

Subject: Red Rock CQA Phase 1C-2

From: Donna Wilson <Donna.Wilson@ncmail.net>

Date: Thu, 29 May 2008 16:55:32 -0400

To: Stacey Smith <stacey@rsgengineers.com>

Stacey - I've reviewed the CQA report for Red Rock Phase 1C-2, and I have a few questions:

1. Section 3.0 - Please clarify the acreages of 1C (15 acres), 1C-1 (12 acres), and 1C-2 (13 acres). Cells 1C-1 and 1C-2 are subcells of 1C.
2. Is John Demary no longer a contact person?
3. Appendix A2 - Was the Sedimentation & Erosion Control Permit renewed?
4. The October 2003 PTC revised application stated that Phase 1C was revised to be coincident with wetlands/stream impacts permitted and approved by COE and DWQ. Please clarify the location of these wetlands/streams.

Thanks, Donna

--

Donna J. Wilson
Environmental Engineer
Solid Waste Section/Division of Waste Management
NC DENR
1646 Mail Service Center
Raleigh NC 27699-1646
Phone 919-508-8510
Section webpage - <http://wastenotnc.org/swhome>

Subject: Re: Red Rock CQA Phase 1C-2
From: Stacey Smith <stacey@rsgengineers.com>
Date: Thu, 29 May 2008 19:23:12 -0400
To: Donna Wilson <Donna.Wilson@ncmail.net>
CC: David Pepper <david.pepper@wasteindustries.com>

Donna,

Under this section, please note some corrections:

The Red Rock Disposal, LLC facility permit for Phase 1 includes three (3) disposal cells (or sub-phases) over a total footprint of approximately 44 acres. (Sub) Phases 1A, 1B, and 1C cover approximately 7 acres, 13 acres, and 25 acres, respectively. In October, 2003, Phase 1C was further sub-divided (Reference 2) into (Sub) Phases 1C-1 and 1C-2 to coincide with wetland/stream impacts in accordance with the facility's Nationwide 18 Permit. Phase 1C-1 covers approximately 12 acres and Phase 1C-2 covers approximately 13 acres.

That should make the numbers work better.

Yes, John Demary is no longer at the site. Don Plessinger is the new landfill manager.

Landfills are exempt from renewal in Wake County. Actually Red Rock helped to establish this policy when it was initially permitted. See policy attached.

The Nationwide Permit is attached. The wetlands and streams were located along the central portion of Phase 1C-1 and into Phase 1C-2. All of the impacts were performed prior to the construction of Phase 1C-1 as the site was under a time restriction. There is a map on the last page which may help get a picture of streams on site. A copy of this was included in the Phase 1C-1 certification report.

Thanks,

Let me know if you have any other questions.

sas

Stacey A. Smith, P.E.
President, Senior Engineer
Richardson Smith Gardner & Associates, Inc.
Raleigh, North Carolina
www.rsgengineers.com

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Nationwide Permit No. 18 - RRD.pdf	Content-Type: application/pdf Content-Encoding: base64
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45170001.pdf	Content-Type: application/pdf Content-Encoding: base64
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RENEWAL OF LAND DISTURBING PERMIT:

*This policy does not apply to projects approved prior to July 1, 2000. The client was not notified during approval as was the case from July 1, 2000 to the present.

*This policy does not apply to Landfills. Landfills are seldom closed out within two years and the erosion control measures are to remain in place for several years.

*Land Disturbing Permits expire 2 (two) years from the date of issuance. The project is to be renewed 30 days before the expiration date by re-applying in the same procedure as the original application. If the Engineer/Planner discovers the permit for a project has expired, a site visit is required to determine the status of the site. If the project is *not* at a point that it can be closed out, the permit is to be renewed for one year by re-paying the plan review fee and the land disturbing permit fee. Until the Ordinance is changed, the renewal is for one year **only** (*This is the policy, which reflects the current ordinance. A change of the ordinance will be proposed to the Commissioners.*). Notify Katy Chen (or first floor support staff) by giving or e-mailing her a copy of the renewal letter so she knows what the fees are for when it has been submitted. The mainframe is now set up with a "tickler" which will alert the engineer/planner when the two-year limit is about to expire. It does not help with expiring permits that we are closing out now, however.

*An inspection of the project is required to assess what is required to be done in order to close out the project. If the project can be closed out, close it out; if not, send a letter demanding payment of the fees, citing Section 5(3), 5(4), 5(5) and 12(1)a of the Wake County Soil Erosion and Sediment Control Ordinance. Depending on seasonal growing conditions and the condition of easements and ditches, etc., a short time extension may be granted.

*When the renewal fees are paid (in a time required by the renewal letter), a submission of one copy of the most up to date construction plan, Form 101 and a Financial Responsibility Form (if there are changes since approval) is required. The Environmental Engineer/Planner will review the construction plan to make sure it agrees with what has been constructed.

*Upon receipt of the payment of fees and required documents, a renewal receipt form is issued to the owner by the first floor support staff. A copy is put in the file, as well. This form states the final date for close out. If the project is not issued a Certificate of Completion within the one year renewal period the project is in violation of Section 12(1)a and is subject to a civil penalty.

Effective May 6, 2004

APPENDIX A.2

USACOE NATIONWIDE PERMIT NO. 18 – SECTION 404



September 10, 2002
DWQ# 02-0128
Wake County

Red Rock Disposal, LLC
C/o Jennifer Burdette
7130 New Landfill Drive
Holly Springs, NC, 27540

APPROVAL of 401 Water Quality Certification with Additional Condition

Dear Ms. Burdette:

You have our approval, in accordance with the attached conditions, to place fill in 1,009 linear feet of intermittent and perennial streams in order to construct the Red Rock Landfill Expansion in Wake County, as described in your application received by the Division of Water Quality on January 28, 2002. After reviewing your application, we have determined that this fill is covered by General Water Quality Certification Number 3362, which can be downloaded from our web site at <http://h2o.enr.state.nc.us/ncwetlands>. This Certification allows you to use Nationwide Permit Number 18 when issued by the U.S. Army Corps of Engineers. In addition, you should get any other federal, state or local permits before you go ahead with your project including (but not limited to) Sediment and Erosion Control, Non-Discharge and Water Supply Watershed regulations. Also this approval will expire when the accompanying 404 permit expires unless otherwise specified in the General Certification. This Certification replaces the one issued to you on August 20, 2002.

This approval is only valid for the purpose and design that you described in your application. If you change your project, you must notify us in writing and you may be required to send us a new application for a new certification. If the property is sold, the new owner must be given a copy of the Certification and approval letter and is thereby responsible for complying with all conditions. If total wetland fills for this project (now or in the future) exceed one acre, compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h). For this approval to be valid, you must follow the conditions listed in the attached certification as well as the additional condition listed below:

1. We understand that you have contributed to the Wetland Restoration Program in order to compensate for these impacts to streams. In accordance with 15A NCAC 2R .0402 and 15A NCAC 2B .0242(7), this contribution will satisfy our compensatory mitigation requirements under 15A NCAC 2H .0506(h) and 15A NCAC 2B .0233(10). Mr. Ron Ferrell should be contacted at (919) 733-5208 if you have any questions concerning the Wetland Restoration Program. For accounting purposes, this Certification authorizes the fill of 1,009 linear feet of streams, in the Cape Fear river and sub-basin and 516 feet of stream mitigation are required. Please be aware that the Wetland Restoration Program (WRP) rules require rounding of stream impact amounts to one-foot increments (15A NCAC 2R .0503(b))."

If you do not accept any of the conditions of this certification, you may ask for an adjudicatory hearing. You must act within 60 days of the date that you receive this letter. To ask for a hearing, send a written petition which conforms to Chapter 150B of the North Carolina General Statutes to the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, N.C. 27699-6714. This certification and its conditions are final and binding unless you ask for a hearing.

This letter completes the review of the Division of Water Quality under Section 401 of the Clean Water Act. If you have any questions, please telephone Steve Mitchell in our Raleigh Regional Office at 919-571-4700 or Cyndi Karoly in the Central Office at 919-733-9721.

Sincerely,

Alan W. Klimek, P.E.



NORTH CAROLINA-DIVISION OF WATER QUALITY
401 WATER QUALITY CERTIFICATION
SUMMARY OF PERMITTED IMPACTS AND MITIGATION REQUIREMENTS

In accordance with 15A NCAC 2H .0500, the Red Rock Landfill, care of Ms. Jennifer Burdette, has permission as outlined below for the purpose of constructing an expansion to the Red Rock Landfill in Wake County, North Carolina. All activities associated with these authorized impacts must be conducted with the conditions listed in the attached certification. THIS CERTIFICATION IS NOT VALID WITHOUT THE ATTACHMENTS.

**COMPENSATORY MITIGATION REQUIREMENT
WETLAND RESTORATION PROGRAM**

LOCATION: Red Rock Landfill Expansion
COUNTY: Wake
BASIN/SUBBASIN Cape Fear (03-06-07)

Impacts:

1,009 linear feet of intermittent and perennial streams

As required by 15A NCAC 2H .0506, and the conditions of this certification, you are required to compensate for the above impacts through the restoration, creation, enhancement or preservation of surface waters as outlined below prior to conducting any activities that impact or degrade the waters of the state.

Mitigation:

516 linear feet of perennial streams by WRP

Note: Linear foot requirements proposed to be mitigated through the Wetland Restoration Program must be rounded to the nearest foot and acreage requirements must be rounded to one-quarter acre increments according to 15 2r .0503(b).

One of the options you have available to satisfy the compensatory mitigation requirements is through the payment of a fee to the Wetlands Restoration Fund per NCAC 2R .0503. If you choose this option, please sign this form and mail it to the Wetlands Restoration Fund at the address listed below. An invoice for the appropriate amount of payment will be sent to you upon receipt of this form. PLEASE NOTE, THE ABOVE IMPACTS ARE NOT AUTHORIZED UNTIL YOU RECEIVE NOTIFICATION THAT YOUR PAYMENT HAS BEEN PROCESSED BY THE WETLANDS RESTORATION PROGRAM.

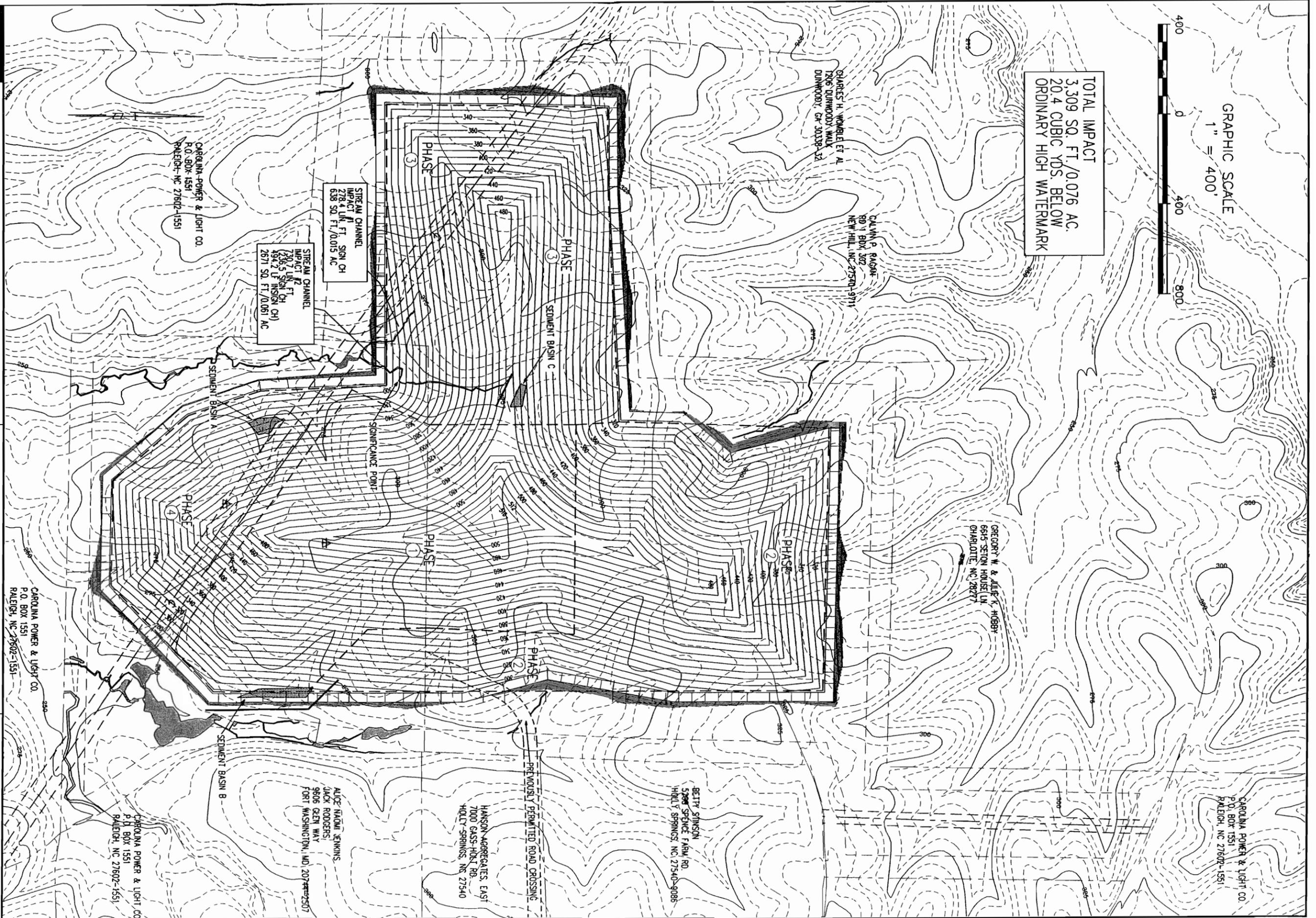
Signature

Date

WETLANDS RESTORATION PROGRAM
DIVISION OF WATER QUALITY
1619 Mail Service Center
RALEIGH, N.C. 27669-1619
(919) 733-5208

GRAPHIC SCALE
1" = 400'

TOTAL IMPACT
3,309 SQ. FT./0.076 AC.
20.4 CUBIC YDS. BELOW
ORDINARY HIGH WATERMARK



Subject: Re: Red Rock CQA Phase 1C-2
From: Stacey Smith <stacey@rsgengineers.com>
Date: Tue, 03 Jun 2008 15:58:43 -0400
To: Donna Wilson <Donna.Wilson@ncmail.net>

Donna,

Please see the corrected document for the Red Rock Phase 1C-2 Construction.

Thanks,

Stacey

Donna Wilson wrote:

Stacey - Thanks for the responses. Please send in a replacement page for the acreage corrections. I'll add the Nationwide Permit pages to the report after the Wake County Land Disturbance Permit.
Thanks, Donna

Stacey Smith wrote:

Donna,

Under this section, please note some corrections:

/The Red Rock Disposal, LLC facility permit for Phase 1 includes three (3) disposal cells (or sub-phases) over a total footprint of approximately 44 acres. (Sub) Phases 1A, 1B, and 1C cover approximately 7 acres, 13 acres, and 25 acres, respectively. In October, 2003, Phase 1C was further sub-divided (Reference 2) into (Sub) Phases 1C-1 and 1C-2 to coincide with wetland/stream impacts in accordance with the facility's Nationwide 18 Permit. Phase 1C-1 covers approximately 12 acres and Phase 1C-2 covers approximately 13 acres. /

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CQA - Report.pdf

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1.0 INTRODUCTION

This Construction Quality Assurance (CQA) Report has been prepared to document the CQA activities performed during the construction of Phase 1C - 2 at the Red Rock Disposal, LLC (Red Rock) Construction and Demolition (C&D) landfill in Holly Springs, North Carolina. This certification report is based on work associated with Phase 1C-2 cell construction and erosion and sedimentation control activities.

The facility is located on the south side of Rex Road approximately one (1) mile southeast of the intersection of Avent Ferry Road and Rex Road; further described as 7130 New Landfill Road in the Holly Springs Township, Wake County, North Carolina. The facility is owned and operated by Red Rock Disposal, LLC, a wholly-owned subsidiary of Waste Industries USA, a North Carolina Corporation, under State Solid Waste Permit No. 92-28. The most current Permit To Construct a Construction and Demolition Landfill unit was issued on June 4, 2004 (Permit No. 92-28). A copy of the current Permit to Construct is provided in **Appendix A.1**.

2.0 REFERENCE DOCUMENTS

Phase 1C-2 was constructed in accordance with the following documents with modifications provided herein as **Appendix A**.

1. **Construction Permit - Red Rock Disposal, LLC - Permit 92-28 - Permit To Construct C&D Landfill Phase 1** by NCDENR dated on June 4, 2004. (A copy of the permit is provided in **Appendix A.1**)
2. **Revised Permit to Construct Application - Red Rock Disposal, LLC - Phase 1 - Wake County, North Carolina** prepared by G. N. Richardson and Associates (GNRA) dated October 2003.
3. **Construction & Demolition Debris (C&D) Landfill - Phase 1 Engineering Drawings** prepared by GNRA dated May 2001 with revisions through April 2004.
4. **Erosion and Sedimentation Control Plan - Red Rock Disposal, LLC C&D Landfill - Phase 1** prepared by GNRA dated January 2004 and approved March 11, 2004 by Wake County Environmental Services. (A copy of the permit is provided in **Appendix A.2**)

3.0 SCOPE OF PROJECT

The Red Rock Disposal, LLC facility permit for Phase 1 includes three (3) disposal cells (or sub-phases) over a total footprint of approximately 44 acres. (Sub) Phases 1A, 1B, and 1C cover approximately 7 acres, 13 acres, and 25 acres, respectively. In October, 2003, Phase 1C was further sub-divided (**Reference 2**) into (Sub) Phases 1C-1 and 1C-2 to coincide with wetland/stream impacts in accordance with the facility's Nationwide 18 Permit. Phase 1C-1 covers approximately 12 acres and Phase 1C-2 covers approximately 13 acres.

The initial phase of the facility, Cell 1A, was constructed and certified in November 2001 and began receiving waste on or about November 20, 2001. The second phase, Cell 1B, of construction was completed and certified in May 2002 and began receiving waste on or about June 6, 2002.

This report documents activities for (Sub) Cell 1C-2 in Phase 1 of the facility. Cell 1C-2 is north-northwest of (Sub) Phase 1C-1A. Cell 1C-2 was constructed using soils obtained from on-site sources located within the limits of the facility, as well as, from neighboring Hanson quarry. Detailed descriptions of construction activity, monitoring and testing activities for the construction of this cell is provided in this report.

A summary of major milestones associated with the construction of Cell 1C-2 is provided in **Table 1** (below).

Table 1 - Major Milestones

Date	Task
February 15, 2008	Monitoring Well Abandonment
February 20, 2008	Pre-Construction Meeting (on-site)
February 20, 2008	Clearing and Grubbing
February 26, 2008	Earthwork (Excavation & Embankment)
March 3, 2008	Soil Erosion & Sediment Control
April 23, 2008	Final Completion

4.0 PROJECT PARTICIPANTS

The following major parties were involved in the Cell 1C-2 construction:

Owner Waste Industries USA, Inc.
 3301 Benson Drive, Suite 601
 Raleigh, NC 27609
 Phone: (919) 325-3000
 Fax: (919) 325-3012
 Contact: David Pepper, Division Operations Manager

Operator Red Rock Disposal, LLC.
 7130 New Landfill Road
 Holly Springs, NC 27540
 Phone: (919) 557-9583
 Contact: Donald Plessinger, Landfill Manager

Engineer Richardson Smith Gardner & Associates, Inc.
14 N. Boylan Avenue
Raleigh, NC 27603
Phone: (919) 828-0577
Fax: (919) 828-3899
Contacts: Bryan Johnson, E.I., Staff Engineer
Stacey Smith, P.E., Project Manager
Joan Smyth, P.G., Senior Hydrogeologist

Contractor Glover Construction, Inc.
P.O. Box 40 / Highway 301 North
Pleasant Hill, NC 27866
Phone: (252) 536-2660
Fax: (252) 536-4600
Contacts: Ed Martin, P.E., Project Manager
Wayne Clements, Superintendent

Surveying Surveying Solutions, P.C.
5401 Hillsborough Street
Raleigh, NC 27636
Phone: (919) 854-4833
Fax: (919) 854-4834
Contacts: John Thompson, P.L.S.
Dwayne Kroeze, P.L.S.

Soil Testing Geotechnics
2200 Westinghouse Blvd, Suite 105
Raleigh, NC 27604
Phone: (919) 876-0405
Fax: (919) 846-0460
Contacts: Mike Smith, P.G., Project Manager

Regulatory Agency North Carolina Department of Environment and Natural Resources - Solid Waste Section
401 Oberlin Road, Suite 150
Raleigh, NC 27605
Phone: (919) 733-0692
Fax: (919) 733-4810
Contacts: Donna Wilson, Environmental Engineer II

5.0 CONSTRUCTION SUMMARY

5.1 Monitoring Well Abandonment

Two ground water monitoring wells, MW-2 and MW-9, required abandonment prior to Cell 1C-2 construction. MW-2 had been driven over by a piece of equipment but was located outside of the Cell 1C-2 footprint. Monitoring well MW-9 was within the construction area. There are no other wells or piezometers within the footprint area. Both wells were abandoned in order to prevent the well from becoming a possible conduit from the surface to the aquifer. Grout was tremie-piped to fill each well from the bottom to the top after the metal casings and concrete pads were removed in accordance with NCDENR regulations and guidelines. The abandonment took place on February 15, 2008 and was performed by Engineering Tectonics, P.A. with oversight from Richardson Smith Gardner and Associates, Inc. (RSGA). Documentation is provided in **Appendix B**.

5.2 Site Clearing and Grubbing

The construction of Cell 1C-2 began in February 2008 with the surveying/staking of clearing limits and the initiation of clearing and grubbing activities by Glover Construction Company.

5.3 Erosion and Sedimentation Control Measures

The construction of erosion and sedimentation control measures began in conjunction with site preparation activities and under site permits issued by Wake County Environmental Services Department for the Phase 1 landfill area. A copy of the permit is included in **Appendix A.2**. Initial erosion and control measures consisted of diversion ditches and drainage channels placed around the perimeter of the cell limits and sediment basins.

5.4 General Earthwork

Once portions of the site were cleared and grubbed and secured with erosion and sediment control measures, all of the topsoil and unsuitable soils were removed and placed in the soil stockpile outside the cell area to be used for vegetative soil layer. Embankment activities began with placement of soil at the southern end of the cell to construct the perimeter berm. All materials used in the structural fill for the cell were excavated from within the cell limits and/or obtained from the neighboring Hanson quarry. Fill placement activities were conducted from February 2008 through April 2008. Once fill placement reached plan grades and elevations, the cell area was surveyed by Surveying Solutions to document final grading conditions. An as-built drawing showing completed elevations is provided in **Appendix C**.

5.5 Photographic Documentation

Photos documenting the construction of Cell 1C-2 can be found in **Appendix D**.

6.0 CQA PROGRAM

6.1 Scope of Services

In satisfying the requirements of the Project CQA Manual for the construction project, the following activities were performed:

- Observation and documentation of construction of erosion and sediment control measures, excavation and structural fill activities.
- Field and/or laboratory testing of structural fill.
- Review of submittals from the Contractor for conformance with project specification and CQA requirements.
- Review/preparation of record drawings.
- Preparation of the final CQA report.

6.2 Earthwork CQA

The criteria for construction of structural fill per the project specifications included the following:

- **Materials:** SM, SP, SC, ML, MH, CL-ML, CL, or CH (ASTM D 2488) with no topsoil or other deleterious material and no stones or rocks in excess of one half the lift thickness as compacted;
- **Density:** Minimum 95% Maximum Standard Proctor Dry Density (98% under roads and structures) (ASTM D 698);
- **Moisture Content:** As necessary for compaction; and
- **Lift Thickness:** 8-inch max. (compacted).

The number and results of material control and record tests performed on the structural fill is summarized in **Table 2 (Structural Fill)**. Other tests performed on an on-going basis during construction included a visual classification of soils (ASTM D 2488) and monitoring of loose lift thickness. Note that the number of tests required was based on an approximate quantity of 62,800 CY of material placed (in-place measure). The results of field and laboratory testing of structural fill can be found in **Appendix E**.

7.0 MODIFICATIONS

During construction, it is typically necessary to make modifications to the design and construction documents to accommodate field conditions and/or improve constructability based on practical considerations. Two (2) such modifications were made during the construction of Phase 1C-2. Design Modification No. 1 involved the taking the road out going from the berm starting at Sediment Basin T2 and head west around the cell. The contractor was running low on fill and in

an effort to reduce the volume needed, the berm was reduced to only eight (8) feet wide in this area. Design Modification No. 2 was an enlargement of Sediment Basin T1. A volume of 82,500 cubic feet was needed, however only 21,000 cubic feet was able to be excavated due to rock features. The modification enlarged Sediment Basin T1 by 63,500 cubic feet.

8.0 RECORD DRAWINGS

After the completion of construction, an as-built survey was conducted by Surveying Solutions, Inc. and compared with permitted contours. All final grading, within the limits of certification, were within tolerances (± 0.15 feet). As-built drawings are provided in **Appendix C**.

9.0 PROJECT CERTIFICATION

9.1 Engineer's Certification

Based on the observations and results of the CQA program documented herein, it is our professional opinion that the construction of Cell 1C-2 of Phase 1 of the Red Rock Disposal, LLC C&D Landfill was completed in accordance with the following:

- i. The Project CQA Manual
- ii. The conditions of the Permit to Construct Phase 1;
- iii. Acceptable engineering practices.

9.2 Geologist's Certification

Based upon my inspection of the completed subgrade of Cell 1C-2 of Phase 1 of the Red Rock Disposal LLC C&D Landfill, I certify that no unusual geologic conditions were encountered with the exception of a small area of bedrock that extends approximately 15 feet into the cell from the southeast corner of the site. The bedrock observed was the same red brown conglomerate previously observed during drilling and typical of the Triassic Basin in this area. This bedrock was encountered approximately 2 feet above design subgrade. To comply with NCDENR requirements for four (4) feet of separation from bedrock, this area was backfilled with four (4) feet of soil over the bedrock.

RICHARDSON SMITH GARDNER & ASSOCIATES, INC.

Stacey A. Smith, P.E.
Project Manager

Joan A. Smyth, P.G.
Senior Hydrogeologist