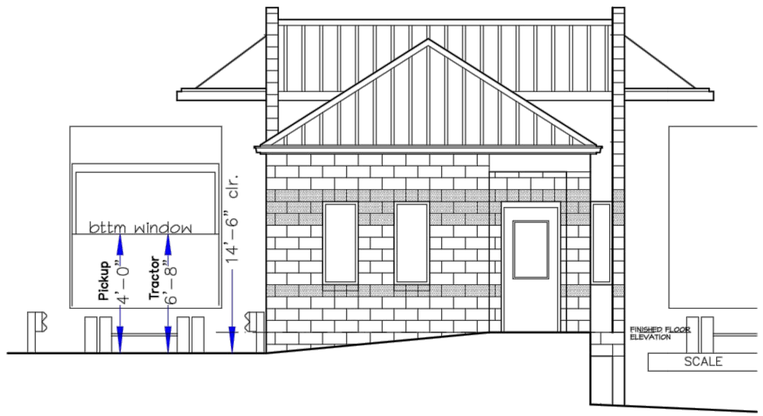
FILE NAME: 09.00728-C-501, C-506 Miscellaneous Details.dwg

MISCELLANEOUS DETAILS

SHEET
C-506

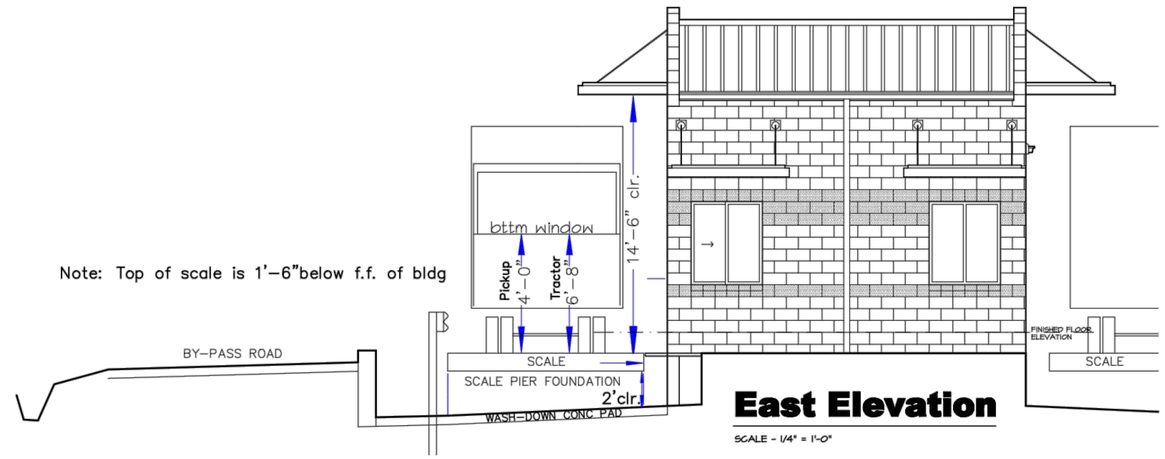
Q:\2009\09.00728\Design\Solid Waste\Drawings\Preliminary Plan\09.00728-C-501, C-506 Miscellaneous Details.dwg 6/30/2010 11:15 AM KELLY



West Elevation

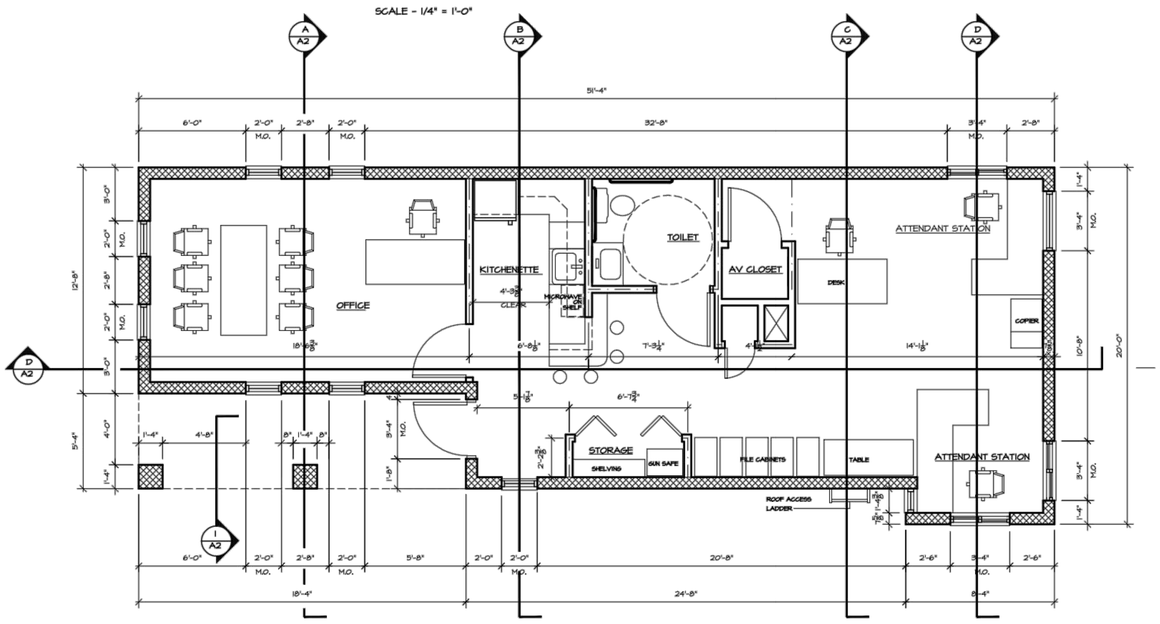
SCALE - 1/4" = 1'-0"

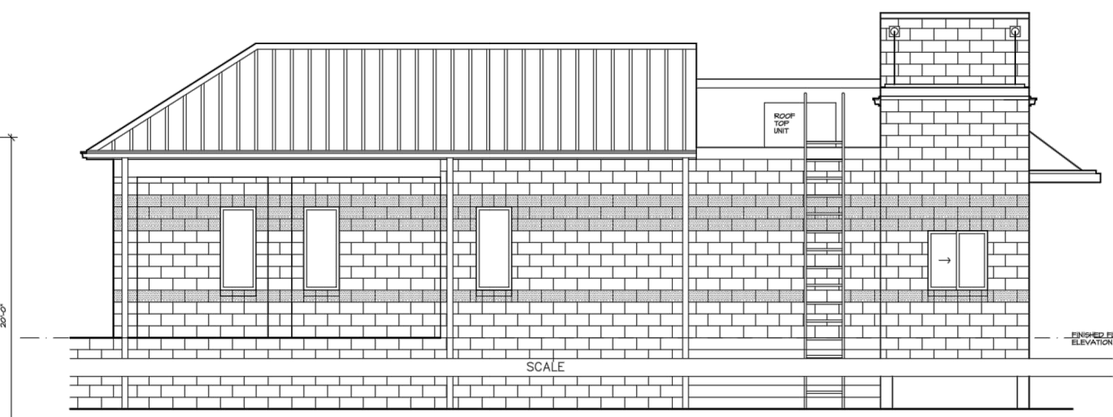
Note: Top of scale is 1'-6"below f.f. of bldg



East Elevation

SCALE - 1/4" = 1'-0"





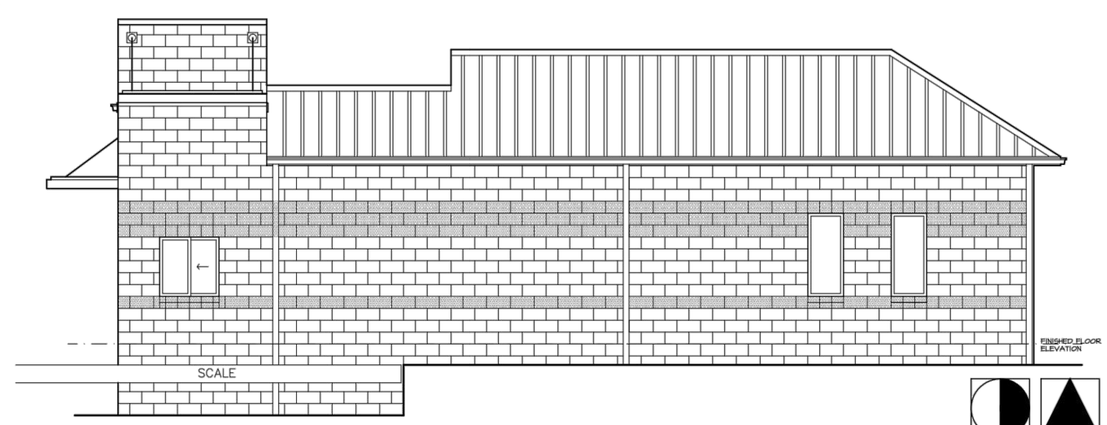
South Elevation

SCALE - 1/4" = 1'-0"

PLAN NOTES :

LEGEND:

- SOLID CONCRETE
- CONCRETE MASONRY UNITS
- BRICK
- EARTH
- ONE-HOUR RATED WALL
- WALL TAG
- ROOM IDENTIFYING TAG
- DOOR TAG- TOP FIGURE= DOOR IDENTIFYING LETTER BOTTOM FIGURE= ROOM DOOR IS LOCATED
- SECTION MARK- TOP FIGURE= SECTION IDENTIFIER BOTTOM FIGURE= SHEET WHERE SECTION IS SHOWN
- INDICATES WINDOW TYPE, SEE WINDOW SCHEDULE
- INDICATES FIN. FLOOR OR GRADE ELEVATIONS. 56.03
- INDICATES ELECTIC WATER COOLER E.W.C.



North Elevation

SCALE - 1/4" = 1'-0"

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
55 BROAD STREET ASHEVILLE, NC PH. (828) 252-0575

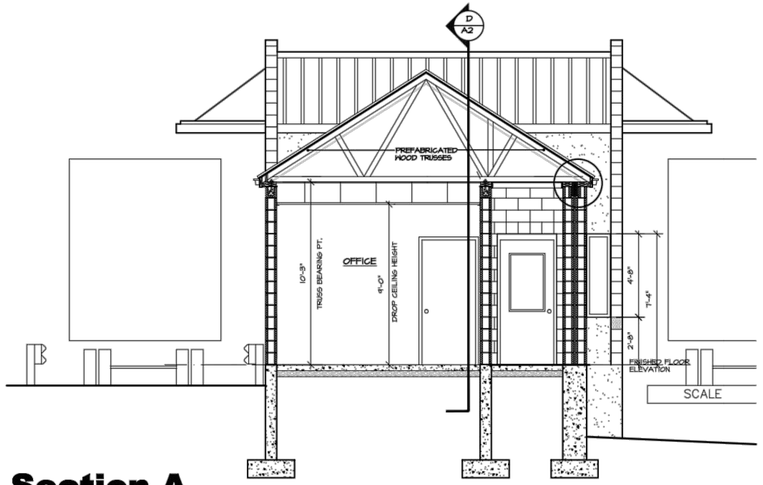
Dechant Architecture, P.A.
700 Merrimon Ave. Suite 103
Asheville, North Carolina 28804
Phone 828.350.0004
Fax 828.350.0070

STONEY MOUNTAIN ROAD LANDFILL FACILITY
CAPITAL IMPROVEMENTS PLAN
HENDERSON COUNTY
HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 05734
DATE: 5/18/10
SCALE: AS NOTED
DESIGNED BY: WMD
CADD BY: WMD
DESIGN REVIEW: _____
CONST. REVIEW: _____

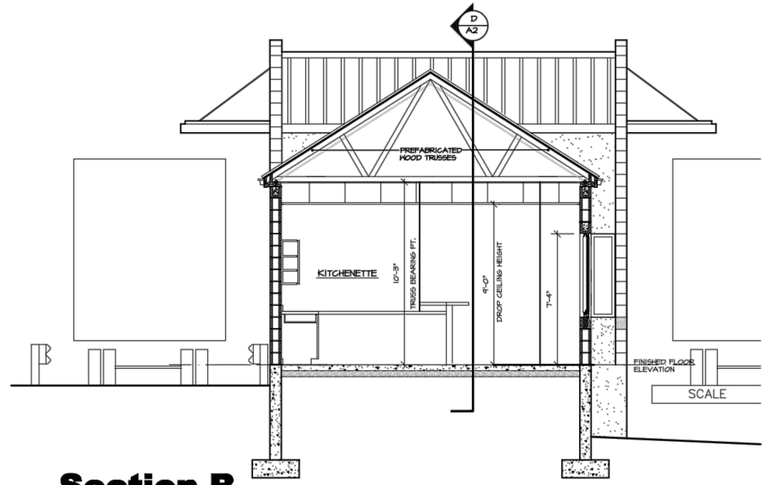
SCALE HOUSE FLOOR PLAN & ELEVATIONS

SHEET
A1



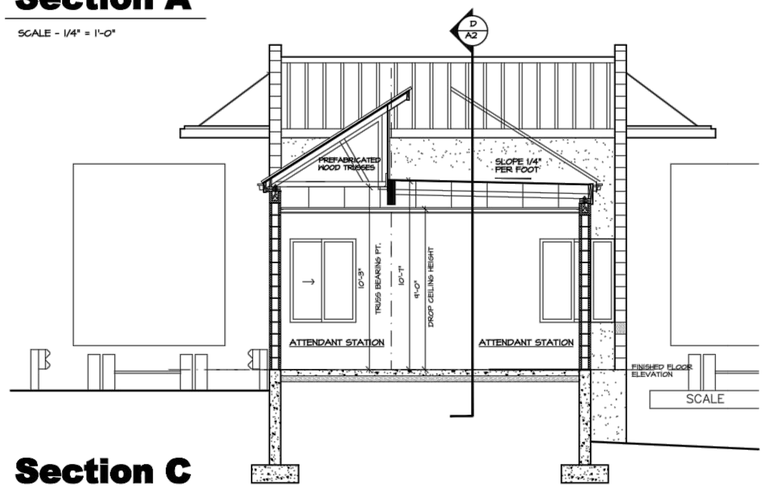
Section A

SCALE - 1/4" = 1'-0"



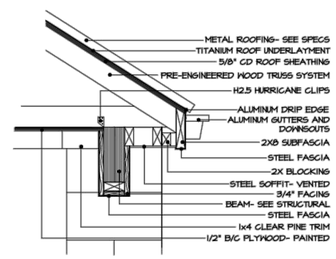
Section B

SCALE - 1/4" = 1'-0"



Section C

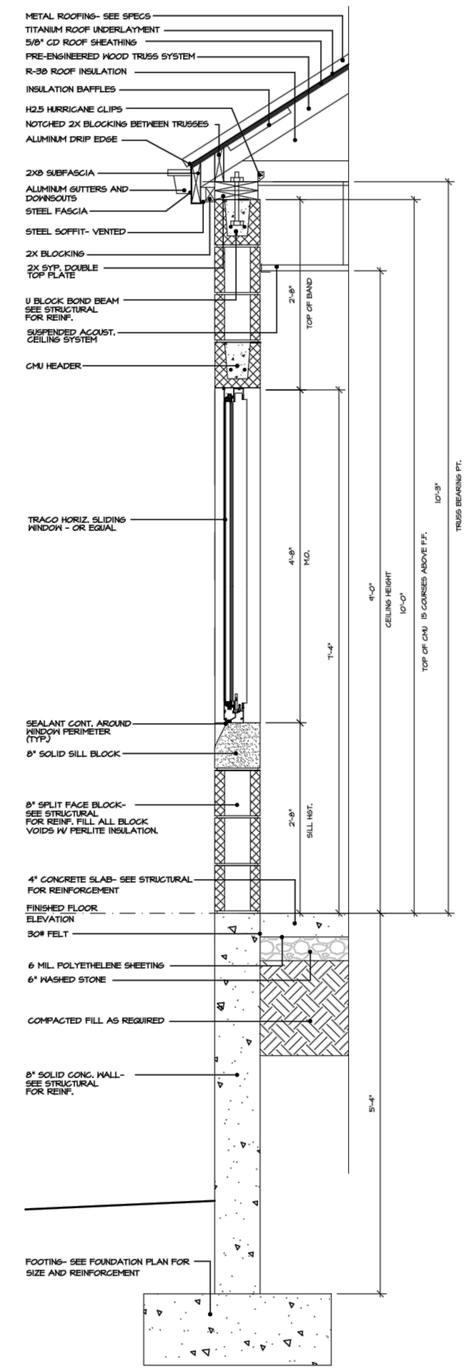
SCALE - 1/4" = 1'-0"



1 / A-2

Beam Detail

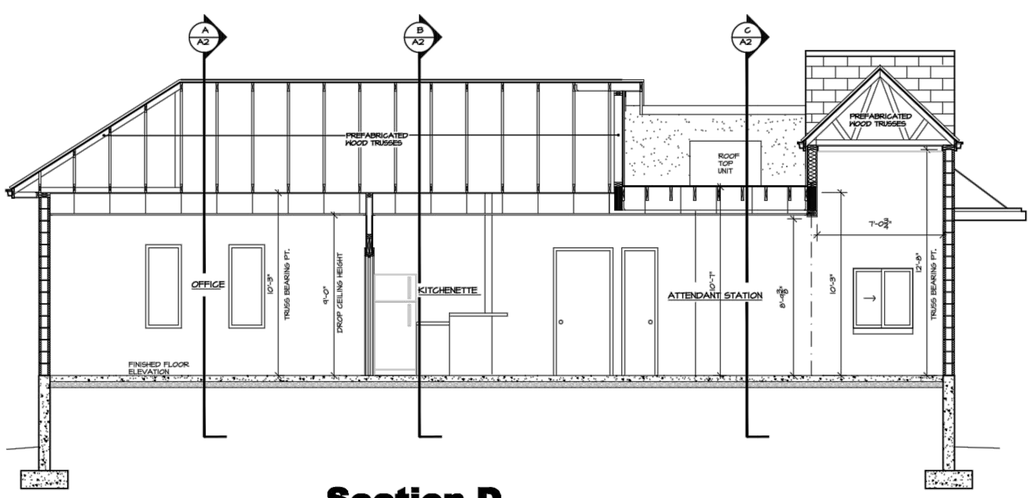
SCALE - 1" = 1'-0"



2 / A-2

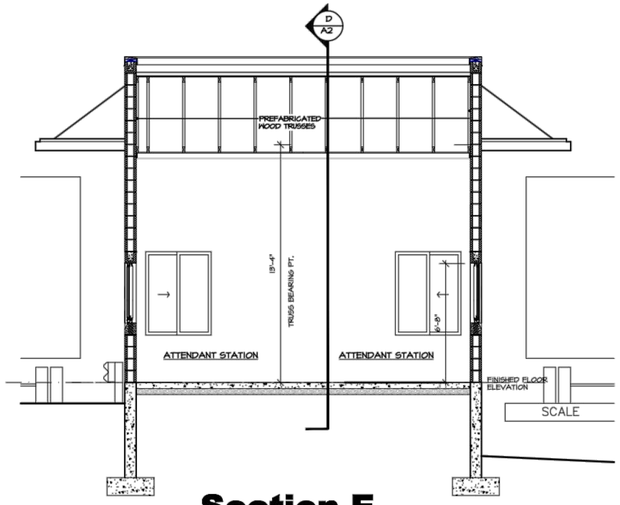
Wall Section

SCALE - 1" = 1'-0"



Section D

SCALE - 1/4" = 1'-0"



Section E

SCALE - 1/4" = 1'-0"

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
53 BROAD STREET ASHEVILLE, NC PH. (828) 252-0575

Dechant Architecture, P.A.
700 Merrimon Ave. Suite 103
Asheville, North Carolina 28804
Phone 828.255.0004
Fax 828.255.0070

STONEY MOUNTAIN ROAD LANDFILL FACILITY
CAPITAL IMPROVEMENTS PLAN
HENDERSON COUNTY
HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 05734
DATE: 5/18/10
SCALE: AS NOTED
DESIGNED BY: WMD
CADD BY: WMD
DESIGN REVIEW: ____
CONST. REVIEW: ____

SCALE HOUSE FLOOR PLAN & ELEVATIONS

SHEET
A2

NCDENR

North Carolina Department of Environment and Natural Resources
Division of Land Resources
Land Quality Section

James D. Simons, PG, PE
Director and State Geologist

Beverly Eaves Perdue, Governor
Dee Freeman, Secretary

July 13, 2010

LETTER OF APPROVAL

Henderson County
ATTN: Marcus A. Jones, Henderson County Director of Engineering
100 North King Street
Hendersonville, North Carolina 28792

RE: Project Name: Stoney Mtn. Rd. Landfill - Capital Improvements Project
Acres Approved: 33.6
Project ID: HENDE-2010-006
County: Henderson
Street and City: S.R. 1383 - Stoney Mtn. Road
River Basin: French Broad
Stream Classification: WS-IV
Latitude: 35.35558 Longitude: -82.49531
Submitted By: McGill Associates, Dave Pasko
Date Received by LQS: June 17, 2010
Plan Type: New Submittal

Dear Mr. Jones:

This office has reviewed the subject erosion and sedimentation control plan. We find the plan to be acceptable and hereby issue this Letter of Approval. The enclosed Certificate of Approval must be posted at the job site. This plan approval shall expire three (3) years following the date of approval, if no land-disturbing activity has been undertaken, as is required by Title 15A NCAC 4B .0129.

Title 15A NCAC 4B .0118(a) requires that a copy of the approved erosion control plan be on file at the job site. Also, this letter gives the notice required by G.S. 113A-61.1(a) of our right of periodic inspection to insure compliance with the approved plan.

North Carolina's Sedimentation Pollution Control Act is performance-oriented, requiring protection of existing natural resources and adjoining properties. If, following the commencement of this project, the erosion and sedimentation control plan is inadequate to meet the requirements of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statute 113A-51 through 66), this office may require revisions to the plan and implementation of the revisions to insure compliance with the Act.

Acceptance and approval of this plan is conditioned upon your compliance with Federal and State water quality laws, regulations, and rules. In addition, local city or county ordinances or rules may also apply to this land-disturbing activity. This approval does not supersede any other permit or approval.

Please be aware that your project will be covered by the enclosed NPDES General Stormwater Permit NCGO10000 (Construction Activities). You should first become familiar with all of the requirements for compliance with the enclosed general permit.

Please note that this approval is based in part on the accuracy of the information provided in the Financial Responsibility Form, which you provided. You are requested to file an amended form if there is any change in the information included on the form. In addition, it would be helpful if you notify this office of the proposed starting date for this project. Please notify **Jason Fulton** or me if you plan to have a pre-construction conference.

Your cooperation is appreciated.

Sincerely,

Kristin Hicklin
Land Quality Section

Enclosures: Certificate of Approval
NPDES Permit

cc: McGill Associates, Dave Pasko

CERTIFICATE OF PLAN APPROVAL

The posting of this certificate certifies that an erosion and sedimentation control plan has been approved for this project by the North Carolina Department of Environment and Natural Resources in accordance with North Carolina General Statute 113A – 57 (4) and 113A – 54 (d) (4) and North Carolina Administrative Code, Title 15A, Chapter 4B.0107 (c). This certificate must be posted at the primary entrance of the job site before construction begins and until establishment of permanent groundcover as required by North Carolina Administrative Code, Title 15A, Chapter 4B.0127 (b).

Stoney Mtn. Rd. Landfill - Henderson

Project Name and Location

Capital Improvements Project

HENDE-2010-006

July 13, 2010

Date of Plan Approval

NCDENR

Janet S. Boyd

Regional Engineer

U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT

Action ID. **2010-01091** County: **Henderson** USGS Quad: **NC-Hendersonville**

GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION

Property Owner / Authorized Agent: **Henderson County**
Address: **100 North King Street**
Hendersonville, NC 28792
Telephone No.: **828-694-6526**

Size and location of property (water body, road name/number, town, etc.): **The site is located adjacent to an existing landfill on Stoney Mountain Rd. in Hendersonville, Henderson County, NC. The site contains two UTs to Mill Pond Creek in the French Broad River Basin.**

Description of projects area and activity: **This permit authorizes the permanent placement of fill in 125 LF of perennial stream associated with a road crossing and 10 LF of rip-rap for a dissipater pad for a scale road access and convenience center.**

Applicable Law: ☒ Section 404 (Clean Water Act, 33 USC 1344)
☐ Section 10 (Rivers and Harbors Act, 33 USC 403)
Authorization: Regional General Permit Number:
Nationwide Permit Number: **39**

Summary of Authorized Impacts and Required Mitigation

Action ID #	NWP / GP #	Open Water (ac)		Wetland (ac)		Unimportant Stream (lf)		Important Stream (lf)	
		Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
201001091	**39**								**125**
									10
Impact Totals									
Total Loss of Waters of the U.S. (ac)				Total Loss of Waters of the U.S. (lf)					**135**
Required Wetland Mitigation (ac)				Required Stream Mitigation (lf)					

Additional Remarks and/or Special Permit Conditions: **See attached NC WRC comment letter addressing dissipater for drainage velocities. If placed in stream channel, rip-rap should be installed at natural streambed elevation to retain free-flowing condition and prohibit stream flow blockage.**

Your work is authorized by the above referenced permit provided it is accomplished in strict accordance with the attached conditions and your submitted plans. Any violation of the attached conditions or deviation from your submitted plans may subject the permittee to a stop work order, a restoration order and/or appropriate legal action.

This verification will remain valid until the expiration date identified below unless the nationwide authorization is modified, suspended or revoked. If, prior to the expiration date identified below, the nationwide permit authorization is reissued and/or modified, this verification will remain valid until the expiration date identified below, provided it complies with all requirements of the modified nationwide permit. If the nationwide permit authorization expires or is suspended, revoked, or is modified, such that the activity would no longer comply with the terms and conditions of the nationwide permit, activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon the nationwide permit, will remain authorized provided the activity is completed within twelve months of the date of the nationwide permit's expiration, modification or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend or revoke the authorization.

Activities subject to Section 404 (as indicated above) may also require an individual Section 401 Water Quality Certification. You should contact the NC Division of Water Quality (telephone (919) 733-1786 to determine Section 401 requirements.

For activities occurring within the twenty coastal counties subject to regulation under the Coastal Area Management Act (CAMA), prior to beginning work you must contact the N.C. Division of Coastal Management.

This Department of the Army verification does not relieve the permittee of the responsibility to obtain any other required Federal, State or local approvals/permits.

If there are any questions regarding this verification, any of the conditions of the Permit, or the Corps of Engineers regulatory program, please contact Tyler Crumbley at 828-271-7980.

Corps Regulatory Official __Tyler Crumbley_____ Date: **14 July 2010**

Expiration Date of Verification: **18 March 2012**

Determination of Jurisdiction:

A. ☐ Based on preliminary information, there appear to be waters of the US including wetlands within the above described project area. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331).

B. ☐ There are Navigable Waters of the United States within the above described project area subject to the permit requirements of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

C. ☒ There are waters of the US and/or wetlands within the above described project area subject to the permit requirements of Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

D. ☐ The jurisdictional areas within the above described project area have been identified under a previous action. Please reference jurisdictional determination issued _____. Action ID _____

Basis of Jurisdictional Determination: The site contains stream channels that exhibit indicators of ordinary high water marks. The stream channel on the property is the South Toe River which flows into the French Broad River and ultimately flows to the Atlantic Ocean through the French Broad, and ultimately the Gulf of Mexico.

Appeals Information: (This information does not apply to preliminary determinations as indicated by paragraph A. above).

Attached to this verification is an approved jurisdictional determination. If you are not in agreement with that approved jurisdictional determination, you can make an administrative appeal under 33 CFR 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and request for appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the following address:

District Engineer, Wilmington Regulatory Program
Attn: Tyler Crumbley, Project Manager
151 Patton Avenue, Room 208
Asheville, North Carolina 28801

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address within 60 days from the *Issue Date* below.

It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this correspondence.

Corps Regulatory Official: Tyler Crumbley

Issue Date: **14 July 2010** Expiration Date: **14 July 2015**

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the Customer Satisfaction Survey located at our website at http://per2.nwp.usace.army.mil/survey.html to complete the survey online.

SURVEY PLATS, FIELD SKETCH, WETLAND DELINEATION FORMS, PROJECT PLANS, ETC., MUST BE ATTACHED TO THE FILE COPY OF THIS FORM, IF REQUIRED OR AVAILABLE.

Copy Furnished:
William Sperry; Agent

Permit Number: 2010-01091

Permit Type: NW39

Name of County: Henderson

Name of Permittee: Henderson County

Date of Issuance: 14 July 2010

Project Manager: Tyler Crumbley

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

U.S. Army Corps of Engineers
Attention: CESAW-RG-A
151 Patton Avenue, Room 208
Asheville, North Carolina 28801-5006

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

_____ _____

Signature of Permittee Date

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Henderson County		File Number: 2010-01091	Date: 14 July 2010
Attached is:			See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)		A
	PROFFERED PERMIT (Standard Permit or Letter of permission)		B
	PERMIT DENIAL		C
X	APPROVED JURISDICTIONAL DETERMINATION		D
	PRELIMINARY JURISDICTIONAL DETERMINATION		E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/inet/functions/cw/cecwo/reg or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact: Tyler Crumbley, Project Manager USACE, Asheville Regulatory Field Office 151 Patton Ave, Room 208 Asheville, NC 28806 828-271-7980	If you only have questions regarding the appeal process you may also contact: Mr. Michael F. Bell, Administrative Appeal Review Officer CESAD-ET-CO-R U.S. Army Corps of Engineers, South Atlantic Division 60 Forsyth Street, Room 9M15 Atlanta, Georgia 30303-8801

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:	Telephone number:

For appeals on Initial Proffered Permits and approved Jurisdictional Determinations send this form to:

District Engineer, Wilmington Regulatory Division, Attn:Tyler Crumbley, Project Manager, Asheville Regulatory Field Office, 151 Patton Avenue, Room 208, Asheville, NC 28801.

For Permit denials and Proffered Permits send this form to:

Division Engineer, Commander, U.S. Army Engineer Division, South Atlantic, Attn: Mr. Mike Bell, Administrative Appeal Officer, CESAD-ET-CO-R, 60 Forsyth Street, Room 9M15, Atlanta, Georgia 30303-8801

North Carolina Wildlife Resources Commission

Gordon Myers, Executive Director

July 12, 2010

Mr. Tyler Crumbley
U.S. Army Corps of Engineers, Regulatory Branch
151 Patton Avenue, Room 208
Asheville, North Carolina 28801-5006

SUBJECT: Nationwide Permit Application for Henderson County – Stoney Mountain Landfill
Henderson County

Dear Mr. Crumbley:

Henderson County requested comments from the North Carolina Wildlife Resources Commission on a 404 Permit application to place 125 feet of culvert and at least 10 feet of rip rap in tributaries to Mill Pond Creek. Our comments are provided under provisions of the Clean Water Act of 1977 (33 U.S.C. 466 et seq.) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

The Mill Pond Creek watershed does not support trout, so construction does not need to be avoided during the spawning moratorium.

We have no major concerns with the project overall, but we do ask that the stream bottom at site 1 not be covered with rip rap at the culvert inlet and outlet. Rather, it should be applied to the banks only, if necessary, so that a free-flowing stream remains. We also ask that disturbed soils along the streams be quickly stabilized with mulch, matting, seeding, or other ground cover to reduce erosion and sedimentation following the culvert placement. Sedimentation can be problematic in streams flowing from or through landfills.

Thank you for the opportunity to review and comment on this project. Please contact me at (828) 452-0422 extension 24 if there are any questions about these comments.

Sincerely,

Dave McHenry
Mountain Region Coordinator, Habitat Conservation Program

Cc: Michael G. Clark, McGill Associates

Mailing Address: Division of Inland Fisheries • 1721 Mail Service Center • Raleigh, NC 27699-1721
Telephone: (919) 707-0220 • **Fax:** (919) 707-0028