

SCS ENGINEERS



Permit to Operate Application A-1 Sandrock C&D Landfill, Phase 2A Solid Waste Permit 4117-CDLF-2008

Submitted to:

NCDENR Division of Waste Management

Solid Waste Section
217 W Jones Street
Raleigh, NC 27603

Presented to:

A-1 SANDROCK
INC.

2091 Bishop Road
Greensboro, North Carolina 27406

Presented by:

SCS ENGINEERS

322 Chapanoke Road, Suite 101
Raleigh, NC 27603
(919) 662-3015

Permit No.	Date	Document ID No.
41-17	August 19, 2015,	24881

received by a hand delivery

Date: **August 19, 2015**

Solid Waste Section
Raleigh Central Office

August 13, 2015
File No. 02214704.00

Offices Nationwide
www.scsengineers.com

SCS ENGINEERS, PC

August 13, 2015

File No. 02214704.00 Task 1

Mr. Ed Mussler, PE.

Permitting Branch, Solid Waste Section
NCDENR Division of Waste Management
Green Square, 217 West Jones Street
Raleigh, North Carolina 27603

Subject: Permit to Operate Application
A-1 Sandrock, Inc., CDLF Phase 2A
NC Solid Waste Permit #41-17 (Guilford County)

Dear Ed:

On behalf of A-1 Sandrock, Inc., SCS Engineers, PC (SCS) has prepared this Permit to Operate application, presenting CQA documentation, as-built construction drawings modified per comments received from Mr. Ming-tai Chao on August 7, 2015 and from Ms. Christine Ritter on July 22, 2015, and an updated Operations Plan. This work builds upon a Permit to Construct application submitted on January 13, 2015 and subsequent review comments from Mr. Chao and Ms. Ritter on February 3, 2015. The Facility Owner/Operator hereby requests a continuation of the PTO for Phase 1 and a PTO for the contiguous Phase 2A. Updates to the Water Quality and Landfill Gas Monitoring Plans have been submitted under separate cover earlier in August 2015.

We appreciate the opportunity to be of service on this project. If you have any questions about this work, or if we may be of further service, please contact us at your earliest convenience.

Sincerely,


G. David Garrett, PG, PE
Project Manager
SCS ENGINEERS




H. James Law, PE, BCEE
Project Director
SCS ENGINEERS

gdg/hjl

Enclosures

cc: Mr. Ronnie Petty, III A-1 Sandrock, Inc.

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Permit to Operate Application
A-1 Sandrock C&D Landfill, Phase 2A
Solid Waste Permit 4117-CDLF-2008

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Solid Waste Section
217 W Jones Street
Raleigh, NC 27603

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Table of Contents

Section	Page
1.0 PROJECT OVERVIEW.....	1
2.0 OPERATIONAL REQUIREMENTS.....	1
3.0 SUBGRADE VERIFICATION.....	2
4.0 CERTIFICATION	2

Attachments

- 1 Updated Operations Plan
- 2 Permit to Operate Drawing Set
- 3 Confirmation Soil Laboratory Tests

1.0 PROJECT OVERVIEW

This application was prepared for A-1 Sandrock, Inc., in pursuit of a Permit to Operate (PTO) for Phase 2A of their CDLF. Phase 2 is a five-year contiguous phase covering 7.82 acres, located within the west and south portions of the approved CDLF footprint. Phase 2 will provide 608,193 cubic yards of disposal volume to be constructed in two cells, 2A and 2B, beginning with Cell 2A nearest to Cell 1C. Phase 2A is expected to last approximately 2 years. The facility permit was last renewed in December 2013 with a Permit to Operate (PTO) for Phase 1.

As with Phase 1, the rough grading for Phase 2 was initiated under NCDENR mining permit #41-22. Upon completing excavations for individual cells (Phases 1A, 1B, 1C, and 2A), a CQA report has been prepared to document as-built conditions and to address any anomalies in subsurface conditions. For Phase 2A, closed (non-discharging) drainage conditions and high precipitation during the winter-spring months of 2015 resulted in anomalous ground water levels, which were investigated during the Design Hydrogeologic study in March and April 2015.

Subtle design changes to accommodate revised maximum long-term seasonal high ground water estimates included raising the bottom grades in the west side of the cell by approximately 2 feet. The grading work was completed and documented in early April 2015. The revised base grades are reflected as as-built conditions in the accompanying operational drawing set.

2.0 OPERATIONAL REQUIREMENTS

Revisions to operations focus on storm water and leachate segregation. The Solid Waste Section requires a temporary soil berm be constructed between the active disposal area and inactive portions that collect runoff from within the cell and from elsewhere within the landfill footprint. This water needs to be pumped over the perimeter berm into an existing sediment basin. Operational Sequencing measures that will prevent the water that comes into contact with the C&D wastes (considered to be leachate) from the other runoff are shown on the PTO drawings.

Initially, a soil berm will be constructed to divide Phase 2A into approximately equal portions, north and south. The exact location of the berm is not critical, as long as the berm functionally separates the runoff from the active disposal area from the storm water runoff south of the sump. Other diversions will be used as needed to prevent storm water from entering the disposal area, namely from the east of Phase 2A and from the perimeter channels along the roadway. These measures are temporary and should not require further permitting from the Land Quality Section, which regulates mining activities, as well as sediment and erosion (S&EC) requirements.

The Operator intends to initially fill in the bottom of Phase 2A north, using the higher elevations in the east side of the cell as the tipping and staging area, and placing operational soil cover in accordance with the regulations to minimize rainwater infiltration. Prior to shifting the operation to the south side of the cell, approved conveyances for directing storm water runoff from the perimeter channels to the sediment basin will be implemented. As with Phase 1, exterior side slopes will be built to final grades and covered with vegetated soil in increments.

Other requirements include no disposal of waste into standing water, per existing rules. Runoff that has contacted the waste shall not be directed or pumped to the sediment basin or perimeter channels. A minimum finished base grade of El. 740 shall be verified in the Phase 2A sump and documented in the Operational Records immediately prior to placing waste.

The enclosed Operations Plan includes revisions made in response to the February 3, 2015 regulatory review. No changes to infrastructure, waste stream, or facility layout are anticipated. Recycling operations conducted within the facility boundary are unchanged. Facility monitoring requirements, addressed in standalone documents, include one new monitoring well and two new landfill gas sampling points. The facility remains within detection stage monitoring.

3.0 SUBGRADE VERIFICATION

Earlier work performed by David Garrett & Associates included permitting studies and CQA for Phase 1, along with observation of the early stages of the Phase 2A excavation. Within Phase 1, scattered pockets of rock-like materials were encountered requiring subtle base grade elevation changes, which were tracked and documented. Within Phase 2A, a small area near the center of the cell encountered the diabase dike that had been documented in the previous studies. This area aligns with the distinct break in grades between the east and west sides of the cell.

Base grades were left a little high over the dike, which was revealed in the March 2015 test pits to consist of nested chunky (not rounded) boulders in a matrix of soil, which was dry. None of the materials encountered in the test pits was considered to be bedrock. However, base grade adjustments needed in the west side of the cell required “tracking” soil across the diabase dike from the borrow source, a stockpile to the east, so grades were increased to provide 24 inches of fine-grained soils beneath the finished subgrade and to promote positive drainage.

Within the west side of Phase 2A, base grades were raised by approximately 24 inches overall to accommodate anomalous ground water elevations. Soils used for this “fine grading” activity were derived from a stockpile of red silt-clay excavated from the eastern side of the CDLF footprint. This soil is not “sandrock” but is used extensively on the site for structural fill. Lab tests were conducted on independent samples of the subgrade, which verifies visual observations that the soils classify as one of SM, SC, ML, MH, CL or CH, as required by Solid Waste rules.

4.0 CERTIFICATION

This certification, made by me as the Engineer of Record for the construction of Phase 2A, made by way of my signature and seal on the cover letter and as-built drawings, is to verify that the construction was completed in accordance with T15A NCAC 13B .0500 et seq, which are the rules governing C&D landfills, with specific Permit requirements, and as documented within this report. Oversight and documentation was prepared by me or under my direct supervision. No other warranties, expressed or implied, are made.

Attachment 1
Updated Operations Plan

Operations Plan Update
A-1 Sandrock C&D Landfill, Phase 2A
Solid Waste Permit 4117-CDLF-2008

Submitted to:
NCDENR Division of Waste Management
Solid Waste Section
217 W Jones Street
Raleigh, NC 27603

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Greensboro, North Carolina 27406

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SCS ENGINEERS
322 Chapanoke Road, Suite 101
Raleigh, NC 27603
(919) 662-3015

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Table of Contents

Section	Page
PART 1 – GENERAL OPERATIONS	1
1 Facility Description.....	1
1.1 Site Plan.....	1
1.2 Location and Surroundings	1
1.3 Service Area	1
1.4 Waste Stream and Intake.....	1
1.5 Hours of Operation	2
1.6 Contact Information	2
1.6.1 Emergencies.....	2
1.6.2 A-1 Sandrock, Inc., Administrative Offices.....	2
1.6.3 North Carolina Department of Environment and Natural Resources.....	2
1.7 Permitted Activities	2
2 Facility Description.....	3
2.1 Processing Facility	3
2.2 CDLF	4
2.3 Facility Drawings.....	4
3 Facility Description.....	4
3.1 Staff Responsibilities	4
3.2 Inspections and Maintenance	5
4 Access Control.....	6
4.1 Physical Restraints.....	6
4.2 Security	6
4.3 All-Weather Access	6
4.4 Traffic.....	6
4.5 Anti-Scavenging Policy	6
4.6 Signage	7
4.7 Communications	7
5 Fire And Safety	7
5.1 Fire Prevention.....	7
5.2 Fire Control	7
5.3 Personal Safety.....	7
6 Other Regulatory Requirements.....	8
6.1 Sedimentation and Erosion Control.....	8
6.2 Water Quality (Storm Water) Protection	8
6.3 Minimizing Surface Water Contact	9
6.4 Processing Facility Operation over the CDLF	9
6.5 Equipment Maintenance.....	9
6.6 Utilities.....	10
6.7 Vector Control	10
6.8 Air Quality Criteria	10
6.9 Litter Control	11
7 Operating Record.....	11

8	Annual Report.....	12
9	Contingency Plan	13
9.1	Hot Loads Contingency	13
9.2	Hazardous Waste Contingency	13
9.3	Severe Weather Contingency	14
9.4	Ice Storms	14
9.5	Heavy Rains	14
9.6	Electrical Storms	14
9.7	Windy Conditions	15
9.8	Violent Storms.....	15
	PART 2 – PROCESSING (RECYCLING) FACILITY	16
10	Overview.....	16
10.1	Acceptable Wastes.....	16
10.2	Prohibited Wastes.....	16
10.3	Waste Processing	16
10.4	Waste Receiving and Screening.....	17
10.5	LCID Processing	17
10.6	C&D Processing.....	18
10.7	Disposal of Rejected Wastes	18
10.8	Processing of Finishing Goods.....	18
10.9	Maximum Stockpile Size	19
10.10	Maximum Processed Material Storage Volumes.....	19
10.11	Asphalt Shingle Storage for Recycling.....	20
	PART 3 – CDLF OPERATION.....	22
11	Waste Acceptance Criteria	22
11.1	Permitted Wastes	22
11.2	Asbestos.....	22
11.3	Wastewater Treatment Sludge	22
11.4	Waste Exclusions.....	22
12	Waste Handling Procedures.....	23
12.1	Waste Receiving and Inspection.....	23
12.2	Disposal of Rejected Wastes	24
13	C&D Disposal Procedures	24
13.1	Spreading and Compaction	25
13.2	Special Wastes: Asbestos Management.....	25
14	Cover Material.....	25
14.1	Periodic Cover.....	25
14.2	Interim Soil Cover	26
14.3	Final Cover.....	26
15	Survey for Compliance	27
15.1	Height Monitoring.....	27
15.2	Annual Survey	27
16	Contingency Plan	27
17	Annual Reporting	27

Tables

[Table 1 PROHIBITED WASTES FOR PROCESSING](#) 21

[Table 2 PROHIBITED WASTES IN THE CDLF UNIT](#)28

Appendices

- A Hazardous Waste Responders
- B Waste Screening Form
- C Shingles Processing and Storage
- D Fire Notification Form

PART 1 – GENERAL OPERATIONS

1 FACILITY DESCRIPTION

1.1 Site Plan

The facility consists of a permitted mine and landfill located on a 75-acre tract, which is isolated by natural barriers such as creeks and wooded tracts. Permitted mining includes the excavation of “sandrock” (weathered granite) and other soil, which is sold off-site. Adequate on-site soil resources are available to meet the operational needs of the CDLF. The landfill is a permitted reclamation activity that will restore the property to a usable condition for future development. Recycling activities are required as a condition of the Franchise Agreement with local government. The facility contains both C&D processing and disposal areas, with recycling activities taking place near the working face, a separate LCID processing area (no disposal) and a concrete processing area and stockpile.

1.2 Location and Surroundings

The facility entrance is located at 2091 Bishop Road, accessible from I-85 Business via Holden Road or Groomtown Road. Bishop Road is paved and has a 45-mph posted speed limit. The entrance to the facility was enhanced to improve visibility for traffic with turn lanes and a widening of Bishop Road. Nearby facilities include an asphalt plant, other mines and landfills, a trucking terminal, a MSW transfer station, and other businesses which put heavy truck traffic on the road. The scales and office are located near the front gate, which is the only means of accessing the site by the public. A few residences exist within a mile of the facility on Bishop Road, which rely on ground water wells. The site is located in the Deep River Reservoir watershed – protection of water quality is an important issue in the permitting and operation of the facility. A regional fire department is located one-mile to the west on Bishop Road.

1.3 Service Area

The service area authorized by the Guilford County Commissioners includes the entire political boundaries of all counties within or touching a 50-mile radius from the facility. The operator is responsible for knowing his customer base and waste stream characteristics, such that the approved service area is observed.

1.4 Waste Stream and Intake

The facility receives C&D and LCID debris from commercial haulers, contractors, and private individuals. All materials are inert and meet the NC DENR Division of Waste Management definitions. The facility expects to receive approximately 150 tons per day (4000 tpm) of combined C&D wastes and LCID. The franchise allows up to 300 tons per day. Much of the daily C&D intake will come from an affiliated waste hauling service. The intake will be source-sorted with putrescible MSW excluded to the extent possible.

1.5 Hours of Operation

The facility is open to the public from 7 AM to 5 PM on Monday – Friday and 7 AM to 12 PM on Saturday. All current operations for the facility are within those hours.

1.6 Contact Information

1.6.1 Emergencies

For fire, police, or medical/accident emergencies dial 911.

1.6.2 A-1 Sandrock, Inc., Administrative Offices

Mr. R.E. ‘Gene’ Petty, Sr. – Owner/Operator
Mr. Ronnie E. Petty, III – Owner/Operator
A-1 Sandrock, Inc.
2091 Bishop Road
Greensboro, NC 27406

Tel. 336-855-8195

1.6.3 North Carolina Department of Environment and Natural Resources

Division of Waste Management - Solid Waste Section
Division of Land Resources - Land Quality Section
Winston-Salem Regional Office
585 Waughtown Street
Winston-Salem, NC 27107

Tel. 336-771-5000

Fax: 336-771-4631

1.7 Permitted Activities

The following is a comprehensive summary of the permitted solid waste activities within the 75-acre facility:

Activities conducted under **Permit #41-17 (Processing Facility)**:

- Receipt of wood wastes and inert debris (C&D and LCID)
- Sorting recyclables, shredding or grinding the wastes*
- Removal of incidental non-compliant wastes**
- Production of mulch, boiler fuel, aggregates***
- Temporary storage of products in roll off boxes

Activities conducted under **Permit #41-17 (CDLF disposal unit)**:

- Disposal of construction and demolition debris
- Disposal of asbestos wastes in a designated area

*Primary recyclables include aggregates, wood wastes, and metals; aggregates derived from the two sources may be combined, wood wastes derived from the two sources may be blended for fuel; typically the C&D wastes are better suited for boiler fuel, LCID wastes are better suited for mulching, thus the two waste streams are typically not blended; no other blending shall occur

**Includes MSW and other non-C&D wastes that inadvertently enter the C&D waste stream at construction sites – these materials will be placed in roll-off boxes and taken to the nearby MSW transfer station on a weekly basis; no MSW disposal shall occur at this facility

***Materials typically will be distributed off-site, but some on-site use of mulch outside of the active C&D unit will occur (with limitations on application rates), and aggregates may be used on-site; all non-fuel wood wastes processed at the facility will be considered as mulch – not compost – with no nutrient value

All sorting and grinding activities will take place within the approved CDLF footprint. Finished goods may be stored outside the CDLF footprint within designated areas (approved for mining disturbance) that have drainage control. No mining, processing or disposal activities shall occur within designated stream buffers, wetlands, or the 100-year floodplain. All activities and areas are accessible only via a single gate and are secure after hours. Each permitted activity is described in brief detail in **Section 2**.

2 FACILITY DESCRIPTION

2.1 Processing Facility

The Owners of the facility intend to accept appropriate C&D and LCID wastes for recycling into boiler fuel, mulch, aggregates, and reclaimed of metals. All C&D materials shall be weighed and recorded, with accurate accounting to account for material flow. Intake materials shall be processed within the approved CDLF footprint, separated from the active working face by a safe distance; public access to the processing area and working face is restricted – C&D unloading, processing and disposal areas are to be separated by approximately 50 feet – and the LCID processing area will be separate from the C&D processing facility. The tipping and processing areas have runoff control measures that integrate into the main storm water system but can be isolated in the event of a spill of fuel, oil, or hazardous materials. Operations shall be scheduled around the weather to minimize contact between the waste and water – no grinding of C&D wastes shall take place in the rain.

Materials shall be sorted and placed in containers, e.g. 100-cubic yard trailers or 40-cubic yard roll-off boxes, which can be covered. Recyclables are normally processed within a day or two of receipt, stored within the Phase 1 footprint in containers, and shipped to appropriate receiving facilities on a weekly basis. Based on the December 2009 Six Month Demonstration Report, the intake stockpile is typically kept under 6,000 cy.

Recyclable C&D materials shall be shipped to established markets, e.g., boiler fuel and metals; aggregates will be ground and sold or used on the premises in a beneficial manner. Non-

recyclable C&D wastes shall be disposed within the on-site C&D disposal facility. A separate, roll-off box shall be kept on-hand for inadvertent non-C&D wastes (MSW) that may come into the facility, which will be taken to the nearby MSW transfer station or other approved disposal facility on a weekly basis. Finished materials shall be removed (or turned) at least quarterly, except for aggregates.

2.2 CDLF

The CDLF is an unlined landfill encompassing 21.9 acres, approved ca. February 2004. Phase 1 occupies 8.18 acres; Phase 2 will cover 7.82 acres. Phases are sized to last approximately 5+ years, coinciding with the 5-year Permit to Operate cycle. Both Phases 1 and 2 drain toward large perimeter channels, which in turn lead to the main sedimentation basin. Phase 2 drains internally until the waste height reached the perimeter channel. All measures were designed in accordance with 15A NCAC 4 and were approved by the NC DENR Division of Land Resources. The limits of Phases 1 and 2 are clearly staked with permanent markers.

Closure of various phases will be incremental, conducted in accordance with the approved Closure/Post-Closure Plan. Financial Assurance requirements will be adjusted on a yearly basis to account for new areas opening and those being closed. Operation of the C&D Landfill will be in accordance with Solid Waste rules. A Ground Water Monitoring Plan has been approved by the SWS. All mining permit requirements, i.e., sedimentation and erosion control apply, as so NC DENR storm water rules.

2.3 Facility Drawings

A copy of the approved Facility Plan and construction drawings must be kept on-site at all times. Several sets of drawings submitted to various agencies exist, e.g., local government site plan approval, the mining permit application and solid waste applications; revisions have occurred over time. The Engineer should be consulted to resolve conflicts between drawings. The enclosed drawing set is current for the T&P facility and the Phases 1 and 2 CDLF waste placement sequence with respect to the Solid Waste permit. The Owner/Operator shall note the location of the active working face on the facility plan, noting areas that have come to final grade and areas that are closed – the map shall be updated continuously and filed with the **Operating Record (Section 7)**. The drawings show the locations of special waste disposal areas (i.e., asbestos), soil borrow and stockpile areas.

3 FACILITY DESCRIPTION

3.1 Staff Responsibilities

Every staff member shall receive instruction on “preventative maintenance” pertaining to ground water and surface water quality, and how to protect these features, in addition to waste acceptance criteria and operational requirements that pertain to each individual’s specific duties. The critical importance of preserving environmental quality and maintaining operational compliance should be a topic for discussion at regular staff meetings, along with issues concerning safety and efficient operation of the facility.

Each worker should understand that the overall compliance of the facility affects not only their position at the facility but the future ability to continue operations beyond the next 5-year permit review. All staff should be vigilant about enforcing the waste acceptance policy and to make sure that all aspects of the operation, from mowing the grass to the daily transfer or disposal of waste, are conducted in an environmentally sound manner.

In accordance with Rule .0542 (j) (2) a trained operator must be on duty at all times when the facility is open to the public and/or when operations are being conducted. All training should be documented and Operator's certifications shall be kept current.

3.2 Inspections and Maintenance

The following O&M schedule highlights some, but not all, of the major the requirements for routine facility inspection and maintenance at both the recycling facility and the CDLF. This schedule is intended to serve as a guide for the Owner/Operator for addressing short-term and long-term issues, but the O&M schedule does not alleviate the Owner/Operator of key rule requirements, whether or not they are covered here. Of particular emphasis, the Owner/Operator should adhere to the following:

- Collect trash and windblown debris around the scale, buildings, and areas outside the working face daily per Rule 15 NCAC 13B .0542 (g) (3).
- Note the date and time of cover placement (periodic and interim covers) in the operating record in compliance with Rule .0542 (f) (2).

The following tabulated summary for normal operations and hereby replaces the O&M Checklist presented in the 2009 permit application:

Daily

- Remove any Trash or Debris at Facility Entrance, Scales, Driveways, Ditches
- Remove any Trash or Debris around CDLF and Processing Areas, including Trees
- Check for Windblown Debris Escaping CDLF Working Face
- Verify All Waste Intake Processed and/or Disposed within 48 hours
- Verify Working Face under One-Half Acre (200 x 200 feet)
- Check Finished Goods Stockpiles for Foreign Materials or Trash
- File Waste Inspection Forms (Minimum 3 per Week)

Weekly

- Verify Working Face is Covered Weekly
- Verify Access Roads are Passable
- Check for Spills or Leaks on Roads, Processing Areas, and Working Face
- Verify that Inactive Disposal Areas are Covered per Solid Waste Rules
- Check for Proper Drainage Conditions, Erosion, Sediment Buildup
- Inspect Gates, Locks, Fences, Signs
- Check Communication and Surveillance Equipment
- Check Mulch Stockpile Size (should be under 6000 cy)

Monthly

- Check for Excess Erosion on Slopes or Benches and Ditches
- Verify Vegetation is Healthy on Slopes, Ditches and Shoulders
- Verify that Sediment Basin Primary Outlet is Draining within 5 Days

Semi-Annual

- CDLF Slope Vegetation Mowed (Minimum Twice per Year)
- Inspect for CDLF Slopes Cracking, Sloughing, Bulging, Excess Erosion
- Turn or Remove Finished Mulch Stockpiles (Minimum Twice per Year)
- Mow Clear Access Paths to Monitoring Wells

Annual

- Staff Training Certifications Up to Date
- Annual Topographic Survey of CDLF

4 ACCESS CONTROL

4.1 Physical Restraints

The site is accessible by the single entrance gate. All customers and visitors shall check upon arrival; all incoming waste-hauling vehicles shall cross the scales. The entrance gates will be securely locked during non-operating hours.

4.2 Security

Frequent inspections of gates and fences will be performed by landfill personnel. Evidence of trespassing, vandalism, or illegal operation will be reported to the Owner.

4.3 All-Weather Access

On-site roads will be paved or otherwise hardened and maintained for all-weather access.

4.4 Traffic

The Operator shall direct traffic to a waiting area, if needed, and onto the working face with safe access to an unloading site is available. Once a load is emptied, the delivery vehicle will leave the working face immediately.

4.5 Anti-Scavenging Policy

The removal of previously deposited waste by members of the public (or the landfill staff) is strictly prohibited by the Division for safety reasons. The Operator shall enforce this mandate and discourage loitering after a vehicle is unloaded. No one unaffiliated with the landfill or having business at the facility shall be allowed onto the working face.

4.6 Signage

A prominent sign containing the information required by the Division shall be placed just inside the main gate. This sign will provide information on operating hours, operating procedures, and acceptable wastes. Additional signage will be provided within the landfill complex to distinctly distinguish access routes. Restricted access areas will be clearly marked and barriers (e.g., traffic cones, barrels, etc.) will be used.

4.7 Communications

Visual and radio communications will be maintained between the C&D landfill and the landfill scale house and field operators. The scale house has telephones in case of emergency and for the conduct of day-to-day business. Emergency telephone numbers (Fire and Rescue) are displayed in the scale house.

5 FIRE AND SAFETY

5.1 Fire Prevention

Measures shall be taken to prevent fires in the raw materials and finished goods stockpiles in the processing facility. Stockpiles (and the disposal area) shall be inspected daily for signs of smoke or combustion. The piles shall be separated by a minimum distance of 25 feet for access. At a minimum, any accumulated piles of combustible materials shall be limited to 6,000 cy in size and turned on a quarterly basis or when dictated by temperature. The piles shall be monitored for dryness and temperature – a temperature probe shall be acquired and kept in the office – maximum allowable temperatures shall be 120 degrees Fahrenheit.

5.2 Fire Control

Fires in landfills and stockpiles (especially LCID facilities) have been a regulatory concern in recent times. The possibility of fire within the landfill or a piece of equipment must be anticipated. A combination of factory installed fire suppression systems and/or portable fire extinguishers shall be kept operational on all heavy pieces of equipment. Brush fires of within the waste may be smothered with soil, if combating the fire poses no danger to the staff. The use of water to combat the fire is allowable, but soil is preferable. For larger or more serious fire outbreaks, the local fire department will respond. In the event of any size fire at the facility, the Owner shall contact NC DENR Division Waste Management personnel within 24 hours and complete a **Fire Notification Form (Appendix D)** within 15 days for the **Operating Record**.

5.3 Personal Safety

Safety is a key concern with the operation of this facility. All aspects of operation were planned with the health and safety of the landfill's operating staff, customers, and neighbors in mind. Prior to commencing operations, a member of the management staff will be designated as Site Safety Officer. This individual, together with the Facility's management will modify the site safety and emergency response program as needed to comply with National Solid Waste Management Association and Occupational Safety and Health Administration (OSHA) guidance.

Staff safety meetings (minimum one per month) shall be conducted. Safety equipment to be provided includes (at a minimum) equipment rollover protective cabs, seat belts, audible reverse warning devices, hard hats, safety shoes, and first aid kits. Field operators will be encouraged to complete the American Red Cross Basic First Aid Course with CPR.

The working face of a landfill is an inherently dangerous place due to the movement of heavy equipment, steep slopes, obstacles to pedestrian movement and sometimes poor visibility (such as equipment backing up). These considerations are also a concern for the sorting and grinding operations, as well as the concern for flying debris that can be ejected from a tub grinder. Safety for customers will be promoted by the Operator and his staff knowing where the equipment and customer vehicles are moving at all times. Radio communications between the scale house and the field staff will help keep track of the location and movement of customers.

The processing areas (C&D and LCID) shall be located no closer than 50 feet to the working face of the CDLF disposal unit. Signs, fences and/or physical barriers will be used to separate public access areas from the working face of the CDLF and the waste processing areas (sorting, grinding, etc.) – activities that could endanger the public shall not be conducted when non-employees are present. Vehicles transporting waste to the facility and/or the general public shall not have access to the working face. Children under the age of 16 shall not be allowed in the facility. No waste unloading, grinding or disposal activities shall be conducted after dark.

6 OTHER REGULATORY REQUIREMENTS

6.1 Sedimentation and Erosion Control

All aspects of the facility operation are subject to the requirements of **15A NCAC 4**, the Sedimentation and Erosion Control rules. Runoff measures for this facility were designed in accordance with this rule and approved by the NC DENR Division of Land Resources, Land Quality Section, as a condition of the mining permit. Approved S&EC measures shall be installed and maintained throughout the operational life of the facility and into the post-closure period (see **Closure/Post Closure Plan, Section 7.0**). Measures to curtail erosion include vegetative cover and woody mulch as ground cover. Measures to control sedimentation include stone check dams in surface ditches, sediment traps and basins. *As of March 2013, all exposed soils, regardless of whether they are inside or outside the disposal area, shall be vegetated or otherwise stabilized within 15 days after any given area is brought to final grade.*

6.2 Water Quality (Storm Water) Protection

This facility is covered by NC DENR Division of Water Quality Storm Water General Permit, NCG020000 – *Certification No. NCG020633*. Compliance with the provisions of the permit – and the monitoring requirements – is required. A **Storm Water Pollution Prevention Plan** was prepared for the facility, in accordance with the General Permit, which shall be observed and incorporated into the daily operation of the facility. Steps to protect water quality include diverting surface water (“run-on”) away from the disposal area, allowing no impounded water inside the disposal area, and avoiding the placement of solid waste into standing water. The facility is obligated by law not to discharge pollutants into the waters of the United States (i.e. surface streams and wetlands). Any discharges should be mitigated immediately.

6.3 Minimizing Surface Water Contact

Protection of water quality is a key interest in the operation of this facility. Although C&D wastes are typically inert, there can be chemical residues present in the C&D (e.g., solvents) that can mobilize upon contact with water – i.e., leachate generation – and which can enter the environment via storm water runoff. This tends to be more prevalent when the wastes are processed (sorted and ground) due to increased surface area available to contact the water source and increased exposure to ambient conditions.

Whereas the tipping and processing areas will be uncovered, the C&D processing facility shall not be operated during rain events in order to minimize contact between the waste and surface water, thus minimizing leachate generation. Activities pertaining to the processing facility should be scheduled to accommodate the weather forecast. During periods of light rain unloading may occur and sorting operations may occur if no runoff is visible, but no grinding shall occur. During heavy rain (with visible runoff) or periods of high wind the incoming (unprocessed) materials shall be stockpiled and covered with tarps (secured against wind) or incorporated into the working face to minimize contact with water. Processed materials (including source-sorted loads) shall be placed in appropriate (covered) containers – i.e., transport trailers or roll-off boxes.

6.4 Processing Facility Operation over the CDLF

The Processing Facility (tipping, sorting, loading) activities will move within the C&D footprint to be near the working face of the CDLF unit, albeit a safe distance shall be maintained – minimum of 50 feet – to promote safety of workers and the public (**Section 5.3**). The Processing Facility may be located atop an inactive portion of the CDLF unit. ***When the Processing Facility is to be operated over an inactive portion of the CDLF, a soil pad with a minimum thickness of 2 feet shall be placed beneath the processing facility operational area (including the tipping and grinding areas), in addition to the interim soil cover (see Section 14).***

The purpose of the supplemental operating soil pad is to protect the underlying wastes – and water quality – against possible spills, leaks and/or the introduction of non-compliant materials (liquids) that might escape detection in the preliminary screening. The soil pad serves as a sorbent layer that can be removed in the case of an incident, minimizing the chance of the incident affecting the ground water or surface water monitoring system, and maintaining adequate coverage for the underlying wastes. The soil pad may be removed at the end of the processing operation and/or prior to placement of final cover and/or additional waste disposal.

6.5 Equipment Maintenance

Facility equipment consists of a variety of excavators, loaders, dozers, dump trucks, and specialized equipment, e.g., a tub grinder for LCID and a separate grinder with power screens for aggregates. Most of the equipment is used in the normal course of mining operations. The Owner represents that he has sufficient resources to provide and maintain the needed equipment to operate the facility. A maintenance schedule for the facility equipment is beyond the scope of this Operations Plan. The Operator (or his designee) should develop a routine equipment maintenance program to lessen the likelihood of fluid spills or leaks.

Fuel and lubricants shall be stored under covers and/or with secondary containment systems that are separate from the principle storm water drainage systems at all times. Care shall be taken when servicing or fueling equipment to prevent spills. Driveways, shop areas and all operations areas where heavy equipment is working shall be inspected daily for signs of spills and leaks. Equipment should be parked overnight and serviced in areas that will not contaminate the facility storm water management systems. Care shall be taken not to allow any hazardous substance to enter the surface water or ground water, including (but not limited to) fuel, oil, hydraulic fluid, pesticides, and herbicides. The requirements of the Storm Water Pollution Prevention Plan and monitoring criteria required by the NC DENR Storm Water General Permit shall be observed.

6.6 Utilities

Electrical power, water, telephone, and restrooms will be provided at the scale house. Other sanitary facilities shall be provided for the field staff, as needed. Two-way radios or cell phones shall be provided to the field staff for communication with the scale house. Portable light plants may be required to promote safe operation of the processing facility in the late afternoon or evening.

6.7 Vector Control

Steps shall be employed to minimize the risk of disease carrying vectors associated with the landfill (e.g., birds, rodents, dogs, mosquitoes). The C&D wastes should be mostly inert (subject to the waste screening procedures) and not attractive to animals. Pools of standing water should be avoided.

6.8 Air Quality Criteria

Dust Control – Measures shall be taken to control dust from the operations. Dusty wastes shall be covered immediately with soil, and water shall be sprinkled on roads and other exposed surfaces (including operational cover and/or the working face, as needed) to control dust. Disposal activities may need to be suspended during high winds.

Open Burning – No open burning of any waste shall be allowed.

State Implementation Plan – Compliance with the State Implementation Plan (SIP) for air quality under Section 110 of the Clean Air Act, as required by 15A NCAC 13B .0531 *et seq.*, is demonstrated with the following discussion. Typically, the SIP focuses on industries that require air permits and activities that have regulated emissions that contribute to unhealthy levels of ozone (NO_x, SO₄, VOC's), particularly coal combustion (electric power plants) and other “smokestack” industries. Compliance with the spirit of the SIP is demonstrated by the prohibition of combustion of solid waste, the fact that the wastes are generally inert and do not emit sufficient quantities of landfill gas to require active controls (such as flaring), and the current status of the regional attainment. The facility is not currently located in a designated area of non-attainment for ozone and/or fine particle emissions (e.g., VOC's, NO_x), designation based on NCDENR Division of Air Quality (DAQ) web site information.

Based on information presented earlier this year concerning the possibility of certain areas of the state being designated as non-attainment areas for ozone, it does not appear that a non-attainment designation would affect existing facilities – a more impact might be expected on future industrial location in the region – and the three-year data that lead to this consideration is barely above the US-EPA’s current threshold for attainment. State-wide, ozone monitoring data show general improvement since the implementation of the “clean smokestacks” legislation within the last five years, and if the next few months show continued improvement, US-EPA may not impose the non-attainment designation.¹ This leads to a conclusion that the facility is not contributing to an existing non-attainment condition in the local area, nor is it likely to in the future.

Nonetheless, proactive steps that can be taken at the facility include dust control measures (see below) to minimize airborne particle emissions, minimizing the idling time on trucks and equipment, keeping mechanized equipment in good operating condition, and the use of low-sulfur fuels, subject to availability. Adherence to the waste acceptance criteria will minimize VOC emissions. Regular application of periodic cover will reduce the risk of fires and curtail wind-blown debris; the proper use of vegetative cover will further minimize fugitive emissions of dust and particulates.

6.9 Litter Control

Appropriate measures will be taken to control trash and windblown debris within and around the facility, including litter on Bishop Road. The site and entrance will be policed for litter on a weekly basis and such materials will be collected and disposed of properly.

7 OPERATING RECORD

The Operating Record shall consist of one or more files, notebooks, or computerized records and associated maps that document the day-to-day facility operations, including the waste intake and sources, transfer records, routine waste placement, cover, and closure activities (for the CDLF), routine or special maintenance requirements and follow up activities, to include the following:

- A Daily intake tonnage records - including source of generation
- B Tonnage and type of recycled materials shipped offsite
- C Copies of the facility map, tracking the current location of waste placement activities, interim closure and completed final closure activities – including the date and time of placement of cover material
- D Waste inspection records (on designated forms); fire notification forms;
- E Quantity, location of disposal, generator, and special handling procedures employed for all special wastes disposed of at the site
- F Generators or haulers that have attempted to dispose of restricted wastes
- G Employee training procedures and records of training completed

¹ Tom Mather, Public Information Officer, NC DENR DAQ, personal communication (2-12-09)

- H Ground water quality monitoring information including:
 - 1. Copy of the current Sampling and Analysis Plan (Monitoring Plan)
 - 2. Monitoring well construction records
 - 3. Sampling reports
 - 4. Records of inspections, repairs, etc.
- I The date and time of the cover placement (both periodic and interim covers) must be recorded in the operating record in compliance with Rule .0542 (f) (2).
- J Closure and post-closure information, where applicable, including:
 - 1. Testing
 - 2. Certification
 - 3. Completion records
- K Cost estimates for financial assurance documentation
- L Annual topographic survey of the active disposal phase
- M Records of operational problems or repairs needed at the facility, e.g., slope maintenance, upkeep of SE&C measures, other structures
- N Equipment maintenance records
- O Daily rainfall records (via on-site rain gauge).
- P Landfill gas monitoring information:
 - 1. Quarterly methane monitoring records
 - 2. Landfill Gas Monitoring and Control Plan
- Q Updated Financial Assurance Documentation
- R Compliance Audit Records (by the SWS) and follow up documentation
- S Copies of the Operation Plan, Closure and Post Closure Plan, Sediment and Erosion Control Plan, Construction Drawings, Storm Water Pollution Prevention Plan, Storm Water General Permit Certificate of Coverage, Solid Waste Permit, and Mining Permit

The Owner or his designee will keep the Operating Record up to date. Records shall be presented upon request to DWM for inspection. A copy of this Operations Plan shall be kept at the landfill and will be available for use at all times, along with the Closure/Post-Closure Plan, the Monitoring Plan, and Monitoring Records.

8 ANNUAL REPORT

The facility shall file an annual report with the NC DENR Division of Waste Management by August 1 of each year, detailing the activities for the preceding July 1 through June 30. Records shall be kept pertaining to the types and amounts of wastes received, as well as the types and amounts of materials reused, recycled, and distributed; material quantities shall be reported annually in tons. This report also shall be furnished to Guilford County Planning Department.

The rules for C&D landfills require an annual survey to determine slope, height, and volume (see **Section 15**). The reporting requirements include an annual topographic map prepared by a licensed surveyor. The mining permit for this facility has a requirement for annual reporting of reclamation activities; generally reclamation at this site includes all backfilling (with beneficial fill) and completion of slopes (with permanent vegetation). The annual reclamation report has map submission requirements, as well as an estimate of percentage of the disturbed area reclaimed. In addition, the Storm Water General Permit, issued by NC DENR Division of Waste Quality, has an annual sampling and reporting requirement.

9 CONTINGENCY PLAN

9.1 Hot Loads Contingency

In the event of a "hot" load attempting to enter the landfill, the scale house staff will turn away all trucks containing waste that is suspected to be hot, unless there is imminent danger to the driver. The vehicle will be isolated away from structures and other traffic and the fire department will be called. The vehicle will not be allowed to unload until the fire is out. If a hot load is detected on the working face, then the load will be treated as a fire condition (see **Section 5**), whereas the load will be spread as thin as possible and cover soil will be immediately placed on the waste to extinguish the fire. Other traffic will be redirected to another tipping area (away from the fire), or other waste deliveries may be suspended until the fire is out. The fire will be monitored to ensure it does not spread. If the fire cannot be controlled, the fire department will be notified and the area cleared of non-essential personnel.

9.2 Hazardous Waste Contingency

In the event that identifiable hazardous waste or waste of questionable character is detected at the scales or in the landfill, appropriate protective equipment, personnel, and materials will be employed as necessary to protect the staff and public. Hazardous waste identification may be based on (but not limited to) strong odors, fumes or vapors, unusual colors or appearance (e.g., liquids), smoke, flame, or excess dust. The fire department will be called immediately in the event a hazardous material is detected. An attempt will be made to isolate the wastes in a designated area where runoff is controlled, preferably prior to unloading, and the vicinity will be cleared of personnel until trained emergency personnel (fire or haz-mat) take control of the scene. Staff will act prudently to protect personnel but no attempt will be made to remove the material until trained personnel arrive. A partial listing of regional **Hazardous Waste Responders** and disposal firms is found in **Appendix A**.

The Operator will notify the Division (see **Section 1.6**) that an attempt was made to dispose of hazardous waste at the landfill. If the vehicle attempting disposal of such waste is known, attempts will be made to prevent that vehicle from leaving the site until it is identified (license tag, truck number driver and/or company information) or, if the vehicle leaves the site, immediate notice will be served on the owner of the vehicle that hazardous waste, for which they have responsibility, has been disposed of at the landfill.

The landfill staff will assist the Division as necessary and appropriate in the removal and disposition of the hazardous waste (acting under qualified supervision) and in the prosecution of

responsible parties. If needed, the hazardous waste will be covered with on-site soils, tarps, or other covering until such time when an appropriate method can be implemented to properly handle the waste. The cost of the removal and disposing of the hazardous waste will be charged to the owner of the vehicle involved. Any vehicle owner or operator who knowingly dumps hazardous waste in the landfill may be barred from using the landfill or reported to law enforcement authorities.

Any hazardous waste found at the scales or in the landfill that requires mitigation under this plan shall be documented by staff using the **Waste Screening Form** provided in **Appendix B**. Records of information gathered as part of the waste screening programs will be placed in the **Operating Record** and maintained throughout the facility operation.

9.3 Severe Weather Contingency

Unusual weather conditions can directly affect the operation of the landfill. Some of these weather conditions and recommended operational responses are as follows.

9.4 Ice Storms

An ice storm can hinder access and/or prevent equipment movement or placement of periodic cover. Closure of the landfill may be required until the ice is removed or has melted and the access roads are passable without risk to personnel or the cover.

9.5 Heavy Rains

Exposed soil surfaces can create a muddy situation in some portions of the landfill during rainy periods. The control of drainage and use of crushed stone (or recycled aggregates) on unpaved roads should provide all-weather access for the site and promote drainage away from critical areas. In areas where the aggregate surface is washed away or otherwise damaged, aggregate should be replaced. Intense rains can affect newly constructed drainage structures such as swales, diversions, cover soils, and vegetation. After such a rain event, inspection by landfill personnel will be initiated and corrective measures taken to repair any damage found before the next rainfall.

Processing activities should be planned to avoid sorting and grinding during periods of rain. Ideally, waste deliveries should be suspended until the rain passes, but if unloading in the rain cannot be avoided the debris piles should be kept small as possible and covered with tarps. Sorting should be completed as soon as practical and all materials cleared from the tipping area to avoid contact with rain or runoff.

9.6 Electrical Storms

The open area of a landfill is susceptible to lightning strikes during an electrical storm. If necessary, landfill activities will be temporarily suspended during a storm, and personnel should take refuge in buildings or rubber-tire vehicles.

9.7 Windy Conditions

High winds can create windblown wastes, typically paper and plastic, but larger objects have been known to blow in extreme circumstances. Operations should be suspended if blowing debris becomes a danger to staff, after the working face is secured. The proposed operational sequence minimizes the occurrence of unsheltered operations relative to prevailing winds. If this is not adequate during a particularly windy period, work will be temporarily shifted to a more sheltered area.

When this is done, the previously exposed face will be immediately covered with daily cover. Soil cover shall be applied whenever windblown wastes become a problem. Staff shall patrol the perimeter of the landfill periodically, especially on windy days, to remove windblown litter from tress and adjacent areas. Windscreens of various sorts have been used with mixed success at other facilities in the region. Proper planning for windy conditions is essential.

9.8 Violent Storms

In the event of a hurricane, tornado, or severe winter storm warning issued by the National Weather Service, landfill operations should be temporarily suspended until the warning is lifted. Daily cover will be placed on exposed waste and buildings and equipment will be properly secured. In the event of eminent danger to staff or the public, personal safety shall take precedence over other concerns.

PART 2 – PROCESSING (RECYCLING) FACILITY

10 OVERVIEW

This section describes the general waste intake and handling operations for the Processing (Recycling) facility. These protocols shall be followed, regardless of whether the material is source-sorted and delivered by affiliated waste transport vehicles or brought to the facility by private contractors or the general public.

10.1 Acceptable Wastes

The Facility shall only accept these waste types generated within approved service area:

- **Construction Debris:** Unpainted and untreated wood, plywood, particle board, hardboard, gypsum board, siding, flooring, asphalt shingles, etc., from new residential or commercial construction;
- **Demolition Debris:** Concrete, brick, block and asphalt will be accepted; unpainted and untreated wood, roofing, insulation, piping, wallboard, siding, etc., from residential and commercial remodeling, repair, or demolition operations, will be accepted *after the Facility produces certificates of training for the staff* pertaining to the identification and safe handling of hazardous materials (e.g., asbestos, lead paint)
- **Land Clearing and Inert Debris:** Stumps, trees, limbs, brush, other vegetation, concrete, brick, concrete block, clean soils and rock, untreated/unpainted wood, etc.

10.2 Prohibited Wastes

No municipal solid waste (MSW), hazardous waste as defined by 15A NCAC 13A .0102, including hazardous waste from conditionally exempt small quantity generators (CESQG waste), or liquid waste will be accepted at this facility. In addition, no tires, batteries, polychlorinated biphenyl (PCB) waste, electronic devices (computer monitors), or mercury switches and fluorescent lamps will be accepted. Animal carcasses will not be accepted. No oils, grease, solvents, or fluids of any kind will be accepted, nor will bagged wastes or any putrescible or household wastes. A partial listing of prohibited wastes is presented on **Table 1** following this section.

10.3 Waste Processing

In order to assure that no prohibited waste enters the Facility, a waste screening program will be implemented (see **Section 10.4**). Waste received at the scale house will be inspected by trained personnel. These individuals will be trained to spot indications of suspicious wastes, including: hazardous material placards or markings, liquids, powders or dusts, sludges, bright or unusual colors, drums or commercial size containers, and "chemical" odors. Screening programs for visual and olfactory characteristics of prohibited wastes will be an ongoing part of the Facility operation.

10.4 Waste Receiving and Screening

All incoming vehicles must stop at the scale house located near the entrance of the facility, and visitors are required to sign-in. All waste transportation vehicles shall be uncovered prior to entering the scales to facilitate inspection; all incoming loads shall be weighed and the content of the load assessed. The attendant shall request from the driver of the vehicle a description of the waste it is carrying to ensure that unacceptable waste is not allowed into the Facility. Signs informing users of the acceptable and unacceptable types of waste shall be posted near the facility entrance. The attendant shall visually check the vehicle as it crosses the scale. Suspicious loads will be pulled aside for inspection prior to leaving the scale area.

Loads with unacceptable materials or wastes generated from outside of the service area will be directed to the nearby Transfer Station. Once passing the scales, incoming transport vehicles will be routed to the tipping area for unloading, inspection, sorting and appropriate processing, depending on the nature of the load – C&D and LCID materials will go to separate areas (**Sections 10.5 and 10.6**).

Incoming vehicles shall be selected at random for screening a minimum of three times per week. The selection of vehicles for screening might be based on unfamiliarity with the vehicle/driver or based on the driver's responses to interrogation about the load content. Vehicles selected for inspection shall be directed to an isolated area away from the stockpile of materials to be stockpiled, where the vehicle will be unloaded and the waste shall be carefully spread using suitable equipment. An attendant trained to identify unacceptable wastes shall inspect the waste, using the **Waste Screening Form (Appendix B)** to document the waste screening activity. After the waste screening inspection of a load, one of the following activities will occur:

- If no unacceptable waste is found, the load will be pushed to the active recycling area and processed with the remainder of the day's intake;
- If unacceptable materials are found, the entire load will be isolated and secured via barricades, then loaded into roll-off boxes for disposal at a permitted facility;
- Non-hazardous materials will be reloaded onto the delivery vehicle for removal from the facility, the hauler will be escorted to the nearby MSW Transfer Station;
- If hazardous materials are detected, the **Hazardous Waste Contingency Plan** outlined in **Section 9** will be followed.

The hauler will be held responsible for removing unacceptable waste from the Facility. The rejection of the load shall be noted on the Waste Screening Form, along with the identification of the driver and vehicle. A responsible party to the load generator or hauler shall be notified that the load was rejected. The generator or hauler may be targeted for more frequent screening and/or banished from the facility, depending on the nature of the violation of the waste acceptance policy. State and County authorities may be notified of severe or repeat offenders.

10.5 LCID Processing

The Facility may recycle LCID to make mulch, boiler fuel, and aggregates. LCID wastes generally consist of brush, limbs, tree trunks, stumps, leaves, dirt, inert debris, and other materials defined by the NC DENR Solid Waste rules. LCID materials may be stockpiled and

shredded or ground within a designated area (in a future CDLF phase) but separated from the CDLF working face. Some LCID materials may be combined with similar C&D materials post-processing – e.g., wood wastes that can be ground into boiler fuel and inert debris that can be processed into aggregates. LCID materials shall not be commingled with other materials prior to processing, except for concrete debris.

10.6 C&D Processing

The Facility may recycle C&D wastes aggregates, boiler fuel, mulch, and beneficial fill. Typically, C&D materials are anticipated to arrive source-sorted, having been transported by an affiliated hauler, but some private hauling will occur. Sorting will take place at least 50 feet from the CDLF working face, with appropriate runoff controls and S&EC measures in place. The sorted materials will be redirected to appropriate stockpiles and/or roll-off boxes and temporarily stored for further processing (see below). Non-recyclable C&D materials will be pushed into the CDLF working face (**Section 12**). Co-mingling of pre-process or interim stage processed materials from the C&D and LCID waste streams will NOT be allowed – except for concrete debris – separate stockpiles or containers shall be maintained. Concrete debris is processed in a separate area. All materials will be strictly accounted for, including those in various stages of processing, stockpiled finished goods, on-site beneficial-use and/or distribution.

10.7 Disposal of Rejected Wastes

All waste loads will be inspected upon arrival, in order to reject inappropriate material before it is unloaded or such that it can be reloaded onto the transport vehicle and sent to an appropriate facility. One or more roll-off boxes will be kept on-site for disposal of any “reject” materials that are found in the waste during material sorting, e.g., small quantities of garbage (chiefly food containers), plastic packaging, paint cans, insulation, carpet, etc. Such “rejects” will be placed into the roll-off boxes and removed from the site for disposal at an approved facility, e.g. the nearby Transfer Station on Bishop Road or another approved MSW facility. The roll-off boxes will be removed on a weekly basis. The number of roll-off boxes required will depend on the market trends; A-1 and affiliated businesses own an ample supply of roll-off boxes. Operations will be conducted to minimize the amount of reject materials through source sorting – this facility will not become a MSW transfer station.

10.8 Processing of Finishing Goods

Processing activities shall be limited to grinding, shredding, or chipping land clearing debris, unpainted/untreated wood waste (including pallets and new construction waste), and certain engineered wood products (plywood, particle board), to make boiler fuel or mulch (but not compost). Inert materials will be processed and recycled into aggregates. The operation of the Processing Facility will include the following:

- Pre-processed sorted C&D (raw materials) will be stockpiled temporarily in the designated sorting area, adjacent to the working face.
- Woody materials suitable for making mulch and/or boiler fuel (including pallets) will be ground or shredded and stored in over-the-road shipping containers.

- Earthen inert materials (dirt, rocks, concrete debris) suitable for “beneficial fill” and/or for processing into aggregates, will be ground or shredded and stockpiled.
- Metals will be placed in roll-off boxes and kept clean and ready to haul to off-site recycling operations until a full load is reached.
- New guidelines apply for storing and processing asphalt shingles intended for recycling (see **Section 10.11**). Source-sorted, new (non-asbestos), tear-off asphalt shingles may be stored for recycling. Shingles accepted for disposal only should be sent to the working face. *No grinding of shingles shall be conducted onsite.*

The Owner intends to process incoming material and remove sorted materials from the tipping area to covered bins or stockpiles by the end of each working day. Finished materials will be sold or used on-site on a quarterly (or more frequent) basis. If the stockpiles of finished products must remain on site for longer periods of time, these materials will be wetted and turned quarterly (as needed) to prevent composting and/or fires (see **Section 2.1**).

10.9 Maximum Stockpile Size

Maximum volumes of *all* processed and raw materials to be stored in stockpiles at the processing facility (for those materials not stored in roll-off boxes) shall be 6000 cy – this is consistent with Solid Waste Sections rules and guidelines for “notification” stockpiles, e.g., LCID stockpiles. The following provides guidance for determining the maximum allowable stockpile dimensions to meet this requirement at various heights with 2H:1V maximum side slope ratios. The selection of maximum size of stockpile needs to incorporate the factors of safe operation, storage, and fire prevention.

Height of Pile, ft	Top of Pile Diameter, ft	Bottom of Pile Diameter, ft	Average Cross Section Area, sf	Volume, cy
20	20	100	60	2,093
20	40	80	80	3,721
25	20	120	70	3,562
25	40	140	90	5,887
30	20	140	80	5,582

10.10 Maximum Processed Material Storage Volumes

Estimates of maximum stored volumes of *combustible materials* such as unprocessed wastes, boiler fuel and mulch (see **Sections 10.5** and **10.6**) are as follows. The bulky materials are stored in multiple stockpiles with variable daily volumes. Non-combustible aggregates are stored separately, typically for longer duration depending on demand, but these materials do not pose a fire hazard. Finished goods are marketable and relatively easy to move. The facility is located near a MSW Transfer Station that will receive materials that cannot be disposed in the CDLF.

Unprocessed Wastes	3,000 cy
Boiler Fuel	1,000 cy
Mulch	2,000 cy
Total All Stockpiles	6,000 cy

10.11 Asphalt Shingle Storage for Recycling

The Owner/Operator shall only accept new tear-off asphalt shingles for storage, typically from contractors they know. ***No grinding of shingles shall be conducted at the facility.*** Source-sorted shingles shall be placed into roll off boxes or temporary stockpiles as separate loads. Documentation for the source for each load shall be retained. A detailed plan for documenting the intake and distribution (i.e., to a licensed recycler) of asphalt shingles is found in **Appendix C**. Old shingles may contain asbestos and shall not be stored or processed for recycling at this facility. Asphalt shingles arriving without documentation or in mixed loads may be accepted for disposal, but these materials shall not go through the processing line and should be sent to the working face.

Acceptance and storage of documented asphalt shingles for off-site recycling may take place within the current T&P area on top of the CDLF, at least 50 feet away from the working face alongside other recycling activities. ***The facility is only authorized to receive and store asphalt shingles at this time.*** The facility must adhere to NCDENR's documentation requirements outlined in **Appendix C** to maintain operational compliance. Should the facility opt to grind shingles into a recycled byproduct in the future, an additional Solid Waste Processor permit application and an asbestos screening plan will be prepared to supplement this operational.

TABLE 1 PROHIBITED WASTES FOR PROCESSING

- Putrescible wastes (garbage and/or food wastes)
- Demolition Wastes
- Hazardous wastes:
 - Pesticides
 - Herbicides
 - Used motor oil
 - Antifreeze
 - Solvents
 - Paint thinners
- Hazardous materials as defined by 15A NCAC 13A
- Radioactive materials
- Lead acid batteries
- Regulated medical wastes
- Polychlorinated biphenyls (PCB) wastes
- All sludges except sludge from water treatment plants
- White Goods
- Liquid wastes
- Animal carcasses
- Asbestos wastes
- Yard Wastes
- Tires
- Electronic equipment
- Mercury switches or lamps

References: 15A NCAC 13B .0103
15A NCAC 13B .1626

PART 3 – CDLF OPERATION

11 WASTE ACCEPTANCE CRITERIA

11.1 Permitted Wastes

The C&D Landfill shall only accept (for disposal) the following wastes generated within approved areas of service:

- Construction and Demolition Debris Waste: (Waste or debris derived from construction, remodeling, repair, or demolition operations on pavement or other structures);
- Land Clearing and Inert Debris Waste: (yard waste, stumps, trees, limbs, brush, grass, concrete, brick, concrete block, uncontaminated soils and rock, untreated and unpainted wood, etc.);
- Other Wastes as approved by the NC DENR Solid Waste Section.

11.2 Asbestos

A-1 Sandrock may dispose of asbestos within the C&D landfill, or within a special designated area, only if the asbestos has been processed and packaged in accordance with State and Federal (40 CFR 61) regulations. Handling asbestos requires advance arrangements between the hauler and the landfill and special placement techniques (see **Section 13.2**).

11.3 Wastewater Treatment Sludge

Sludges of any kind shall **not** be disposed in the C&D Landfill, per Division rules. Waste Water Treatment Plant sludge may be used as a soil conditioner to enhance the final cover, upon receipt of permission from the Division, to be applied at agronomic rates.

11.4 Waste Exclusions

No municipal solid waste (MSW), hazardous waste as defined by 15A NCAC 13A .0102, or hazardous waste from conditionally exempt small quantity generators (CESQG waste), sludges or liquid wastes will be accepted. No drums or industrial wastes shall be accepted. No tires, batteries, polychlorinated biphenyl (PCB), electronic devices (computer monitors), medical wastes, radioactive wastes, septage, white goods, yard trash, fluorescent lamps, mercury switches, lead roofing materials, transformers, or CCA treated wood shall be accepted.

No pulverized or shredded C&D wastes may be accepted – except those materials received and inspected in a whole condition and shredded on-site. The Facility will implement a waste-screening program, described in **Section 12.1** below, to control these types of waste. Solid Waste Rule .0542 (e) contains further exclusions (see **Table 2**).

12 WASTE HANDLING PROCEDURES

In order to assure that prohibited wastes are not entering the landfill facility, screening programs have been implemented at the landfill. Waste received at both the scale house entrance and waste taken to the working face is inspected by trained personnel. These individuals have been trained to spot indications of suspicious wastes, including: hazardous placards or markings, liquids, powders or dusts, sludges, bright or unusual colors, drums or commercial size containers, and "chemical" odors. Screening programs for visual and olfactory characteristics are an ongoing part of the landfill operation.

12.1 Waste Receiving and Inspection

All incoming vehicles must stop at the scale house located near the entrance of the facility, and visitors are required to sign-in. All waste transportation vehicles shall be uncovered prior to entering the scales to facilitate inspection; all incoming loads shall be weighed and the content of the load assessed. The scale attendant shall request from the driver of the vehicle a description of the waste it is carrying to ensure that unacceptable waste is not allowed into the landfill.

Signs informing users of the acceptable and unacceptable types of waste shall be posted at the entrance near the scale house. The scales attendant shall visually check the vehicle as it crosses the scale. Any suspicious loads will be pulled aside for a more detailed inspection prior to leaving the scale house area. Loads with unacceptable materials will be required to be covered (with a tarp) and turned away from the facility. Wastes from outside of the service area will be rejected.

Once passing the scales, the vehicles containing C&D wastes are routed to the working face. ***Vehicles shall be selected for random screening a minimum of three times per week.*** The selection of vehicles for screening might be based on unfamiliarity with the vehicle/driver or based on the driver's responses to interrogation about the load content. The Operator shall use the **Waste Screening Form** (see **Appendix B**) to document the waste screening activities. Documentation of waste screenings shall be placed in the **Operational Record** (see **Section 7**).

Selected vehicles shall be directed to an area of intermediate cover adjacent to the working face where the vehicle will be unloaded and the waste shall be carefully spread using suitable equipment. An attendant trained to identify wastes that are unacceptable at the landfill shall inspect the waste discharged at the screening site. If no unacceptable waste is found, the load will be pushed to the working face and incorporated into the daily waste cell.

- If unacceptable wastes that are non-hazardous are found, the load will be reloaded onto the delivery vehicle and directed to the Transfer Station.
- For unacceptable wastes that are hazardous, the Hazardous Waste Contingency Plan outlined in **Section 9** will be followed.

The hauler is responsible for removing unacceptable waste from the landfill property. The rejection of the load shall be noted on the **Waste Screening Form**, along with the identification of the driver and vehicle. A responsible party to the load generator or hauler shall be notified that the load was rejected. The generator or hauler may be targeted for more frequent waste

screening and/or banished from delivering to the facility, depending on the nature of the violation of the waste acceptance policy. If the violation is repetitive or severe enough, State and/or County authorities may be notified.

12.2 Disposal of Rejected Wastes

Attempts will be made to inspect waste as soon as it arrives in order to identify the waste hauler; ideally, the hauler can be stopped from leaving the site and the rejected materials reloaded onto the delivery vehicle. Non-allowed materials that are found in the waste during sorting or placement, i.e., after the delivery vehicle has left the site, shall be taken to the on-site Transfer Station. Small quantities of garbage (chiefly food containers) will inevitably wind up in the C&D waste stream from job sites. These may be disposed with the C&D wastes as long as the materials are non-liquid and non-hazardous. If large quantities of garbage, “black bags” or any prohibited wastes are detected, the Operator shall be responsible for removing these materials and placing them into the Transfer Station at the earliest practical time.

13 C&D DISPOSAL PROCEDURES

Waste transportation vehicles will arrive at the working face at random intervals. There may be a number of vehicles unloading waste at the same time, while other vehicles are waiting. In order to maintain control over the unloading of waste, only a certain number of vehicles will be allowed on the working face at a time. The superintendent and/or equipment operator(s), who will serve as ‘spotters’, will determine the actual number. This procedure will be used in order to minimize the potential of unloading unacceptable waste and to control disposal activity.

Operations at the working face will be conducted in a manner that will promote the efficient movement of vehicles to and from the working face, and to expedite the unloading of waste. At no time during normal business hours will the working face be left unattended. Scale house and field staff shall be in constant communication regarding incoming loads and the movement of vehicles on the site, irrespective of facility vehicles or private vehicles. It is the responsibility of the working face superintendent to know where each vehicle in the facility is located and what they are doing at all times.

Portable signs with directional arrows and barricades will be used to direct traffic to the correct unloading area. The approaches to the working face will be maintained such that two or more vehicles may safely unload side by side. A vehicle turn-around area large enough to enable vehicles to arrive and turn around safely with reasonable speed will be provided adjacent to the unloading area. The vehicles will back to a vacant area near the working face to unload. Upon completion of the unloading operation, the transportation vehicles will immediately leave the working face. Personnel will direct traffic as necessary to expedite safe movement of vehicles. Waste unloading at the landfill will be controlled to prevent disposal in locations other than those specified by site management. Such control will also be used to confine the working face to a minimum width, yet allow safe and efficient operations. The width and length of the working face will be maintained as small as practical to control windblown waste, preserve aesthetics, and minimize the amount of required periodic cover.

Normally, only one working face will be active on any given day, with all deposited waste in other areas covered by either periodic or final cover, as appropriate. The procedures for placement and compaction of solid waste include: unloading of vehicles, spreading of waste into 2 foot lifts, and compaction on relatively flat slopes (i.e., 5H: IV max.) using a minimum number of three full passes. Depending on the nature of the wastes and in-situ density, the waste placement geometry and compaction procedures may require adjustment to optimize airspace.

13.1 Spreading and Compaction

The working face shall be restricted to the smallest possible area; ideally, the maximum area of exposed waste shall be one-quarter to one-half acre. Wastes shall be compacted as densely as practical. Appropriate methods shall be employed to reduced wind-blown debris including (but not limited to) wind fences, screens, temporary soil berms, and periodic cover. Any wind-blown debris shall be recovered and placed back in the landfill as soon as practical.

13.2 Special Wastes: Asbestos Management

Any asbestos handling and disposal will follow specific NC DENR regulations with proper shipping manifests and documentation of disposal. Asbestos shall arrive at the site in vehicles that contain only the asbestos waste and only after advance notification by the generator and if accompanied by a proper NC DMV transport manifest. Once the hauler brings the asbestos to the landfill, operations personnel will direct the hauler to the designated asbestos disposal area. Operations personnel will prepare the designated disposal area by leveling a small area using a dozer or loader. Prior to disposal, the landfill operators will stockpile cover soil near the designated asbestos disposal area. The volume of soil stockpiled will be sufficient to cover the waste and to provide any berms, etc. to maintain temporary separation from other landfill traffic.

Once placed in the prepared area, the asbestos waste will be covered with a minimum of 18 inches of daily cover soil placed in a single lift. The surface of the cover soil will be compacted and graded using a tracked dozer or loader. The landfill compactor will be prohibited from operating over asbestos disposal areas until at least 18 inches of cover are in-place. The landfill staff shall record the location and elevation of the asbestos waste once cover is in-place. Records of the disposal activity shall be entered into the **Operating Record**. Once disposal and recording for asbestos waste is completed, the disposal area may be covered with C&D waste. No further excavation into recorded asbestos disposal areas will be permitted.

14 COVER MATERIAL

14.1 Periodic Cover

The working face of the CDLF shall be covered on a weekly basis, or sooner if the area of exposed waste exceeds one-half acre in size. Periodic cover shall consist of a 6 inch layer of earthen material that completely covers the waste to control vectors, fire, odors, and blowing debris. Alternative periodic cover may be considered, subject to a demonstration project with prior approval from the Division. Placement of periodic cover shall be documented in the **Operating Record** (see **Section 7**) and on a copy of the facility map.

14.2 Interim Soil Cover

An interim soil cover (at least 24 inches in thickness) shall be placed on inactive slopes, subject to the following conditions:

- Interior slopes adjacent to future expansion (such as a cell or phase boundary) no later than 30 days following the last waste receipt, providing that further waste disposal will occur within one year of the last waste receipt*
- Exterior slopes that have attained final grade, but are to be left for no more than 15 working days without temporary vegetation, until an area of no more than 10 acres is ready to be closed simultaneously.**

*North Carolina Solid Waste Rule 15A NCAC 13B .0543 requires final cover to be placed if the slope shall remain inactive for more than one year

**Typically, it is advantageous to close the final slopes in 2 to 3 acre increments, observing the placement of erosion control benches; 10 acres is the regulatory maximum

Interim cover soils shall be vegetated in accordance with the Seeding Schedule presented in the Facility Drawings. Either temporary or permanent vegetation may be required – and alternate ground cover may be considered – depending on the time duration of inactivity. Placement of interim cover shall be documented in the **Operating Record** and on a copy of the facility map.

14.3 Final Cover

Exterior slopes shall be closed upon reaching final grades in increments throughout the operation of the facility. Placement of final cover shall be documented in the **Operating Record** and on a copy of the facility map. The permitted final cover consists of a minimum of 18 inches of compacted soil cover (maximum 10^{-5} cm/sec permeability requirement), overlain by 18 inches of vegetation support soil. In general, the final soil cover shall be spread in three uniform lifts (maximum of 9 inches before compaction, 6 inches after compaction), and soils shall be compacted by “tracking” with dozers or other equipment. North Carolina Solid Waste regulations require a maximum permeability, achieved through proper material selection and compaction criteria, confirmed by the testing program outlined in the **CQA** section of the **Closure and Post-Closure Plan**, found in the Permit to Construct documents.

Sedimentation and Erosion Control Rule 15A NCAC 04B .0107, MANDATORY STANDARDS FOR LAND-DISTURBING ACTIVITY, states as follows:

“Pursuant to G.S. 113A-57(3), provisions for a ground cover sufficient to restrain erosion must be accomplished within 15 working days or 90 calendar days following completion of construction or development, whichever period is shorter.”

Prior to May 2013 the rule required that all disturbed soils shall be stabilized within 20 days following completion of the grading. The facility’s interpretation is that all slopes must be vegetated with a seed mix that is suitable to climatic conditions (see construction plans) within 15 days. All seeded areas should be provided with lime, fertilizer and straw mulch. An emulsified tack may be required to prevent wind damage. Other stabilization treatments, e.g., curled wood matting of synthetic slope stabilization blankets may be employed.

At the operator's discretion, wood mulch may be spread evenly over the final surfaces – at a maximum thickness of 2 inches – to help retain moisture and retard erosion while the vegetation develops. By SWS definition this material is not recognized to provide nutrient value but the partial decomposition of the wood mulch over time does introduce organic content to the soils, which were typically derived from deep within the borrow pit. Typically, the mulch takes about a year to break down and does benefit the effort of establishing vegetation, as long as the mulch is not applied too thick. This allows the operator some flexibility in establishing vegetation at optimum times. A nurse crop of seasonal vegetation can be sown at the time the slopes are finished and a permanent crop can be sown later, typically requiring manual sowing to prevent damaging the existing vegetation. All protective measures must be maintained until permanent ground cover is established and is sufficient to restrain erosion on the site.

If settlement occurs after the cover is placed, the cover shall be fortified with additional soil. In the case of extreme settlement (unlikely), the old cover can be stripped and the affected area built up with waste prior to replacing the cover. The sedimentation and erosion control criteria governing the final closure of this facility are performance-based; some trial and error may be required, but the goal is to protect the adjacent water bodies and buffers throughout the operational and post-closure periods.

15 SURVEY FOR COMPLIANCE

15.1 Height Monitoring

The landfill staff will monitor landfill top and side slope elevations on a weekly basis or as needed to ensure proper slope ratios, in accordance with the approved grading plan, and to ensure the facility is not over-filled. This shall be accomplished by use of a surveyor's level and a grade rod. When such elevations approach the grades shown on the Final Cover Grading Plan, the final top-of-waste grades will be staked by a licensed surveyor.

15.2 Annual Survey

The working face shall be surveyed on an annual basis to verify slope grades and to track the fill progression. In the event of problems (slope stability, suspected over-filling), more frequent surveys may be required at the request of the Division.

16 CONTINGENCY PLAN

Refer to **Section 9**.

17 ANNUAL REPORTING

Refer to **Section 8**.

TABLE 2 PROHIBITED WASTES IN THE CDLF UNIT

- 1) Containers such as tubes, drums, barrels, tanks, cans, and bottles unless they are empty and perforated to ensure that no liquid, hazardous or municipal solid waste is contained therein,
- 2) Garbage as defined in G.S. 130A-290(a) (7),
- 3) Hazardous waste as defined in G.S. 130A-290(a) (8), to also include hazardous waste from conditionally exempt small quantity generators,
- 4) Industrial solid waste unless a demonstration has been made and approved by the Division that the landfill meets the requirements of Rule .0503(2) (d) (ii) (A),
- 5) Liquid wastes,
- 6) Medical waste as defined in G.S. 130A-290(a) (18),
- 7) Municipal solid waste as defined in G.S. 130A-290(a) (18a),
- 8) Polychlorinated biphenyls (PCB) wastes as defined in 40 CFR 761,
- 9) Radioactive waste as defined in G.S. 104E-5(14),
- 10) Septage as defined in G.S. 130A-290(a) (32),
- 11) Sludge as defined in G.S. 130A-290(a) (34),
- 12) Special wastes as defined in G.S. 130A-290(a) (40),
- 13) White goods as defined in G.S. 130A-290(a) (44), and
- 14) Yard trash as defined in G.S. 130A-290(a) (45),
- 15) The following wastes cannot be received if separate from C&DLF waste:
 - a) lamps or bulbs, e.g., halogen, incandescent, neon or fluorescent;
 - b) lighting ballast or fixtures;
 - c) thermostats and light switches;
 - d) batteries, e.g., those from exit and emergency lights and smoke detectors;
 - e) lead pipes;
 - f) lead roof flashing;
 - g) transformers;
 - h) capacitors; and
 - i) copper chrome arsenate (CCA) and creosote treated woods.
- 16) Waste accepted for disposal in a C&DLF unit must be readily identifiable as C&D waste and must not have been shredded, pulverized, or processed to such an extent that the composition of the original waste cannot be readily ascertained except as specified in Subparagraph (17) of this Paragraph.
- 17) C&D waste that has been shredded, pulverized or otherwise processed may be accepted for disposal from a facility that has received a permit from an authorized regulatory authority which specifies such activities are inspected by the authority, and whose primary purpose is recycling and reuse of the C&D material. A waste screening plan and waste acceptance plan must be made available to the Division upon request.
- 18) Waste that is generated outside the boundaries of a unit of local government ordinance (i.e., areas not approved by County Commissioners).

Reference: 15A NCAC 13B .0542

Appendix A Hazardous Waste Responders

HAZARDOUS WASTE CONTACTS

The following contacts were originally found on NC DENR Division of Waste Management's web site in early 2007; since then, local phone numbers have been updated based on internet research. Facility management should verify the availability of these contacts before an emergency. The reference listing of these organizations here is not an endorsement by either the Division or the preparer of this document, nor are any affiliations in existence or implied. For more information refer to the respective URL's.

EMERGENCY RESPONSE

Clean Harbours www.cleanharbors.com	Reidsville, NC	336-342-6107
GARCO, Inc. www.egarco.com	Asheboro, NC	336-683-0911
Safety-Kleen (a.k.a. Clean Harbours)	Reidsville, NC	336-669-5562
Zebra Environmental Services www.zebraenviro.com	High Point, NC	336-841-5276

TRANSPORTERS

ECOFLO www.ecoflo.com	Greensboro, NC	336-855-7925
GARCO, Inc.	Asheboro, NC	336-683-0911
Zebra Environmental Services	High Point, NC	336-841-5276

USED OIL AND ANTIFREEZE

3RC Resource Recovery	Winston-Salem, NC	336-784-4300
Carolina Environmental Associates	Burlington, NC	336-299-0058
Environmental Recycling Alternatives	High Point, NC	336-905-7231

FLUORESCENT HANDLERS

3RC Resource Recovery	Winston-Salem, NC	336-784-4300
Carolina Environmental Associates	Burlington, NC	336-299-0058
ECOFLO	Greensboro, NC	336-855-7925
GARCO, Inc.	Asheboro, NC	336-683-0911
Safety-Kleen	Reidsville, NC	800-334-5953

PCB DISPOSAL

ECOFLO	Greensboro, NC	336-855-7925
GARCO, Inc.	Asheboro, NC	336-683-0911
Zebra Environmental Services	High Point, NC	336-841-5276

USEFUL AGENCIES and CONTACTS			
<p><u>Air Permits</u> NC Div. of Air Quality 919-733-3340</p>	<p>Indoor <u>Air Quality</u>, US EPA Info Hotline 1-800-438-4318</p>	<p><u>Asbestos</u> Environmental Epidemiology Mary Giguere 919-707-5950</p>	<p><u>Customer Call Center</u> DENR 1-877-623-6748</p>
<p><u>Drinking Water</u> Environmental Health Jessica Miles 919-715-3232</p>	<p>Safe <u>Drinking Water</u> US EPA 1-800-426-4791</p>	<p>Emergencies 24 hours <u>Emergency Management</u> 919-733-3300 919-733-9070 1-800-858-0368</p>	<p>Energy Division Hotline NC Commerce Dept. 1-800-662-7131</p>
<p><u>Environmental Education</u> Office of Env. Education 1-800-482-8724</p>	<p><u>Environmental Education</u> NC Cooperative Ext. Service NCSU 919-515-2770</p>	<p><u>Federal Register</u> RCRA/Superfund/UST 1-800-424-9346</p>	<p>Fluorescent Lights Green lights Hotline 202-775-6650 EPA Energy Star 1-888-782-7937</p>
<p>Freon US EPA Region 4 Pam McIlvane 404-562-9197</p>	<p><u>Groundwater</u> Division of Water Quality None Dedicated Soil Disposal Ted Bush 919-733-3221</p>	<p><u>Hazardous Waste</u> Hazardous Waste Section 919-508-8400</p>	<p><u>Household Hazardous Waste</u> Solid Waste Section Bill Patrakis 336-771-5091</p>
<p><u>Lab Certification</u> Water Quality Jim Meyer 919-733-3908 ext. 207</p>	<p>Land Farm Division of Water Quality David Goodrich 919-715-6162</p>	<p><u>Landfills</u> Solid Waste Section Division of Waste Management 919-508-8400</p>	<p>Lead Abatement Division of Public Health Jeff Dellinger 919-733-0668</p>
<p>Childhood <u>Lead Poisoning</u> Environmental Health Ed Norman 919-715-3293</p>	<p>National Lead Info. Center 1-800-LEAD-FYI 1-800-532-3394</p>	<p>Medical Waste Solid Waste Section Bill Patrakis 919-508-8512</p>	<p>Oil Pollution Aquifer Protection Section Debra Watts 919-715-6699</p>
<p>OSHA-Health Consultations NC Dept of Labor Roedreck Wilce 919-852-4379</p>	<p>OSHA Training & Outreach NC Dept. of Labor Joe Bailey 919-807-2891</p>	<p>Stratosphere <u>Ozone</u> US EPA Information Hot Line 1-800-296-1996</p>	<p>PCBs TSCA, EPA Region 4 Craig Brown 404-562-8980 TSCA Assistance Info. 202-554-1404</p>
<p><u>Pesticides Disposal</u> Assistance Program NC Dept. of Agriculture Hazardous Waste Royce Batts 919-715-9023</p>	<p>Pesticide Info. Hotline 1-800-858-7378</p>	<p>Petroleum Product Soil Disposal, UST Scott Ryals 919-733-8486</p>	<p><u>Pollution Prevention</u> & Environmental Assistance 919-715-6500 1-800-763-0136</p>

<p><u>Public Affairs</u>, DENR Diana Kees Acting Director 919-715-4112</p>	<p>Public Right to Know Employee Right to Know OSHA, Dept. of Labor Anthony Bonapart 919-807-2846</p>	<p><u>Radiation Materials</u> Radiation Protection Beverly Hall 919-571-4141</p>	<p><u>Recycling Markets Directory</u> What Can I do with it? 919-715-6500</p>
<p>Toxic Release Reporting Emergency Planning SARA Title III Richard Berman 919-733-1361 1-800-451-1403 (24 hours)</p>	<p><u>Run Off</u> Water Quality 919-733-5083</p>	<p><u>Safety Hotline</u> NC Dept. Of Labor 1-800-LABOR-NC 919-807-2796</p>	<p><u>Septic Tanks</u>, On-site Treatment System Environmental Health Steven Berkowitz 919-733-2895</p>
<p>Sewer Discharges Pre-Treatment Public Owned Treatment (POTW) 919-733-5083</p>	<p><u>Small Business Ombudsman</u> US EPA 1-800-368-5888</p>	<p>Spill Reporting 1-800-858-0368</p>	<p>State Operator 919-733-1110</p>
<p><u>Stormwater</u>, Permits Unit Water Quality 919-733-5083 1-800-858-0368</p>	<p>Superfund Federal Sites Dave Lown 919-508-8464 State Inactive Sites Charlotte Jesneck 919-508-8460</p>	<p><u>Toxicology Env. Epidemiology</u> Occupational Surveillance 919-707-5900</p>	<p>Transport Hazardous Waste Division of Motor Vehicle (NC DOT) Sgt. T.R. Askew 919-715-8683</p>
<p><u>US DOT</u> Regulations Office of Motor Carriers Chris Hartley 919-856-4378</p>	<p><u>Underground Storage Tanks</u> Grover Nicholson 919-733-1300</p>	<p>Waste Minimization Pollution Prevention & Environmental Assistance 919-715-6500 1-800-763-0136</p>	<p><u>Wetlands Info Hotline</u> US EPA 1-800-832-7828</p>
<p>North Carolina Division of Waste Management - 1646 Mail Service Center, Raleigh, NC 27699-1646 - (919) 508-8400</p>			

Appendix B Waste Screening Form

WASTE SCREENING FORM

Facility I.D.
Permit No.

Day / Date: _____
Truck Owner: _____
Truck Type: _____
Weight: _____

Time Weighed in: _____
Driver Name: _____
Vehicle ID/Tag No: _____
Tare: _____

Waste Generator / Source: _____

Inspection Location: _____

Reason Load Inspected:	Random Inspection	_____	Staff Initials	_____
	Detained at Scales	_____	Staff Initials	_____
	Detained by Field Staff	_____	Staff Initials	_____

Description of Load: _____

Approved Waste Determination Form Present? (Check one) Yes _____ No _____ N/A _____

Load Accepted (signature) _____ Date _____

Load Not Accepted (signature) _____ Date _____

Reason Load Not Accepted (complete below only if load not accepted) _____

Description of Suspicious Contents: Color _____ Haz. Waste Markings _____
 Texture _____ Odor/Fumes _____
 Drums Present _____ Other _____
 (describe) _____

Est. Cu. Yds. Present in Load _____

Est. Tons Present in Load _____

Identified Hazardous Materials Present: _____

County Emergency Management Authority Contacted? Yes _____ No _____

Generator Authority Contacted? _____

Hauler Notified (check if waste not accepted)? _____ Phone _____ Time Contacted _____

Final Disposition of Load _____

Signed _____ Date _____
Solid Waste Director

Attach related correspondence to this form. File completed form in Operating Record.

Appendix C Shingles Processing and Storage

General Operation Plan
For Tear-off Asphalt Shingle Sorting
At a Solid Waste Permitted Facility

A-1 Sandrock, Inc. CDLF
and Recycling Facility

Permit #41-17

Prepared for

Ronnie E. Petty, III
A-1 Sandrock, Inc.
2091 Bishop Road
Greensboro, NC 27406

Prepared by

G. David Garrett, PG, PE
5105 Harbour Towne Drive
Raleigh, NC 27604

November 6, 2013

Site specific information

- a. The maximum amount of shingles to be stockpiled at any time is 40 cubic yards, or the equivalent of one roll-off box.
- b. The service area for shingle receipt must be consistent with the landfill service area.
- c. The Owner/Operator must keep contact information for the contracting shingle recycling company with the records of incoming and outgoing shingles. Any changes must be reflected in the records.
- d. **No grinding of asphalt shingles shall be conducted at the T&P unit.**

The Owner/operator shall refer to the following generic plan, provided by the Solid Waste Section, which includes acceptance criteria for recycling and documentation for the sources of incoming loads (example form).

I. Introduction

This operation plan describes how tear-off asphalt shingles will be collected, sorted, stored, and managed at this facility in order to provide a material that can be used into asphalt production. Our facility uses best practices for acceptance and sorting to remove the tear-off shingles from the waste stream and divert the “clean” shingles to other facilities.

II. Waste Acceptance

Asphalt roofing shingles contain asphalt cement, mineral aggregate, and mineral filler which are raw materials used in asphalt production. Asbestos was used in shingle manufacture until the mid-1970's and in other roofing materials such as roof felt, roof putty, surface coating, and mastic until the mid 1980s.

Our facility provides roofers with a list of acceptable and unacceptable items for tear-off shingle recycling and requires source separation at the job site by the roofer. Materials from flat and built-up roofing system are disposed rather than accepted for recycling due to the higher use of asbestos roofing materials in those systems. Roofers are instructed to separate tear-off shingles into either a dedicated trailer or to layer their waste when loading so that the shingles can be easily separated from the unacceptable debris. Our list of acceptable and unacceptable material is shown in Attachment 1.

The shingle suppliers are also required to complete a supplier certification form. The handling and disposal of asbestos during demolition and renovation is regulated under the National Emissions Standards for Hazardous Air Pollution (NESHAP). NESHAP-regulated facilities are required to submit a notification of demolition and renovation prior to starting work. The notification includes an inspection by a North Carolina accredited asbestos inspector or roofing supervisor and analysis for asbestos. The supplier of shingles from a NESHAP-regulated facility must present documentation that the shingles do not contain greater than 1% asbestos. The documentation is a letter from the accredited asbestos inspector or roofing supervisor that sampled the shingles and the analytical test results. A copy of the documentation is kept with the supplier certification form. Shingles from a NESHAP-regulated facility that do not have the required documentation or that are documented to contain greater than 1% asbestos are disposed.

Shingles from single family homes or residential buildings containing four or fewer dwelling units are generally not regulated under NESHAP. Only the source of shingles is required for these shingles.

Our supplier certification form is shown in Attachment 2. These practices help ensure that only recyclable tear-off shingles are sent for asphalt production while reducing sorting at our facility.

III. Flow and Management of Tear-off Shingles

Loads are visually inspected when entering the facility to determine whether the shingles have been separated or if it is a mixed load. The roofer is asked to complete a supplier certification form. Mixed loads, shingles from a NESHAP-regulated facility that contain greater than 1 percent asbestos, and shingles from a NESHAP-regulated facility without the proper documentation are directed to the

[landfill or transfer station tipping floor] for disposal. Loads that were source-separated into dedicated containers are sent directly to the sorting area and unloaded. Loads that were separated into layers usually have the asphalt shingle on the bottom and other material on the top. These loads are first directed to the *[landfill or transfer station tipping floor]* to remove the non-shingle roofing waste and then to the sorting area for unloading the shingles. Figure 1 shows the location of the sorting area on the site plan and Figure 1 shows the unloading, sorting, and storage areas. Shingles are not unloaded into an area with standing water and sorted and unsorted materials are kept separate.

Source-separation by the roofer eliminates most of the unacceptable materials that cannot be used in tear-off shingle recycling. The unloaded tear-off shingles are examined for unacceptable materials and any unacceptable materials are removed. The remaining sorted shingles are accumulated *[in the designated area or in a roll off box or in a container]* until there is a sufficient amount to transport to a facility that will grind and use or sell the ground shingles for asphalt production. *[A copy of the supplier certification form accompanies each sorted load to the receiving facility.]* At least 75% of the tear-off shingles that are sorted leave the facility during the same year.

IV. Recording Keeping

Records are kept of shingle waste entering the facility, sorted shingles leaving the facility for recycling, and waste that is disposed or sent for disposal. These records are kept for use in the facility's monthly and annual reports. Supplier certification forms and any supporting documents are also kept.

V. *[Additional Operations/Requirements]*

[Please check with the facility that will receive the sorted shingles to determine if there are additional requirements. Those requirements and any other site specific operations may be included here. Asbestos sampling and testing is required prior to grinding shingles. The testing frequency and protocols are set by NCDENR-DAQ and NCDOT. The current frequency current testing requirement is to sample each 100 tons of shingles (September 2011).

TEAR-OFF ASPHALT SHINGLE RECYCLING

List of Acceptable and Unacceptable Materials

“YES”

Include these items:

- Shingles
- Felt attached to shingles

“NO”

Do NOT include these items:

- Wood
- Metal flashings, gutters, etc.
- Nails (best effort)
- Rolls of sheets of felt paper
- Plastic wrap, buckets
- Paper waste
- No garbage, trash, or other waste materials
- Built-up asphalt roofing
- Asbestos-containing materials
- Shingles containing mastics

A-1 Sandrock, Inc.
CDLF and Recycling Facility

SHINGLE SUPPLIER CERTIFICATION FORM

Supplier of Whole Tear-off Asphalt Shingles

Supplier Name: _____
Address: _____
Contact Name: _____
Phone: _____

We the undersigned certify that (check appropriate boxes):

The tear-off shingles are from a NESHAP regulated facility and documentation stating that the shingles do not contain >1% asbestos is attached. (Documentation is a letter from the North Carolina accredited asbestos inspector or roofing supervisor that collected the samples with the analytical results attached.)

The tear-off shingles are from a single family home or residential building having four or fewer dwelling units that is not regulated under NESHAP.

Tear-off shingles were removed from the following addresses:

(Please attach additional sheets as needed to record each building address.)

Shingle Supplier (signature)

Date

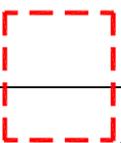
CONCRETE PROCESSING AND STOCKPILE AREA

CITY OF GREENSBORO
SANITARY SEWER EASEMENT

UNNAMED TRIBUTARY "NORTH"

PHASE 1 CDLF

**ASPHALT SHINGLE RECEIVING AND STORAGE
(IN ROLL OFF BOX) APPROX. LOCATION MAY BE
RELOCATED AT OPERATOR'S DISCRETION**



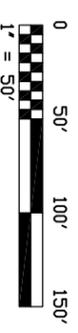
MECHANIZED
PICKING LINE

UNPROCESSED
MATERIAL
STOCKPILE

C&D
TIPPING
AREA

RECYCLED
MATERIAL
CONTAINER
STAGING AREA

RECORD DRAWING FOR
REGULATORY REVIEW



- NOTES:**
1. THE REVISED PHASE 1 LAYOUT AS SHOWN HEREON IS AN AMENDMENT TO THE PHASING LAYOUT AS SHOWN IN THE PLANNING PERMIT APPLICATION, PERMIT #41-22, ISSUED BY NODENR DIVISION OF LAND RESOURCES, LAND QUALITY SECTION, NOVEMBER 25, 2005, AND AS SHOWN IN THE C&D PERMIT APPLICATION, PERMIT #41-17 (PERMIT TO CONSTRUCT), ISSUED BY NODENR DIVISION OF WASTE MANAGEMENT, SOLID WASTE SECTION, FEBRUARY 24, 2004.
 2. FOR SEDIMENTATION & EROSION CONTROL DETAILS REFER TO THE C&D PERMIT APPLICATION DRAWINGS, PERMIT #41-17 (PERMIT TO CONSTRUCT), ISSUED BY NODENR DIVISION OF WASTE MANAGEMENT, SOLID WASTE SECTION, FEBRUARY 24, 2004.

- REFERENCE NOTES:**
1. GUILFORD COUNTY TAX MAP FOR SUMNER TOWNSHIP, AC-3-185-7555-7, D.O.R. #459, PG. 780.
 2. TOPOGRAPHY WITHIN PROPERTY BOUNDARY FROM AERIAL PHOTOGRAPHY DATED 3-27-01, BY SPATIAL DATA TOPOGRAPHY OUTSIDE PROPERTY BOUNDARY FROM AERIAL PHOTOGRAPHY DATED 1995, BY GUILFORD COUNTY GIS DEPARTMENT.
 3. BOUNDARY INFORMATION FROM BOUNDARY MAP PREPARED BY L DENNIS LEE, P.A., DATED NOV. 14, 2002.
 4. BASE GRADE TOPOGRAPHY WITHIN CELL C WAS SURVEYED BY ALBED ASSOCIATES, INC. CLINT GORING, RLS, DATED 8-21-2012.

BASE GRADES SHOWN IN CELL C VARY FROM THOSE PERMITTED IN FEBRUARY 2004 BY NODENR DIVISION OF WASTE MANAGEMENT (PERMIT #41-17).

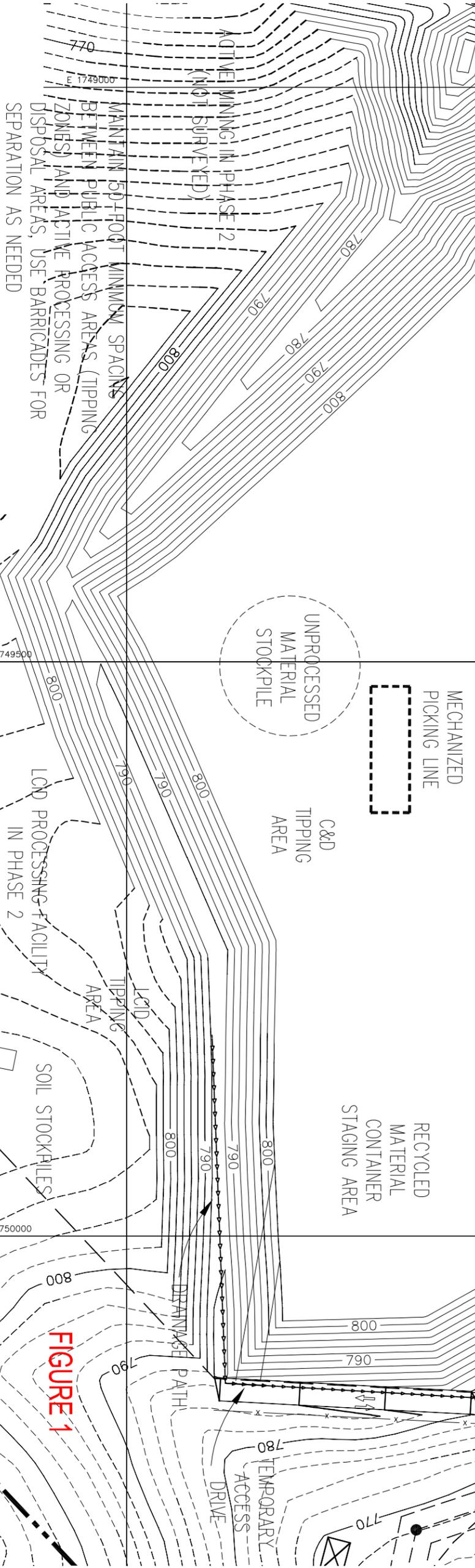


FIGURE 1

Appendix D Fire Notification Form

FIRE OCCURRENCE NOTIFICATION

NC DENR Division of Waste Management Solid Waste Section



The Solid Waste Rules [15A NCAC 13B, Section 1626(5)(d) and Section .0505(10)(c)] require verbal notification within 24 hours and submission of a written notification within 15 days of the occurrence. The completion of this form shall satisfy that requirement. *(If additional space is needed, use back of this form)*

NAME OF FACILITY: _____ PERMIT # _____

DATE AND TIME OF FIRE ____/____/____ @ ____: ____ AM / PM (circle one)

HOW WAS THE FIRE REPORTED AND BY WHOM _____

LIST ACTIONS TAKEN _____

WHAT WAS THE CAUSE OF THE FIRE _____

DESCRIBE AREA, TYPE, AND AMOUNT OF WASTE INVOLVED _____

WHAT COULD HAVE BEEN DONE TO PREVENT THIS FIRE _____

CURRENT STATUS OF FIRE _____

DESCRIBE PLAN OF ACTIONS TO PREVENT FUTURE INCIDENTS: _____

NAME	TITLE	DATE
------	-------	------

THIS SECTION TO BE COMPLETED BY SOLID WASTE SECTION REGIONAL STAFF

DATE RECEIVED _____

List any factors not listed that might have contributed to the fire or that might prevent occurrence of future fires:

FOLLOW-UP REQUIRED:

NO PHONE CALL SUBMITTAL MEETING RETURN VISIT BY: _____ (DATE)

ACTIONS TAKEN OR REQUIRED:

Attachment 2
Permit to Operate Drawing Set

A-1 SANDROCK, INC., CDLF

PHASE 2 PERMIT TO CONSTRUCT AND PHASE 2A PERMIT TO OPERATE

PERMIT 41-17 GUILFORD COUNTY, NC UPDATED AUGUST 2015

GENERAL INFORMATION

MR. R.E. 'GENE' PETTY, SR. – OWNER/OPERATOR
 MR. RONNIE E. PETTY, III – OWNER/OPERATOR
 A-1 SANDROCK, INC.
 2091 BISHOP ROAD
 GREENSBORO, NC 27406 TEL. 336-855-8195

SITE LOCATION DATA

LATITUDE 35.98745 N
 LONGITUDE -79.84639 E

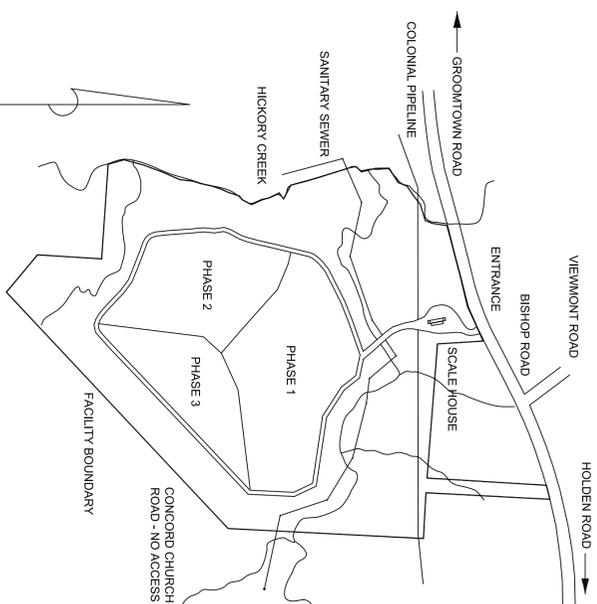
PARCEL NUMBER 12-03-0185-0-0739-W -007

DEED DATE 1/17/1996 GUILFORD COUNTY, NC
 DEED BOOK 4378 DEED PAGE 0198
 PLAT BOOK 149 PLAT PAGE 93

PERMIT INFORMATION

NC SOLID WASTE PERMIT 41-17 (LAST ISSUED DEC 6, 2013)
 NC MINING PERMIT 41-22 (ACTIVE, LAST RENEWED DEC 2012)
 NC STORMWATER PERMIT NCG020458 (RENEWED DEC 2014)

BASE GRADE CONTOURS FOR PHASE 2 ARE SHOWN IN SURVEYS
 PERFORMED IN 2015 BY ALLIED ENGINEERING AND SURVEYING



FACILITY MAP

SHEET	DRAWING	TITLE
1	C	COVER SHEET WITH VICINITY MAP
2	E1A	PHASE 2A BASE GRADES & FILL SEQUENCE
3	E2A	TEMPORARY STORMWATER SEGREGATION
4	E3A	PHASE 2A INTERIM OPERATIONAL STAGE
5	E4	INTERIM TOP OF WASTE GRADES
6	SC1	SEDIMENT & EROSION CONTROL DETAILS

**ISSUED FOR REVIEW ONLY
(NOT FOR CONSTRUCTION)**



NO.	REVISION	DATE

SHEET TITLE	COVER SHEET
PROJECT TITLE	PERMIT RENEWAL APPLICATION PHASE 2A PERMIT TO OPERATE

CLIENT	A-1 SANDROCK, INC. PERMIT NO. 41-17-CDLF-2008 2091 BISHOP ROAD GREENSBORO, NC 27406
--------	--

SCS ENGINEERS, PC		
2520 WHITEHALL PARK DRIVE, SUITE 450 CHARLOTTE, NORTH CAROLINA 28273 PHONE: (704) 504-3107 FAX: (704) 504-3174		
PROJ. NO. 02214704.00 T3	DWN. BY: GDG	Q/A R/W BY:
DSN. BY: GDG	CHK. BY: SCL	APP. BY:
DATE: 11/28/2014	SCALE: AS SHOWN	

DRAWING NO. C
Sheet 1 of 6

INTERIM SOIL COVER
ON INACTIVE SLOPES

ISSUED FOR REVIEW ONLY
(NOT FOR CONSTRUCTION)

TEMPORARY DIVERSION BERM TO
SEGREGATE STORMWATER FROM
C&D DRAINAGE, SEE DETAIL

INITIAL DISPOSAL AREA SHOWING
AS-BUILT BASE GRADES

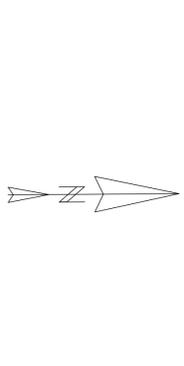
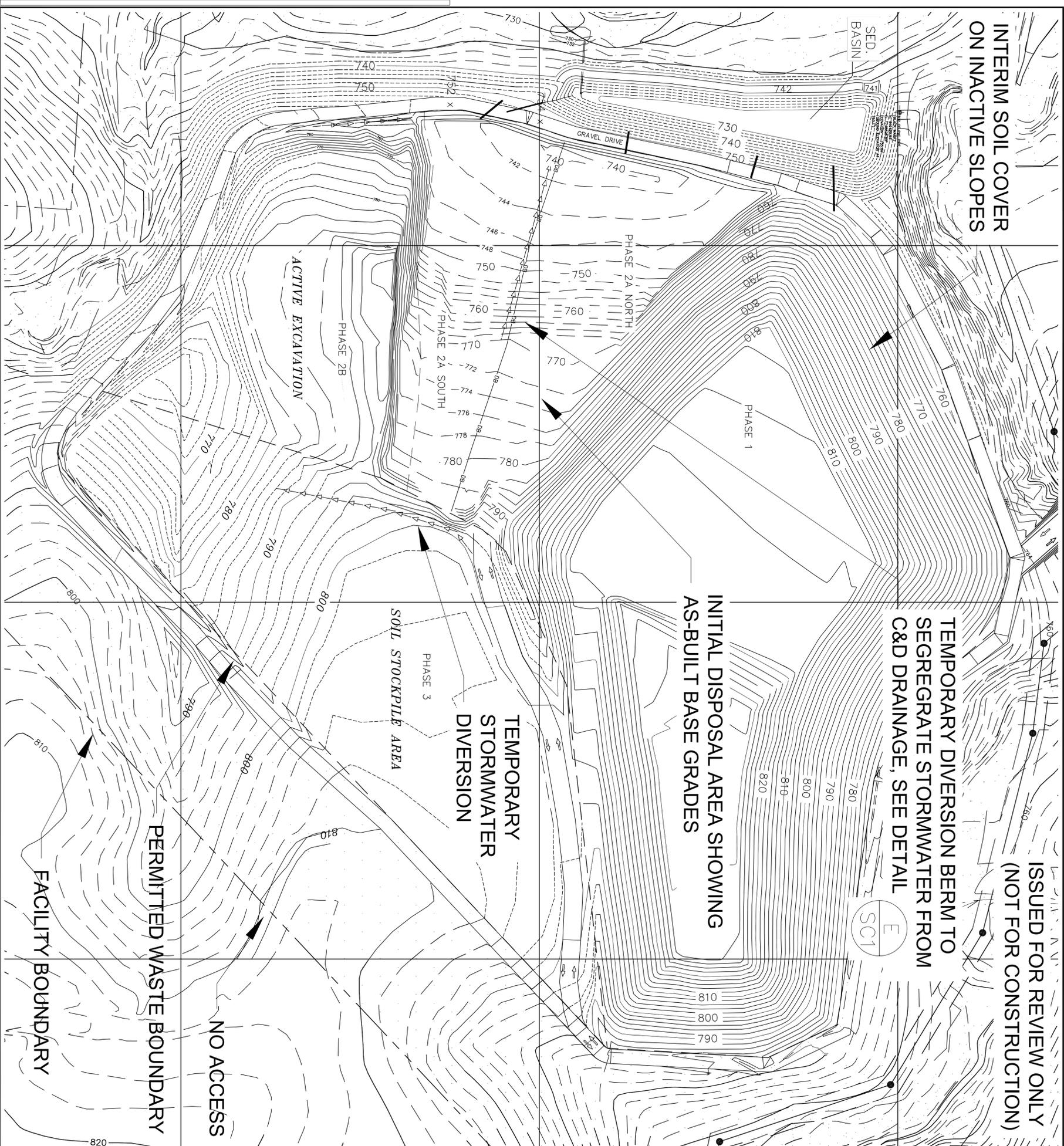
TEMPORARY
STORMWATER
DIVERSION

SOIL STOCKPILE AREA

NO ACCESS

PERMITTED WASTE BOUNDARY

FACILITY BOUNDARY



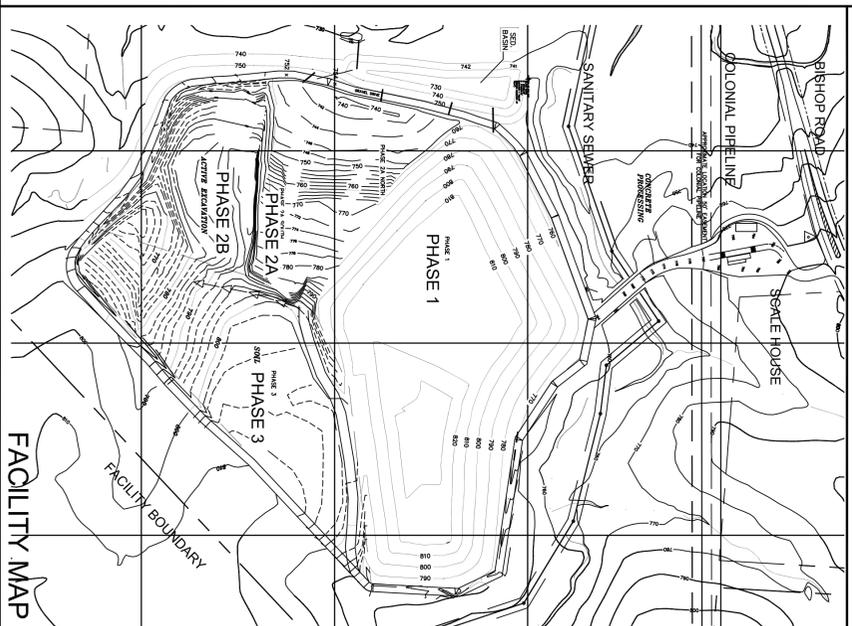
Scale 1" = 200'

Bar is 1" on original drawing

LEGEND

PROPOSED	- 2 FOOT ELEVATION CONTOUR
	- 10 FOOT ELEVATION CONTOUR
	CELL AND WASTE LIMITS
	TEMPORARY DIVERSION BERM
	TEMPORARY DITCH
NOTE:	CONTOURS SHOWN FOR CELLS 1A, 1B AND 1C REPRESENT EXISTING TOP OF WASTE
EXISTING	- 2 FOOT ELEVATION CONTOUR
	- 10 FOOT ELEVATION CONTOUR
	FACILITY BOUNDARY
	SANITARY SEWER
	WATERCOURSE

BASE GRADE CONTOURS FOR PHASE 2
ARE AS-BUILT, SURVEYED IN APRIL 2015



NO.	REVISION	DATE

SHEET TITLE
PHASE 2A BASE GRADES & FILL SEQUENCE

PROJECT TITLE
PERMIT RENEWAL APPLICATION
PHASE 2 PERMIT TO CONSTRUCT

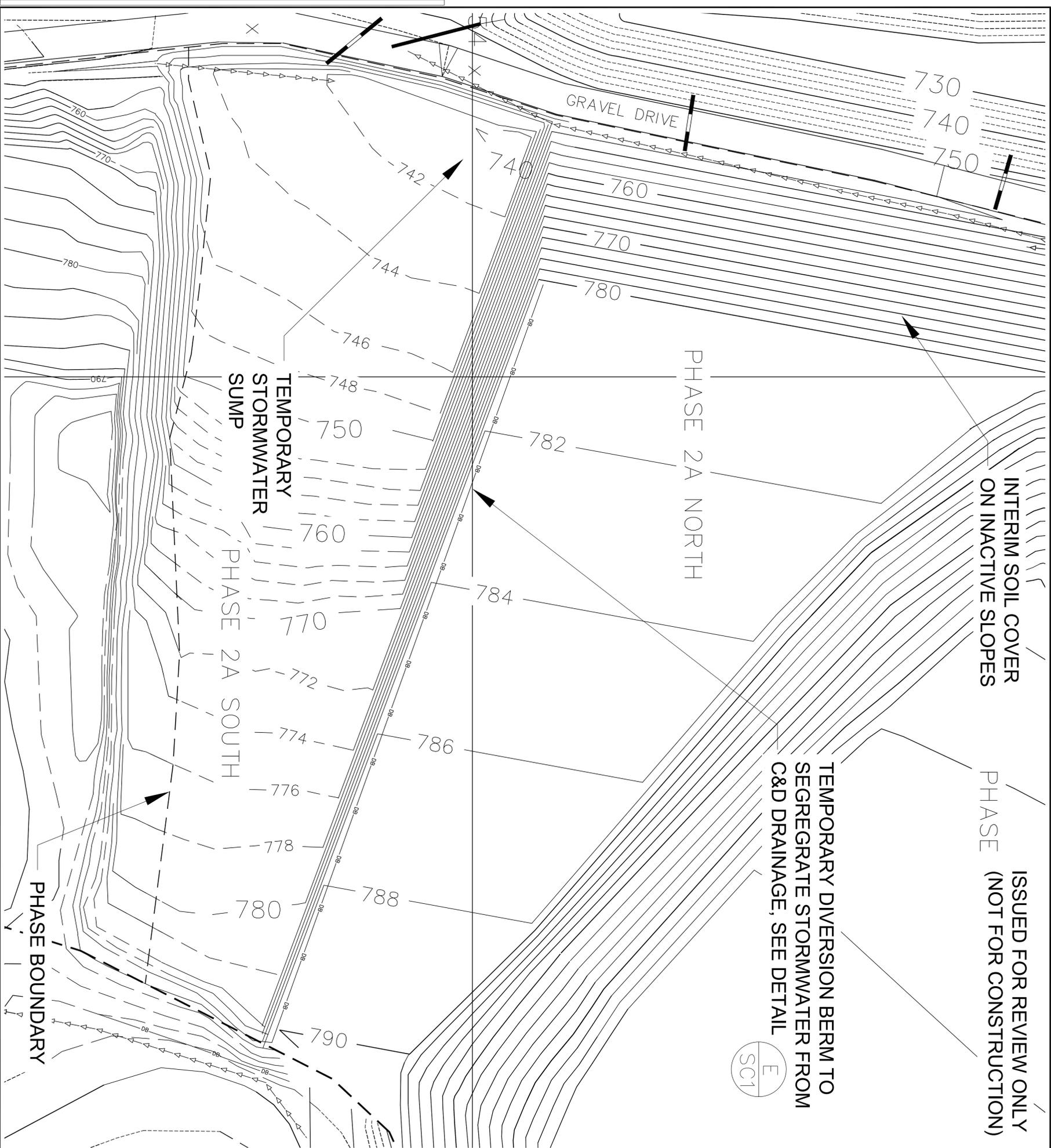
CLIENT
A-1 SANDROCK, INC.
PERMIT NO. 41-17-CDLF-2008

2091 BISHOP ROAD
GREENSBORO, NC 27406

SCS ENGINEERS, PC
2520 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273
PHONE: (704) 504-3107 FAX: (704) 504-3174

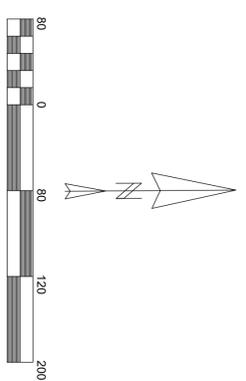
PROJ. NO. 02214704.00 T3	DWN. BY: GDG	Q/A R/W BY:
DSN. BY: GDG	CHK. BY: SCL	APP. BY:

DATE: 11/26/2014
SCALE: AS SHOWN
DRAWING NO. E1A
Sheet 2 of 6



ISSUED FOR REVIEW ONLY
(NOT FOR CONSTRUCTION)

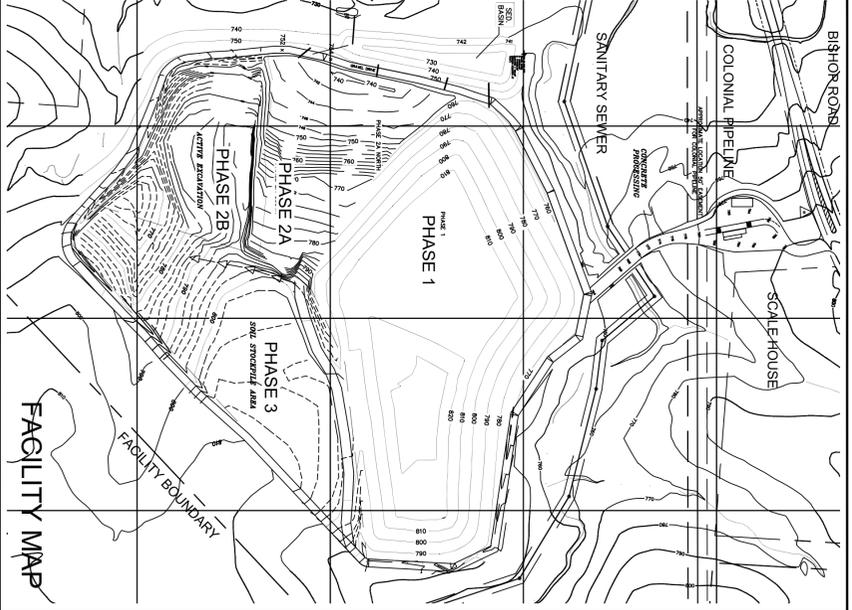
TEMPORARY DIVERSION BERM TO
SEGREGATE STORMWATER FROM
C&D DRAINAGE, SEE DETAIL



LEGEND

	PROPOSED -2 FOOT ELEVATION CONTOUR
	-10 FOOT ELEVATION CONTOUR
	CELL AND WASTE LIMITS
	DB TEMPORARY DIVERSION BERM
	TEMPORARY DITCH
NOTE: CONTOURS SHOWN FOR CELLS 1A, 1B AND 1C REPRESENT EXISTING TOP OF WASTE	
EXISTING	
	-2 FOOT ELEVATION CONTOUR
	-10 FOOT ELEVATION CONTOUR
	FACILITY BOUNDARY
	SANITARY SEWER
	WATERCOURSE

BASE GRADE CONTOURS FOR PHASE 2
ARE AS-BUILT, SURVEYED IN APRIL 2015



FACILITY MAP



NO.	REVISION	DATE
1	REVISED PER REGULATORY REVIEW	7-14-2014

SHEET TITLE
TEMPORARY STORMWATER SEGREGATION

PROJECT TITLE
**PERMIT RENEWAL APPLICATION
PHASE 2A PERMIT TO OPERATE**

CLIENT
A-1 SANDROCK, INC.
PERMIT NO. 41-17-CDLF-2008
2091 BISHOP ROAD
GREENSBORO, NC 27406

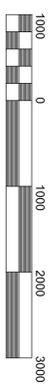
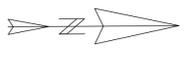
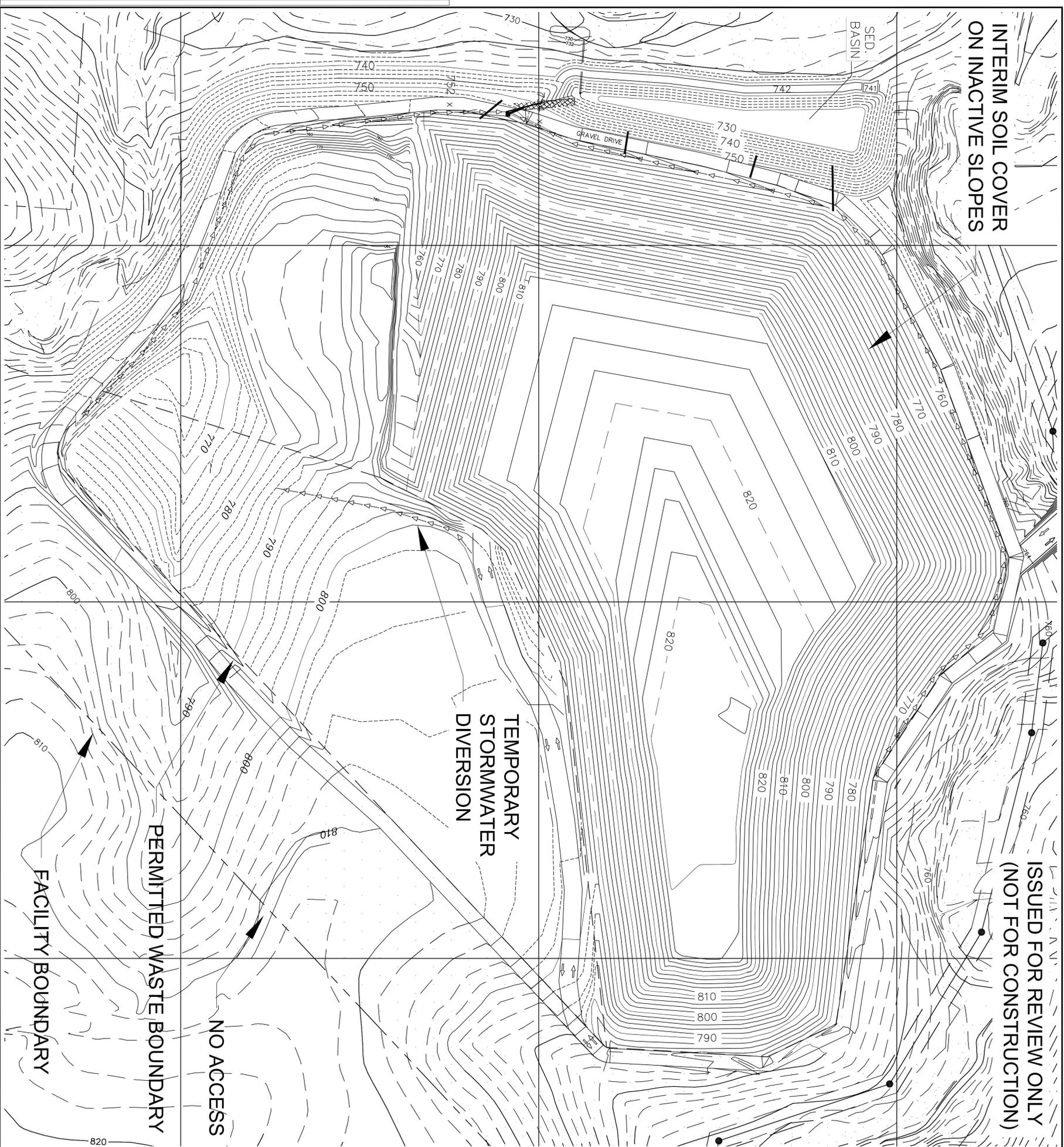
SCS ENGINEERS, PC
2520 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273
PHONE: (704) 504-3107 FAX: (704) 504-3174

PROJ. NO. 02214704.00 T3	DWN. BY: GDG	Q/A R/W BY:
DSN. BY: GDG	CHK. BY: SCL	APP. BY:

DATE: 4/14/2015
SCALE: AS SHOWN
DRAWING NO. **E2A**
Sheet 3 of 6

INTERIM SOIL COVER
ON INACTIVE SLOPES

ISSUED FOR REVIEW ONLY
(NOT FOR CONSTRUCTION)



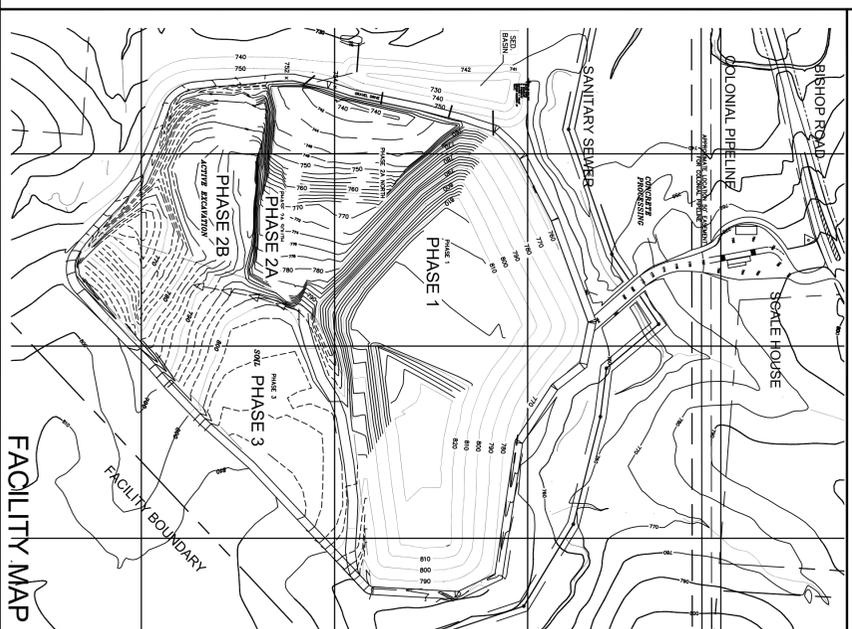
Scale 1" = 200'

Bar is 1" on original drawing

LEGEND

PROPOSED	- 2 FOOT ELEVATION CONTOUR
	- 10 FOOT ELEVATION CONTOUR
	CELL AND WASTE LIMITS
	TEMPORARY DIVERSION DERM
	TEMPORARY DITCH
NOTE:	COUNTOURS SHOWN FOR CELLS 1A, 1B AND 1C REPRESENT EXISTING TOP OF WASTE
EXISTING	- 2 FOOT ELEVATION CONTOUR
	- 10 FOOT ELEVATION CONTOUR
	FACILITY BOUNDARY
	SANITARY SEWER
	WATERCOURSE

BASE GRADE CONTOURS FOR PHASE 2
ARE AS-BUILT, SURVEYED IN APRIL 2015



NO.	REVISION	DATE

SHEET TITLE
INTERIM TOP OF WASTE GRADES

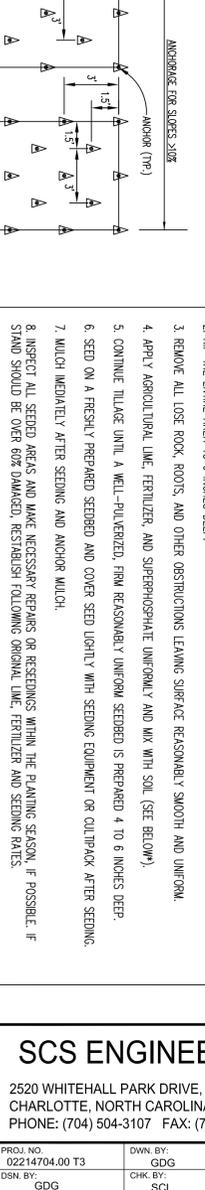
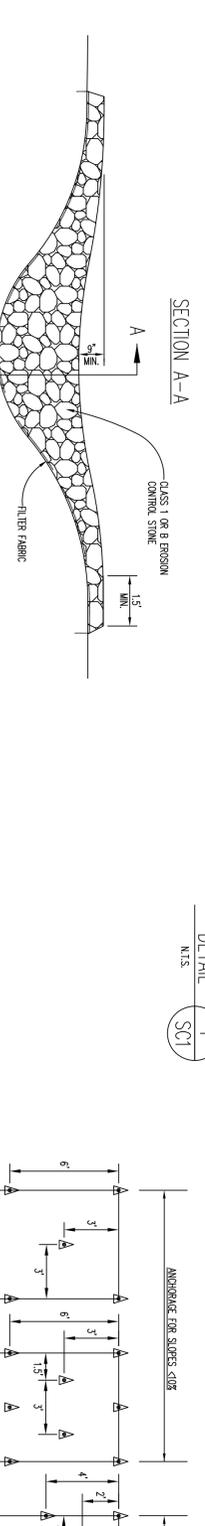
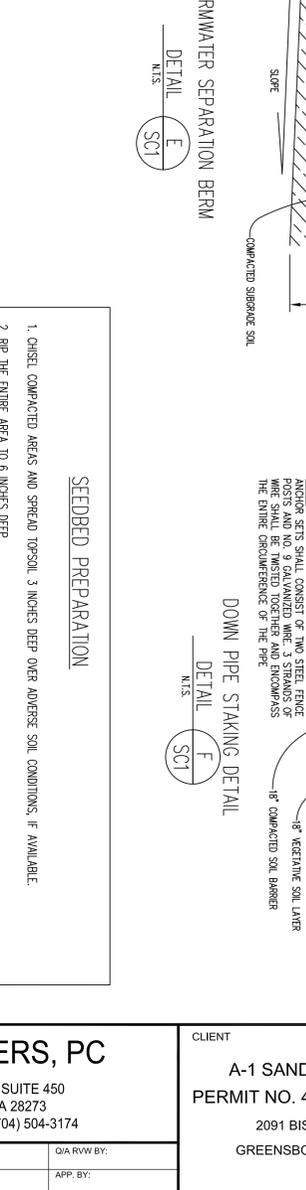
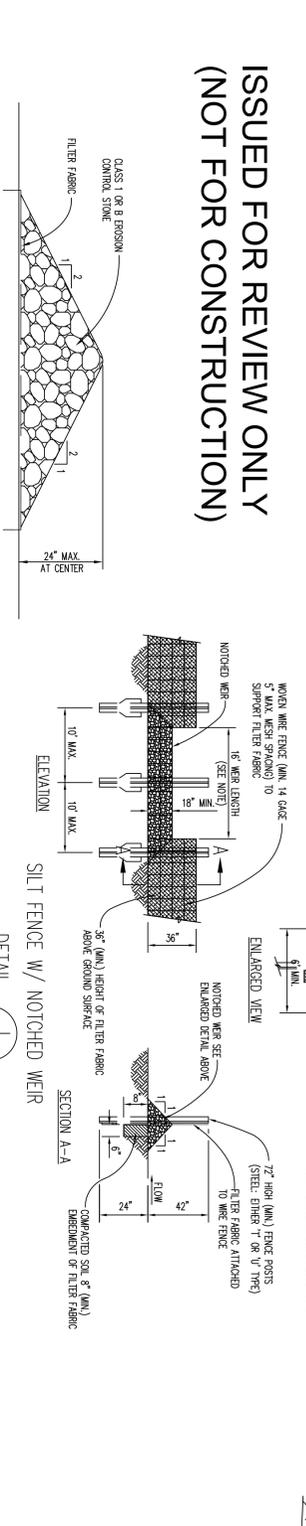
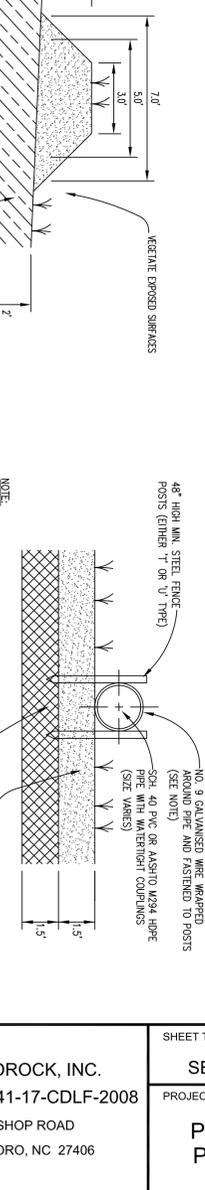
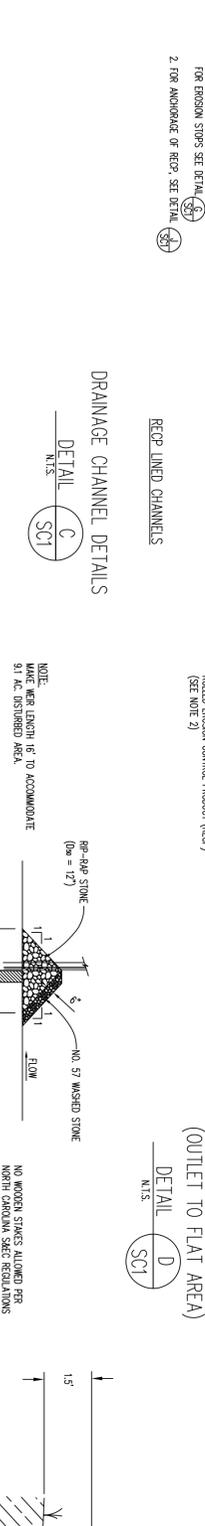
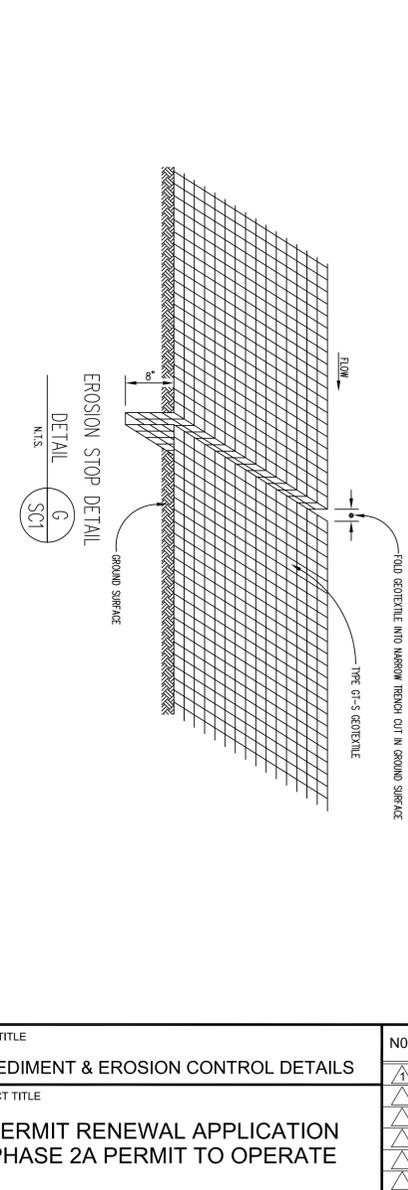
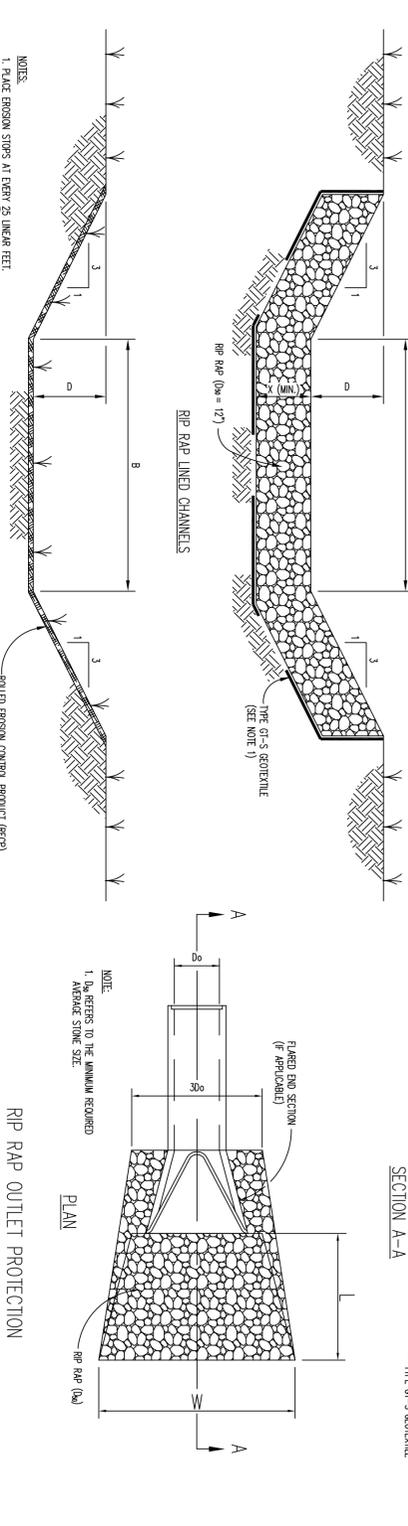
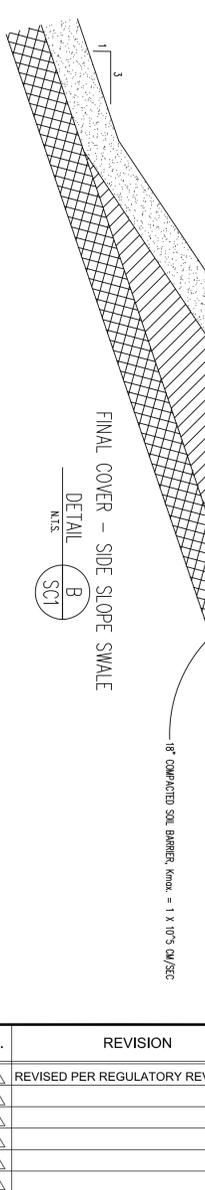
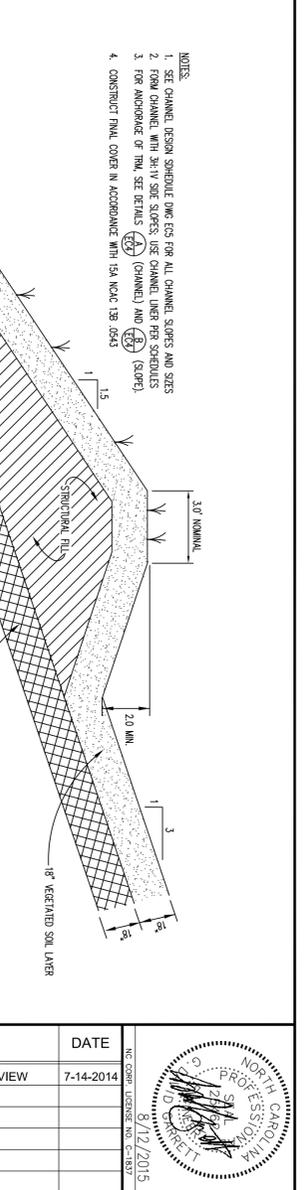
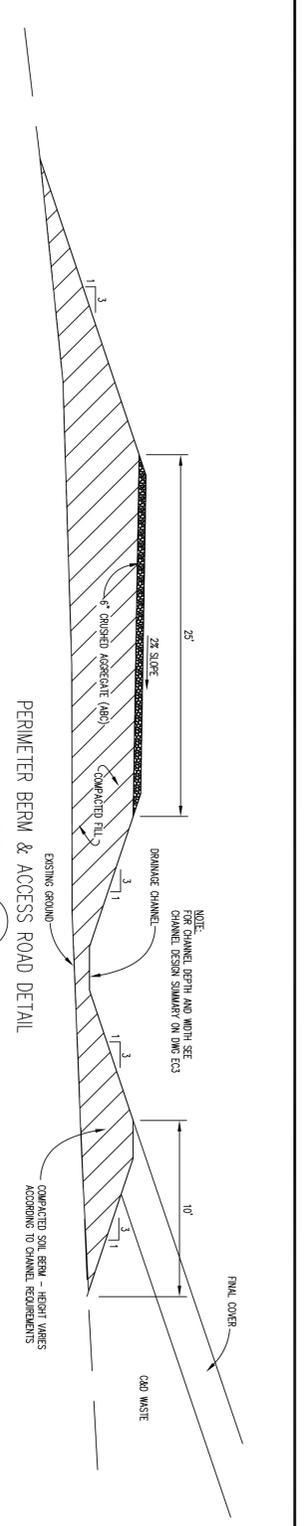
PROJECT TITLE
PERMIT RENEWAL APPLICATION
PHASE 2 PERMIT TO CONSTRUCT

CLIENT
A-1 SANDROCK, INC.
PERMIT NO. 41-17-CDLF-2008
2091 BISHOP ROAD
GREENSBORO, NC 27406

SCS ENGINEERS, PC
2520 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273
PHONE: (704) 504-3107 FAX: (704) 504-3174

PROJ. NO. 02214704.00 T3	DWN. BY: GDG	Q/A RVW BY:
DSN. BY: GDG	CHK. BY: SCL	APP. BY:

DATE: 11/26/2014
SCALE: AS SHOWN
DRAWING NO. E4A
Sheet 5 of 6



**ISSUED FOR REVIEW ONLY
(NOT FOR CONSTRUCTION)**

CHECK DAM
DETAIL
N.T.S. H
SC1

REFER TO OCT 2009 CONSTRUCTION
PLANS FOR CHANNEL DIMENSIONS
AND VEGETATION SCHEDULES

- NOTES:
- SEE CHANNEL DESIGN SCHEDULE TYPE C53 FOR ALL CHANNEL SIZES AND SIZES
 - FOR CHANNELS WITH 2:1 OR STEEPER SLOPES USE CHANNEL TYPE C53 (SLOPED)
 - FOR ANCHORAGE OF FINAL SET DETAILS (CHANNEL) AND (SLOPE)
 - CONSTRUCT FINAL COVER IN ACCORDANCE WITH 15A N.C.D. 13B.0643

- NOTES:
- ANCHOR SETS SHALL CONSIST OF TWO STEEL FENCE POSTS (EITHER "T" OR "V" TYPE)
 - NO. 9 GALVANIZED WIRE WRAPPED AROUND PIPE AND FASTENED TO POSTS
 - SOIL: 40 P.C. OR ASH TO WASH HOPE (SEE NOTES)
 - IF VEGETATIVE SOIL LAYER (SEE NOTES)
 - IF COMPACTED SOIL BARRIER

SEEDBED PREPARATION

- CHISEL COMPACTED AREAS AND SPREAD TOPSOIL. 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
 - RIP THE ENTIRE AREA TO 6 INCHES DEEP.
 - REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
 - APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE BELOW).
 - CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM REASONABLY UNIFORM SEEDBED IS PREPARED 4 TO 6 INCHES DEEP.
 - SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
 - MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
 - INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDING WITHIN THE PLANTING SEASON. IF POSSIBLE, IF STAND SHOULD BE OVER 60% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
 - CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.
- * APPLY: AGRICULTURAL LIMESTONE - 2 TONS/ACRE (3 TONS/ACRE IN CLAY SOILS)
 FERTILIZER - 1000 LBS./ACRE -10-0-10
 SUPERPHOSPHATE - 500 LBS./ACRE -20% ANALYSIS
 MULCH - 2 TONS/ACRE - SMALL GRAIN STRAW
 ANCHOR - ASPHALT EMULSION @ 300 GALS./ACRE

SCS ENGINEERS, PC
 2520 WHITEHALL PARK DRIVE, SUITE 450
 CHARLOTTE, NORTH CAROLINA 28273
 PHONE: (704) 504-3107 FAX: (704) 504-3174

DATE: 4/14/2015
 SCALE: AS SHOWN
 DRAWING NO. SC1

CLIENT
A-1 SANDROCK, INC.
 PERMIT NO. 41-17-CDLF-2008

2091 BISHOP ROAD
 GREENSBORO, NC 27406

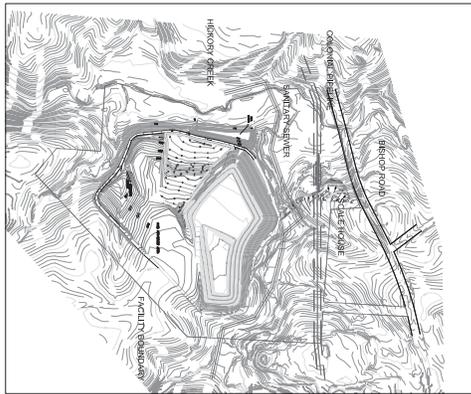
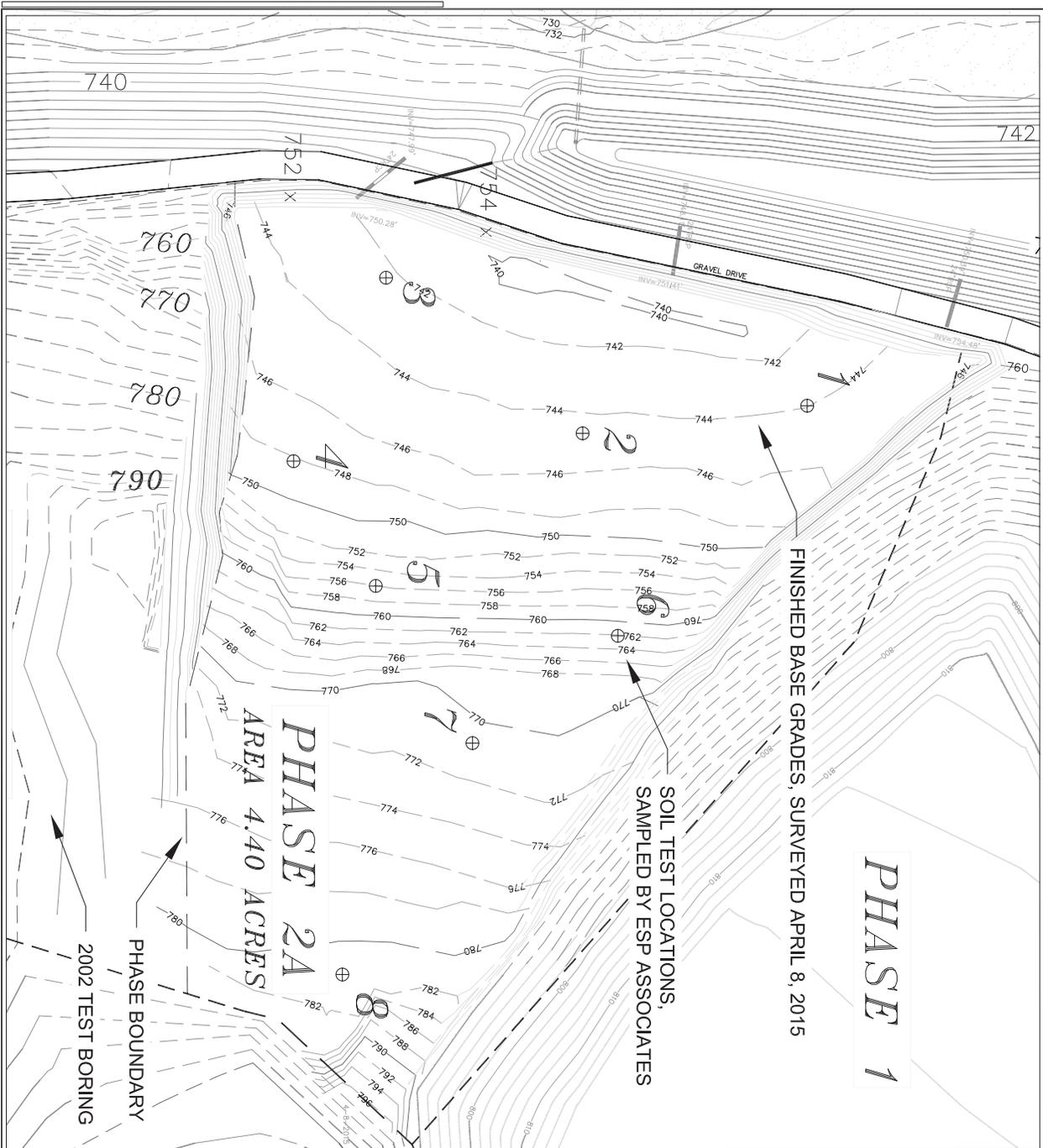
SHEET TITLE
SEDIMENT & EROSION CONTROL DETAILS

PROJECT TITLE
**PERMIT RENEWAL APPLICATION
 PHASE 2A PERMIT TO OPERATE**

NO.	REVISION	DATE
1	REVISED PER REGULATORY REVIEW	7-14-2014

NC STATE ENGINEER
 8/12/2015
 PROJECT NO. 15-0000000000
 SHEET NO. 6 OF 6

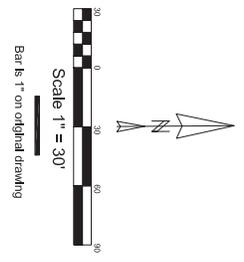
Attachment 3
Confirmation Soil Laboratory Tests



FACILITY MAP

BASE GRADE CONTOURS FOR PHASE 2 ARE AS SURVEYED IN APRIL 2015

LEGEND	
	280 2-FOOT ELEVATION CONTOUR
	10-FOOT ELEVATION CONTOUR
	CELL AND WASTE LIMITS
	EXISTING
	280 2-FOOT ELEVATION CONTOUR
	10-FOOT ELEVATION CONTOUR
	FACILITY BOUNDARY
	SANITARY SEWER
	WATERCOURSE BUFFER ZONE
	PROPERTY BUFFER ZONE
	100 YR FLOODPLAIN
	WATERCOURSE



SHEET TITLE FINAL GRADES & CQA TEST LOCATIONS PROJECT TITLE PERMIT RENEWAL APPLICATION PHASE 2 PERMIT TO OPERATE	NO. REVISION DATE	CLIENT A-1 SANDROCK, INC. PERMIT NO. 41-17-CDLF-2008 2091 BISHOP ROAD GREENSBORO, NC 27406	DWTB 7/14/2015 SCALE AS SHOWN DRAWING NO. CQ1	SCS ENGINEERS, PC 2520 WHITEHALL PARK DRIVE, SUITE 450 CHARLOTTE, NORTH CAROLINA 28273 PHONE: (704) 504-3107 FAX: (704) 504-3174 DWG. NO. 02214751A.00 T3 CIV. BY GDS SCL. GDS QIA BY W.B.T. APP. BY	DATE 7/14/2015

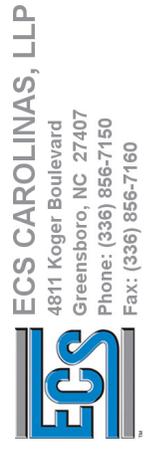
Laboratory Testing Summary

Sample Source	Sample Number	Depth (feet)	MC1 (%)	Soil Type ²	Atterberg Limits ³			Percent Passing No. 200 Sieve ⁴	Moisture - Density (Corr.) ⁵		CBR Value ⁶	Other
					LL	PL	PI		Maximum Density (pcf)	Optimum Moisture (%)		
Sample 1												
Sample 2	D4S-1	0.00 - 0.00		CL	31	20	11	60.0				
Sample 3	D4S-2	0.00 - 0.00		CL	34	21	13	60.0				
Sample 4	D4S-3	0.00 - 0.00		SM	30	27	3	49.2				
Sample 5	D4S-4	0.00 - 0.00		SM	NP	NP	NP	15.9				
Sample 6	D4S-5	0.00 - 0.00		CL	28	20	8	53.4				
Sample 7	D4S-6	0.00 - 0.00		SM	NP	NP	NP	43.7				
Sample 8	D4S-7	0.00 - 0.00		SM	27	24	3	37.0				
	D4S-8	0.00 - 0.00		SM	NP	NP	NP	18.6				

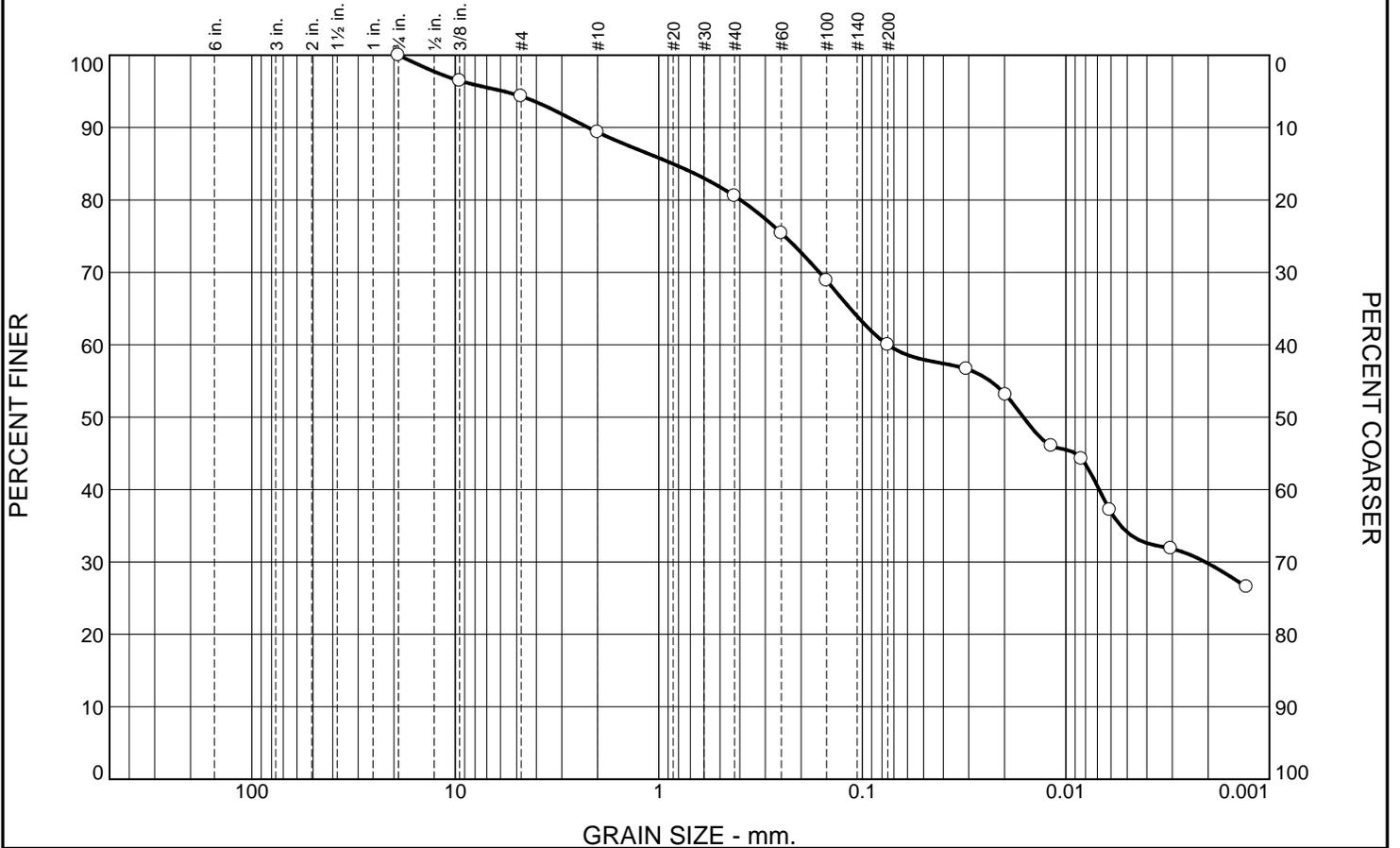
Notes: 1. ASTM D 2216, 2. ASTM D 2487, 3. ASTM D 4318, 4. ASTM D 1140, 5. See test reports for test method, 6. See test reports for test method

Definitions: MC: Moisture Content, Soil Type: USCS (Unified Soil Classification System), LL: Liquid Limit, PL: Plastic Limit, PI: Plasticity Index, CBR: California Bearing Ratio, OC: Organic Content (ASTM D 2974)

Project No. 25674
Project Name: A1 Sandrock Soil Test for Phase 2A
PM: Christopher K. Bolen
PE: David M. Cutter
Printed On: Tuesday, June 23, 2015



Particle Size Distribution Report



% +3"	% Gravel	% Sand		% Fines	
		Coarse	Fine	Silt	Clay
0.0	10.6	8.8	20.6	30.2	29.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4	100.0		
3/8	96.5		
#4	94.3		
#10	89.4		
#40	80.6		
#60	75.4		
#100	68.9		
#200	60.0		
0.0308 mm.	56.7		
0.0198 mm.	53.1		
0.0118 mm.	46.0		
0.0084 mm.	44.3		
0.0061 mm.	37.2		
0.0030 mm.	31.9		
0.0013 mm.	26.6		

Soil Description

Red Brown Fine to Medium Sandy CLAY

Atterberg Limits

PL= 20 LL= 31 PI= 11

Coefficients

D₉₀= 2.2241 D₈₅= 0.8538 D₆₀= 0.0750
D₅₀= 0.0162 D₃₀= 0.0021 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= CL AASHTO= A-6(4)

Remarks

* (no specification provided)

Source of Sample: Sample 1
Sample Number: D4S-1

Depth: 0.00-1.00

Date:



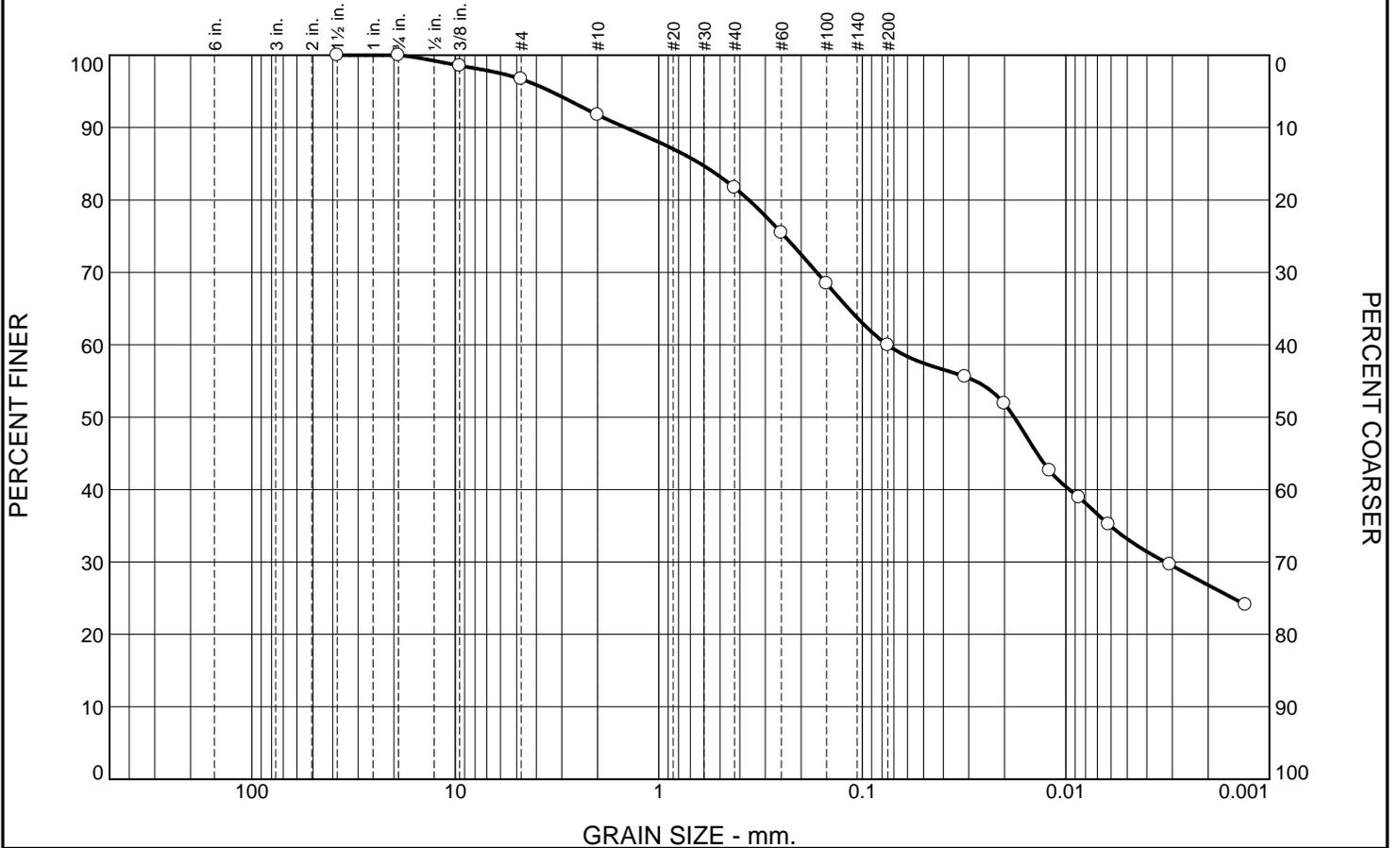
ECS CAROLINAS, LLP
4811 Koger Boulevard
Greensboro, NC 27407
Phone: (336) 856-7150
Fax: (336) 856-7160

Client: A1 Sandrock
Project: A1 Sandrock Soil Test for Phase 2A

Project No: 25674

Figure

Particle Size Distribution Report



GRAIN SIZE - mm.

% +3"	% Gravel	% Sand		% Fines	
		Coarse	Fine	Silt	Clay
0.0	8.2	10.1	21.7	33.2	26.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1 1/2	100.0		
3/4	100.0		
3/8	98.6		
#4	96.7		
#10	91.8		
#40	81.7		
#60	75.5		
#100	68.5		
#200	60.0		
0.0313 mm.	55.6		
0.0201 mm.	51.9		
0.0120 mm.	42.6		
0.0086 mm.	38.9		
0.0062 mm.	35.2		
0.0031 mm.	29.6		
0.0013 mm.	24.1		

* (no specification provided)

Soil Description

Red Brown Fine to Medium Sandy CLAY

Atterberg Limits

PL= 21 LL= 34 PI= 13

Coefficients

D₉₀= 1.4576 D₈₅= 0.6237 D₆₀= 0.0754
D₅₀= 0.0179 D₃₀= 0.0033 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= CL AASHTO= A-6(6)

Remarks

Source of Sample: Sample 2
Sample Number: D4S-2

Depth: 0.00-1.00

Date:



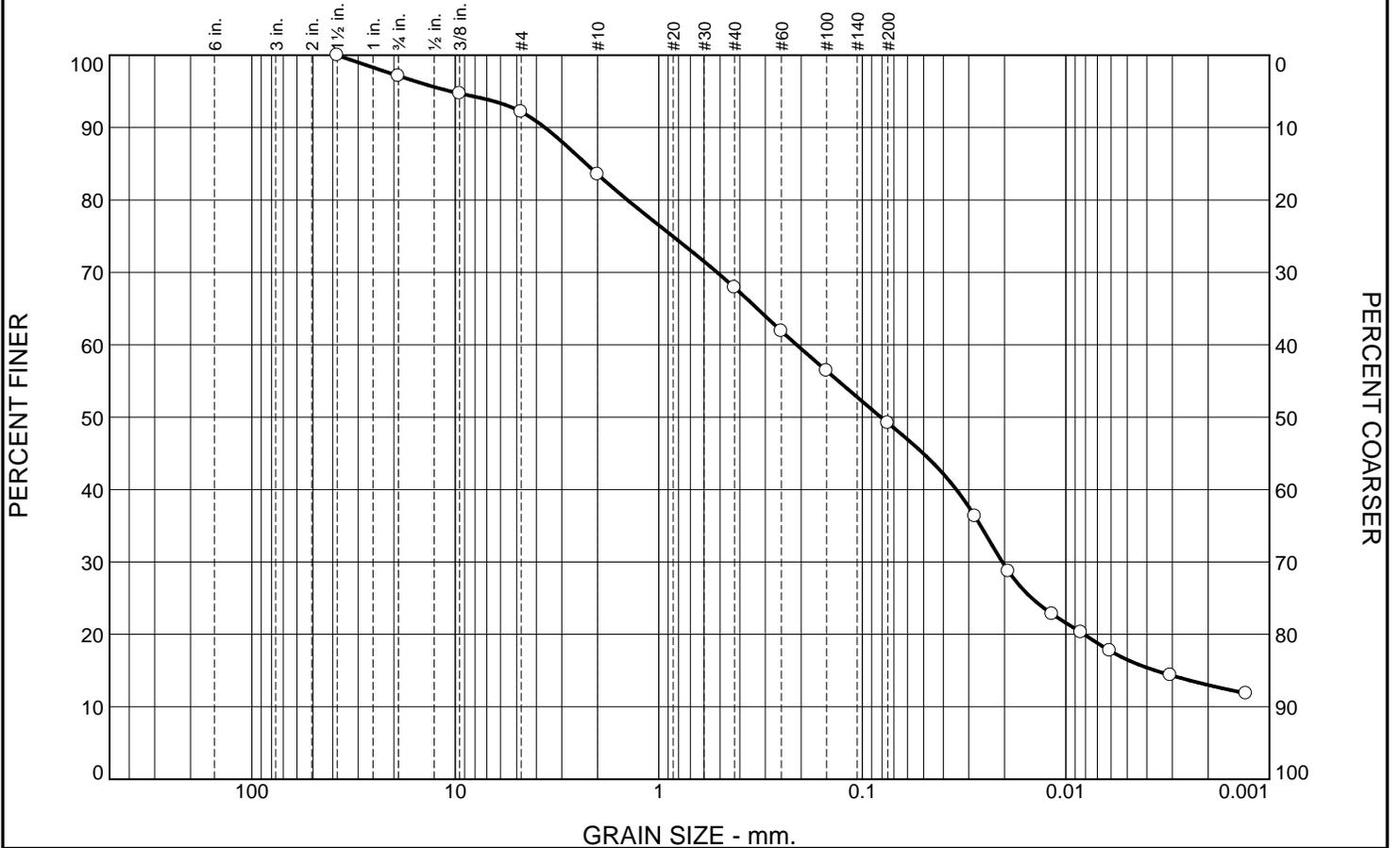
ECS CAROLINAS, LLP
4811 Koger Boulevard
Greensboro, NC 27407
Phone: (336) 856-7150
Fax: (336) 856-7160

Client: A1 Sandrock
Project: A1 Sandrock Soil Test for Phase 2A

Project No: 25674

Figure

Particle Size Distribution Report



GRAIN SIZE - mm.

% +3"	% Gravel	% Sand		% Fines	
		Coarse	Fine	Silt	Clay
0.0	16.5	15.6	18.7	36.2	13.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1 1/2	100.0		
3/4	97.1		
3/8	94.7		
#4	92.2		
#10	83.5		
#40	67.9		
#60	61.9		
#100	56.4		
#200	49.2		
0.0280 mm.	36.3		
0.0192 mm.	28.7		
0.0117 mm.	22.8		
0.0084 mm.	20.3		
0.0061 mm.	17.7		
0.0031 mm.	14.4		
0.0013 mm.	11.8		

* (no specification provided)

Soil Description

Tan Brown Silty Fine to Medium SAND

Atterberg Limits

PL= 27 LL= 30 PI= 3

Coefficients

D₉₀= 3.6302 D₈₅= 2.2783 D₆₀= 0.2104
D₅₀= 0.0811 D₃₀= 0.0205 D₁₅= 0.0036
D₁₀= C_u= C_c=

Classification

USCS= SM AASHTO= A-4(0)

Remarks

Source of Sample: Sample 3
Sample Number: D4S-3

Depth: 0.00-1.00

Date:



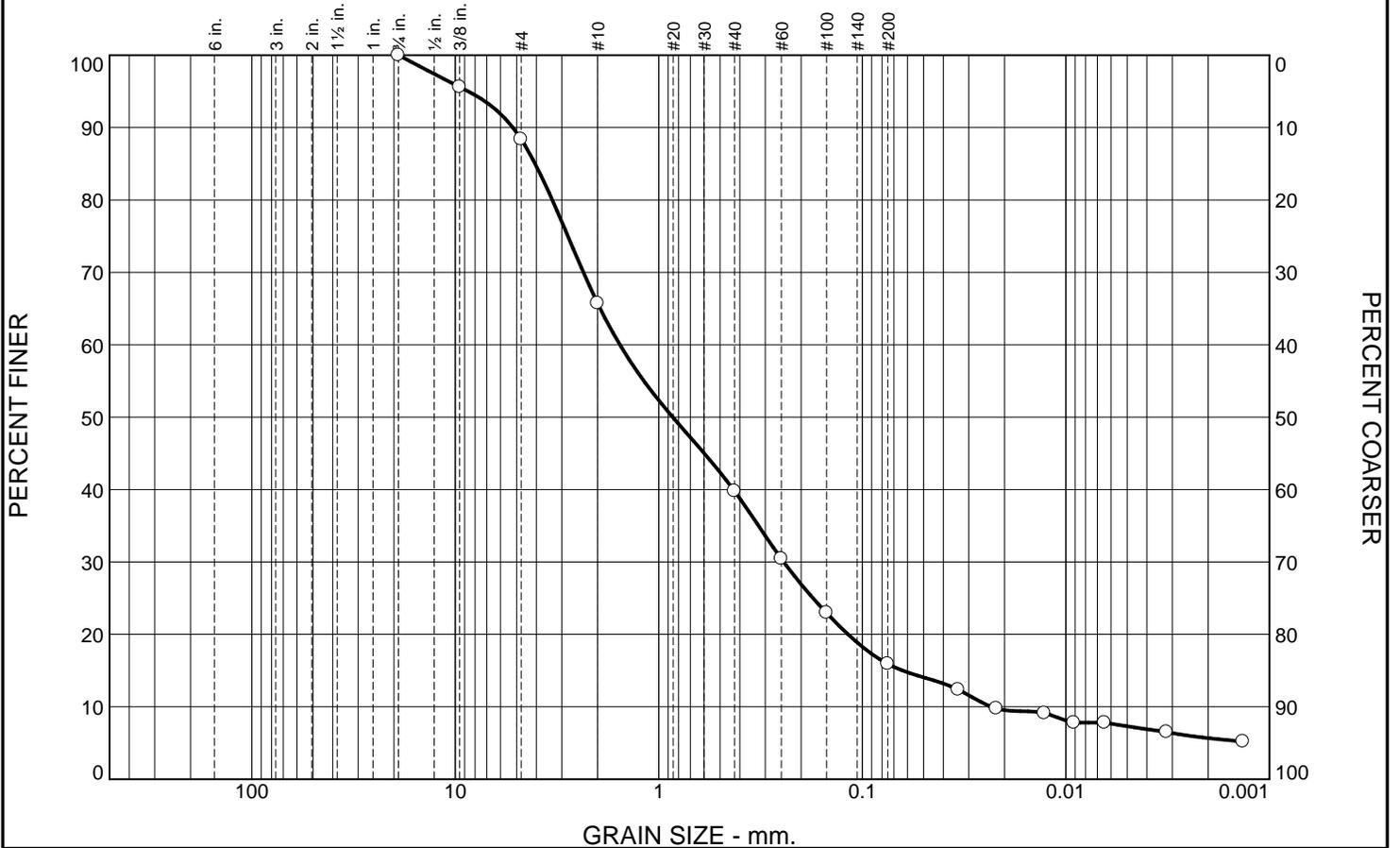
ECS CAROLINAS, LLP
4811 Koger Boulevard
Greensboro, NC 27407
Phone: (336) 856-7150
Fax: (336) 856-7160

Client: A1 Sandrock
Project: A1 Sandrock Soil Test for Phase 2A

Project No: 25674

Figure

Particle Size Distribution Report



GRAIN SIZE - mm.

% +3"	% Gravel	% Sand		% Fines	
		Coarse	Fine	Silt	Clay
0.0	34.3	25.9	23.9	10.2	5.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4	100.0		
3/8	95.6		
#4	88.4		
#10	65.7		
#40	39.8		
#60	30.4		
#100	23.0		
#200	15.9		
0.0338 mm.	12.4		
0.0219 mm.	9.8		
0.0128 mm.	9.1		
0.0091 mm.	7.8		
0.0065 mm.	7.8		
0.0032 mm.	6.5		
0.0013 mm.	5.2		

Soil Description

White Tan Silty Fine to Medium SAND

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D₉₀= 5.2164 D₈₅= 4.0539 D₆₀= 1.5535
D₅₀= 0.8542 D₃₀= 0.2436 D₁₅= 0.0634
D₁₀= 0.0233 C_u= 66.79 C_c= 1.64

Classification

USCS= SM AASHTO= A-1-b

Remarks

* (no specification provided)

Source of Sample: Sample 4
Sample Number: D4S-4

Depth: 0.00-1.00

Date:



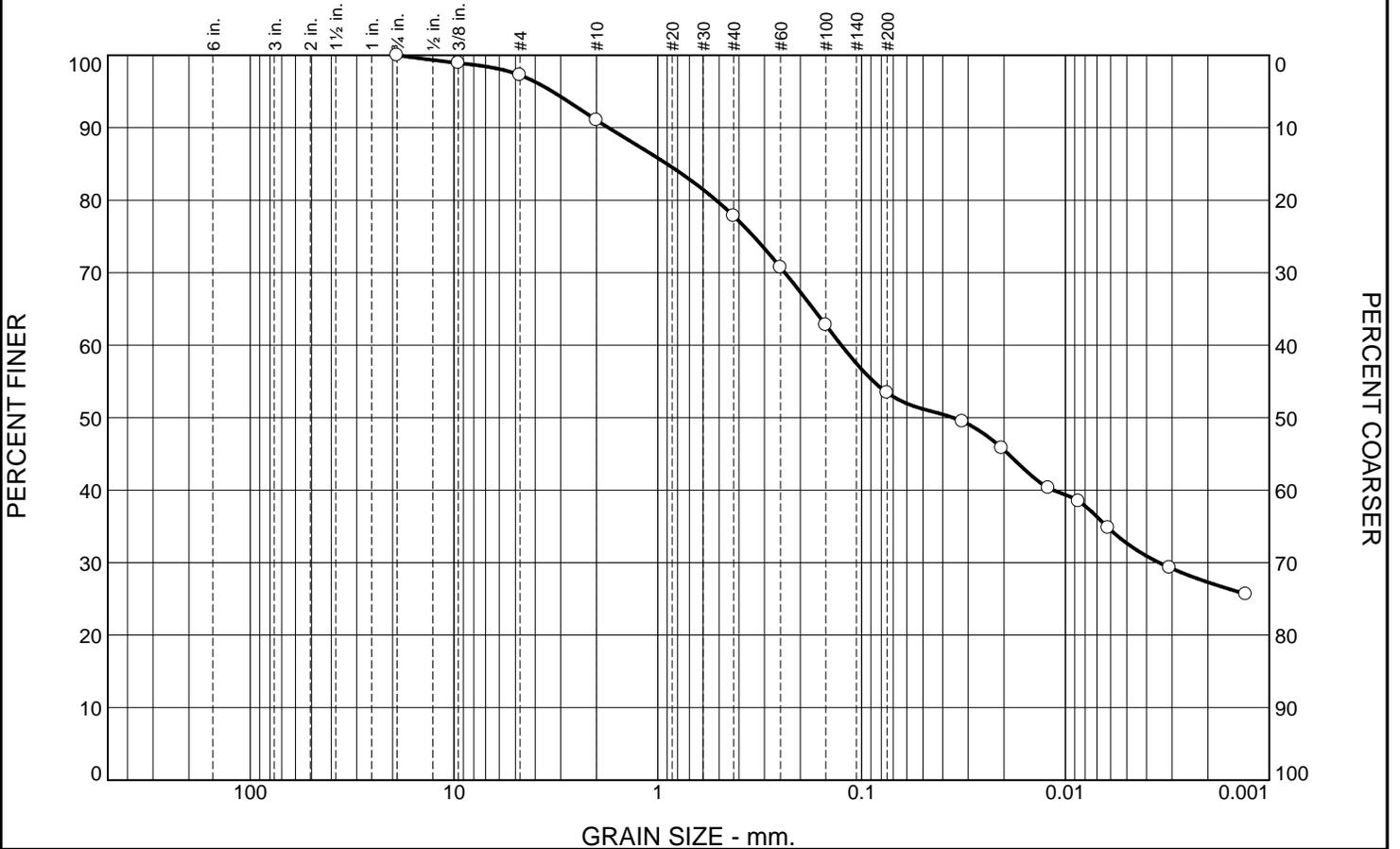
ECS CAROLINAS, LLP
4811 Koger Boulevard
Greensboro, NC 27407
Phone: (336) 856-7150
Fax: (336) 856-7160

Client: A1 Sandrock
Project: A1 Sandrock Soil Test for Phase 2A

Project No: 25674

Figure

Particle Size Distribution Report



% +3"	% Gravel	% Sand		% Fines	
		Coarse	Fine	Silt	Clay
0.0	9.0	13.2	24.4	26.1	27.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4	100.0		
3/8	98.9		
#4	97.3		
#10	91.0		
#40	77.8		
#60	70.7		
#100	62.8		
#200	53.4		
0.0320 mm.	49.5		
0.0205 mm.	45.8		
0.0121 mm.	40.3		
0.0086 mm.	38.5		
0.0062 mm.	34.8		
0.0031 mm.	29.3		
0.0013 mm.	25.7		

Soil Description

Red Brown Fine to Medium Sandy CLAY

Atterberg Limits

PL= 20 LL= 28 PI= 8

Coefficients

D₉₀= 1.7471 D₈₅= 0.9013 D₆₀= 0.1257
D₅₀= 0.0356 D₃₀= 0.0035 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= CL AASHTO= A-4(2)

Remarks

* (no specification provided)

Source of Sample: Sample 5
Sample Number: D4S-5

Depth: 0.00-1.00

Date:



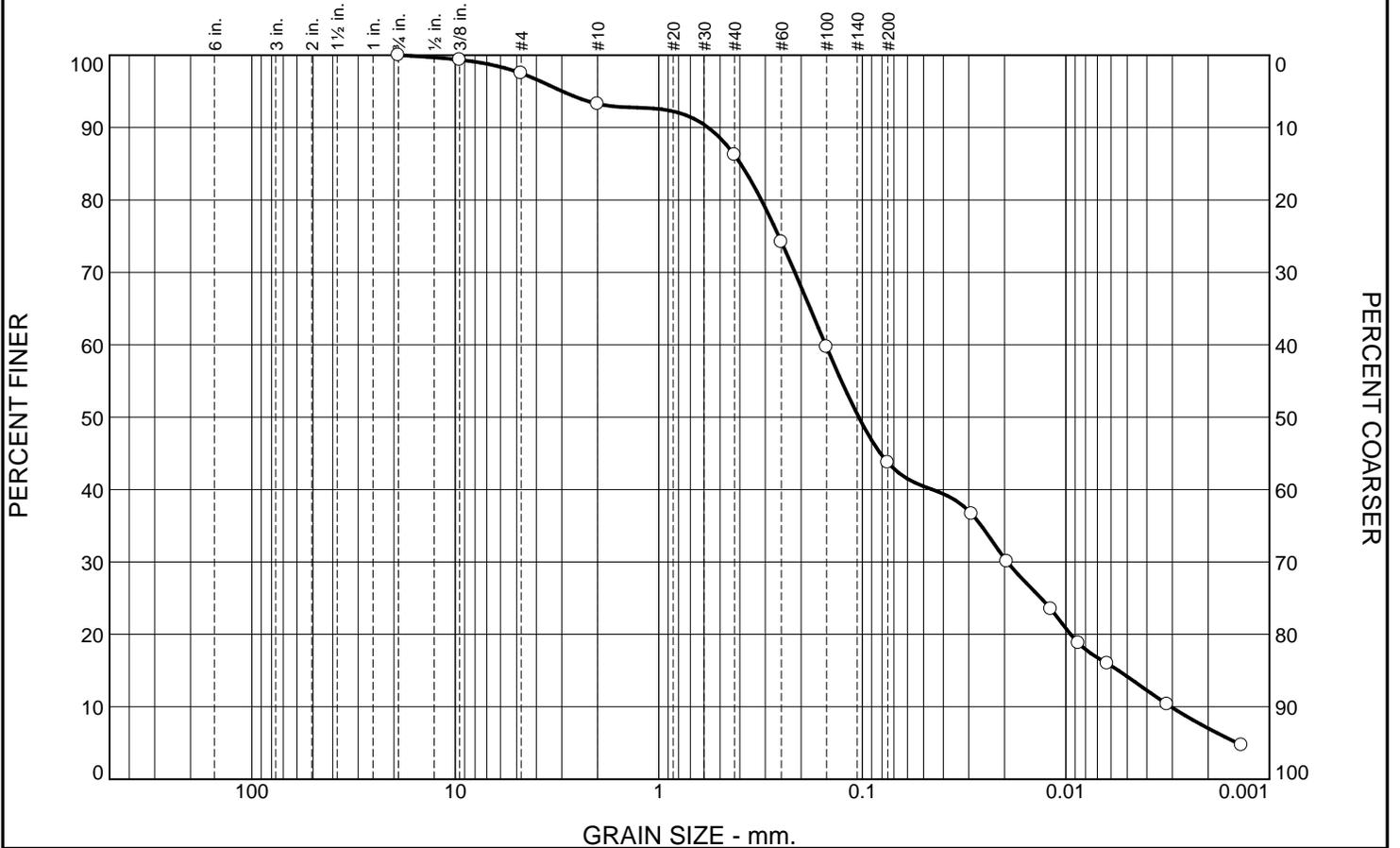
ECS CAROLINAS, LLP
4811 Koger Boulevard
Greensboro, NC 27407
Phone: (336) 856-7150
Fax: (336) 856-7160

Client: A1 Sandrock
Project: A1 Sandrock Soil Test for Phase 2A

Project No: 25674

Figure

Particle Size Distribution Report



GRAIN SIZE - mm.

% +3"	% Gravel	% Sand		% Fines	
		Coarse	Fine	Silt	Clay
0.0	6.7	7.1	42.5	36.7	7.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4	100.0		
3/8	99.4		
#4	97.5		
#10	93.3		
#40	86.2		
#60	74.2		
#100	59.7		
#200	43.7		
0.075 mm.	36.7		
0.075 mm.	30.1		
0.075 mm.	23.5		
0.075 mm.	18.8		
0.075 mm.	16.0		
0.075 mm.	10.3		
0.075 mm.	4.7		

* (no specification provided)

Soil Description

White Tan Silty Fine to Medium SAND

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D₉₀= 0.5720 D₈₅= 0.3965 D₆₀= 0.1515
D₅₀= 0.1041 D₃₀= 0.0194 D₁₅= 0.0055
D₁₀= 0.0030 C_u= 49.70 C_c= 0.81

Classification

USCS= SM AASHTO= A-4(0)

Remarks

Source of Sample: Sample 6
Sample Number: D4S-6

Depth: 0.00-1.00

Date:



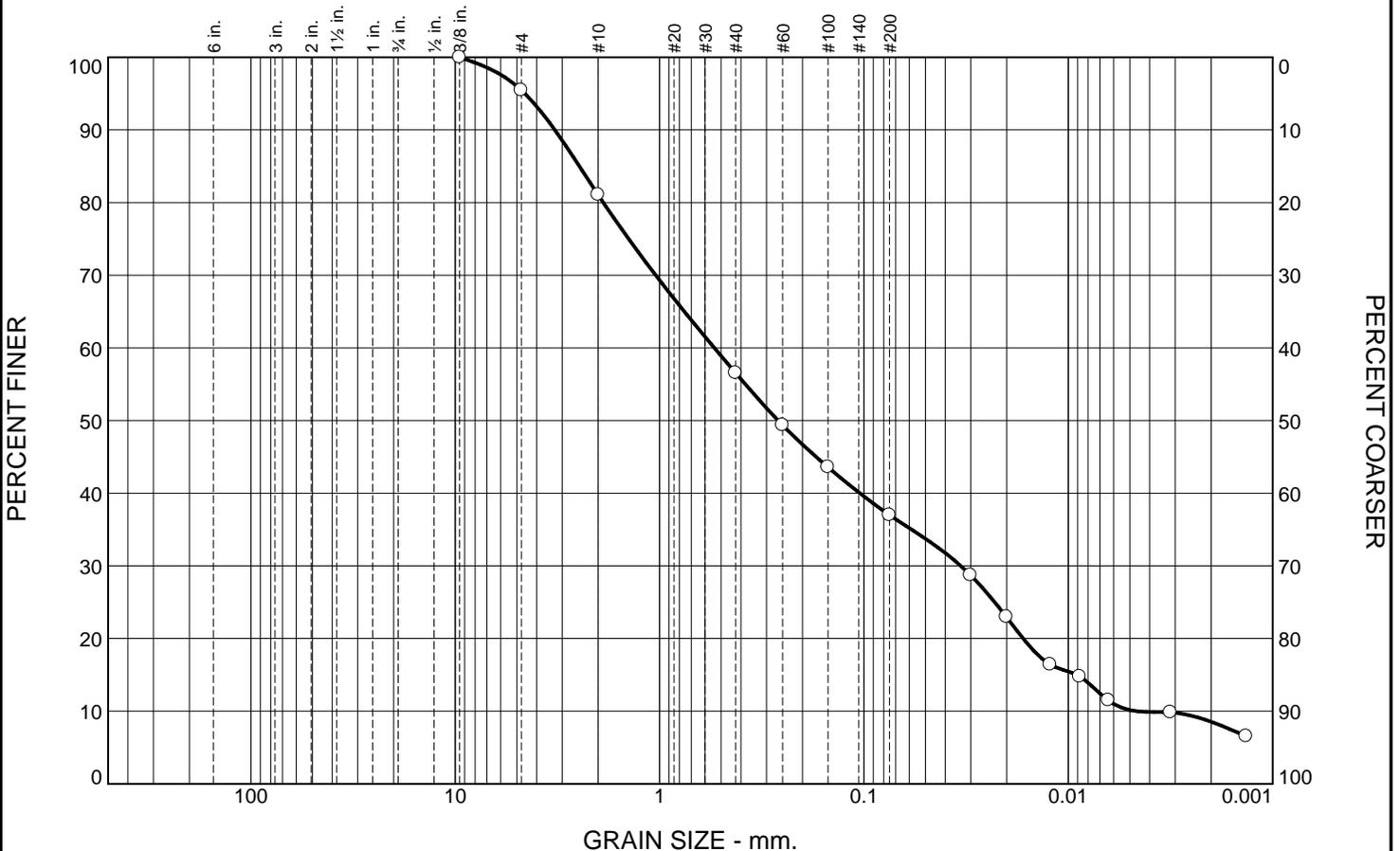
ECS CAROLINAS, LLP
4811 Koger Boulevard
Greensboro, NC 27407
Phone: (336) 856-7150
Fax: (336) 856-7160

Client: A1 Sandrock
Project: A1 Sandrock Soil Test for Phase 2A

Project No: 25674

Figure

Particle Size Distribution Report



GRAIN SIZE - mm.

% +3"	% Gravel	% Sand		% Fines	
		Coarse	Fine	Silt	Clay
0.0	18.9	24.5	19.6	28.5	8.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/8	100.0		
#4	95.5		
#10	81.1		
#40	56.6		
#60	49.4		
#100	43.6		
#200	37.0		
0.0301 mm.	28.7		
0.0201 mm.	23.0		
0.0123 mm.	16.4		
0.0088 mm.	14.8		
0.0064 mm.	11.5		
0.0032 mm.	9.8		
0.0013 mm.	6.6		

Soil Description

Tan Brown Silty Fine to Medium SAND

Atterberg Limits

PL= 24 LL= 27 PI= 3

Coefficients

D₉₀= 3.2593 D₈₅= 2.4701 D₆₀= 0.5397
D₅₀= 0.2631 D₃₀= 0.0336 D₁₅= 0.0091
D₁₀= 0.0046 C_u= 116.40 C_c= 0.45

Classification

USCS= SM AASHTO= A-4(0)

Remarks

* (no specification provided)

Source of Sample: Sample 7
Sample Number: D4S-7

Depth: 0.00-1.00

Date:



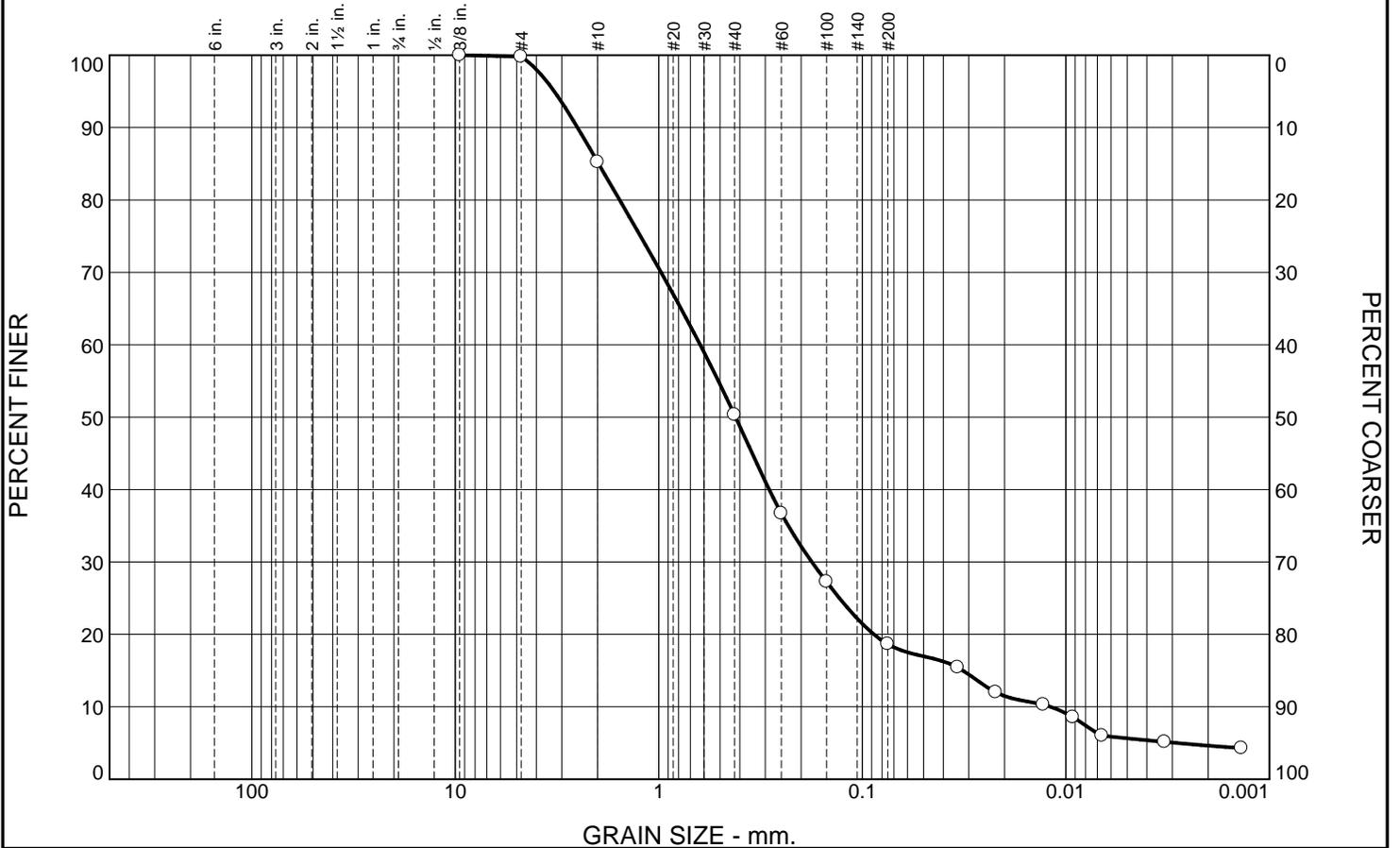
ECS CAROLINAS, LLP
4811 Koger Boulevard
Greensboro, NC 27407
Phone: (336) 856-7150
Fax: (336) 856-7160

Client: A1 Sandrock
Project: A1 Sandrock Soil Test for Phase 2A

Project No: 25674

Figure

Particle Size Distribution Report



% +3"	% Gravel	% Sand		% Fines	
		Coarse	Fine	Silt	Clay
0.0	14.8	34.9	31.7	14.0	4.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/8	100.0		
#4	99.8		
#10	85.2		
#40	50.3		
#60	36.7		
#100	27.3		
#200	18.6		
0.0341 mm.	15.4		
0.0221 mm.	12.0		
0.0129 mm.	10.3		
0.0092 mm.	8.6		
0.0066 mm.	6.0		
0.0033 mm.	5.1		
0.0014 mm.	4.3		

Soil Description

Gray Tan Silty Fine to Coarse SAND

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D₉₀= 2.5096 D₈₅= 1.9766 D₆₀= 0.6266
D₅₀= 0.4196 D₃₀= 0.1772 D₁₅= 0.0321
D₁₀= 0.0119 C_u= 52.60 C_c= 4.20

Classification

USCS= SM AASHTO= A-1-b

Remarks

* (no specification provided)

Source of Sample: Sample 8
Sample Number: D4S-8

Depth: 0.00-1.00

Date:



ECS CAROLINAS, LLP
4811 Koger Boulevard
Greensboro, NC 27407
Phone: (336) 856-7150
Fax: (336) 856-7160

Client: A1 Sandrock
Project: A1 Sandrock Soil Test for Phase 2A

Project No: 25674

Figure

A-1 SANDROCK, INC., CDLF

PHASE 2 PERMIT TO CONSTRUCT AND PHASE 2A PERMIT TO OPERATE

PERMIT 41-17 GUILFORD COUNTY, NC UPDATED AUGUST 2015

GENERAL INFORMATION

MR. R.E. 'GENE' PETTY, SR. – OWNER/OPERATOR
 MR. RONNIE E. PETTY, III – OWNER/OPERATOR
 A-1 SANDROCK, INC.
 2091 BISHOP ROAD
 GREENSBORO, NC 27406 TEL. 336-855-8195

SITE LOCATION DATA

LATITUDE 35.98745 N
 LONGITUDE -79.84639 E

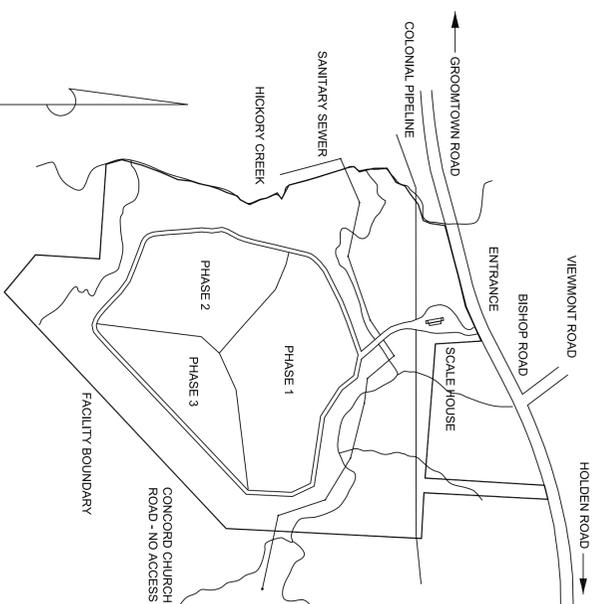
PARCEL NUMBER 12-03-0185-0-0739-W -007

DEED DATE 1/17/1996 GUILFORD COUNTY, NC
 DEED BOOK 4378 DEED PAGE 0198
 PLAT BOOK 149 PLAT PAGE 93

PERMIT INFORMATION

NC SOLID WASTE PERMIT 41-17 (LAST ISSUED DEC 6, 2013)
 NC MINING PERMIT 41-22 (ACTIVE, LAST RENEWED DEC 2012)
 NC STORMWATER PERMIT NCG020458 (RENEWED DEC 2014)

BASE GRADE CONTOURS FOR PHASE 2 ARE SHOWN IN SURVEYS
 PERFORMED IN 2015 BY ALLIED ENGINEERING AND SURVEYING



FACILITY MAP

SHEET	DRAWING	TITLE
1	C	COVER SHEET WITH VICINITY MAP
2	E1A	PHASE 2A BASE GRADES & FILL SEQUENCE
3	E2A	TEMPORARY STORMWATER SEGREGATION
4	E3A	PHASE 2A INTERIM OPERATIONAL STAGE
5	E4	INTERIM TOP OF WASTE GRADES
6	SC1	SEDIMENT & EROSION CONTROL DETAILS

**ISSUED FOR REVIEW ONLY
(NOT FOR CONSTRUCTION)**



NO.	REVISION	DATE

SHEET TITLE	COVER SHEET
PROJECT TITLE	PERMIT RENEWAL APPLICATION PHASE 2A PERMIT TO OPERATE

CLIENT	A-1 SANDROCK, INC. PERMIT NO. 41-17-CDLF-2008 2091 BISHOP ROAD GREENSBORO, NC 27406
--------	--

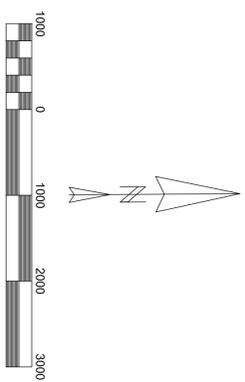
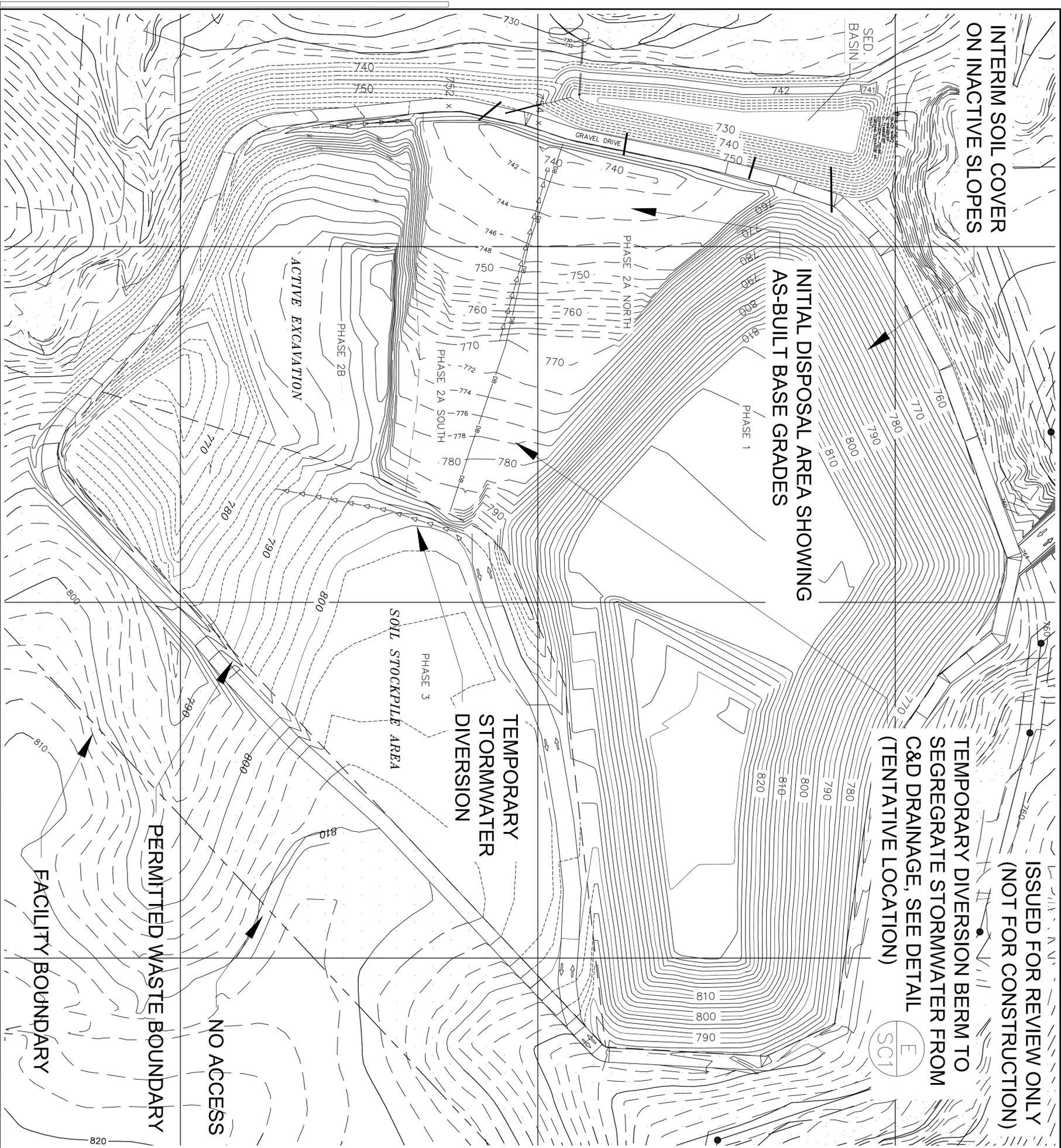
SCS ENGINEERS, PC 2520 WHITEHALL PARK DRIVE, SUITE 450 CHARLOTTE, NORTH CAROLINA 28273 PHONE: (704) 504-3107 FAX: (704) 504-3174		
PROJ. NO. 02214704.00 T3	DWN. BY: GDG	Q/A R/W BY:
DSN. BY: GDG	CHK. BY: SCL	APP. BY:
DATE: 11/28/2014	SCALE: AS SHOWN	

DRAWING NO.	C
Sheet	1 of 6

INTERIM SOIL COVER
ON INACTIVE SLOPES

INITIAL DISPOSAL AREA SHOWING
AS-BUILT BASE GRADES

ISSUED FOR REVIEW ONLY
(NOT FOR CONSTRUCTION)
TEMPORARY DIVERSION BERM TO
SEGREGATE STORMWATER FROM
C&D DRAINAGE, SEE DETAIL
(TENTATIVE LOCATION)



LEGEND

	PROPOSED
	- 2 FOOT ELEVATION CONTOUR
	- 10 FOOT ELEVATION CONTOUR
	CELL AND WASTE LIMITS
	TEMPORARY DIVERSION BERM
	TEMPORARY DITCH
	EXISTING
	- 2 FOOT ELEVATION CONTOUR
	- 10 FOOT ELEVATION CONTOUR
	FACILITY BOUNDARY
	SANITARY SEWER
	WATERCOURSE

NOTE:
CONTOURS SHOWN FOR CELLS 1A, 1B AND 1C REPRESENT
EXISTING TOP OF WASTE

BASE GRADE CONTOURS FOR PHASE 2
ARE AS-BUILT, SURVEYED IN APRIL 2015



NO.	REVISION	DATE

SHEET TITLE
PHASE 2A BASE GRADES & FILL SEQUENCE

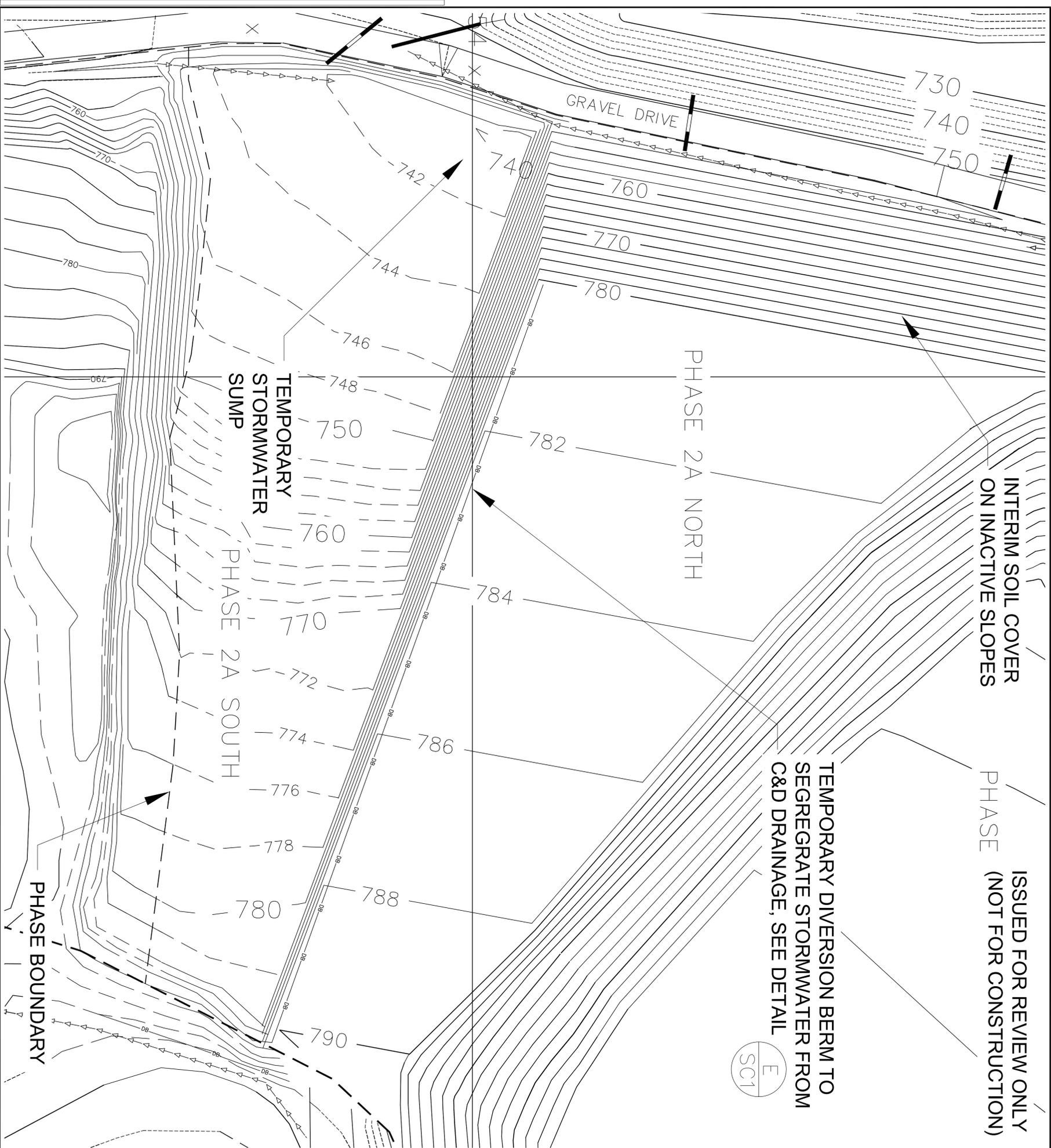
PROJECT TITLE
**PERMIT RENEWAL APPLICATION
PHASE 2 PERMIT TO CONSTRUCT**

CLIENT
A-1 SANDROCK, INC.
PERMIT NO. 41-17-CDLF-2008
2091 BISHOP ROAD
GREENSBORO, NC 27406

SCS ENGINEERS, PC
2520 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273
PHONE: (704) 504-3107 FAX: (704) 504-3174

PROJ. NO. 02214704.00 T3	DWN. BY: GDG	Q/A RVW BY:
DSN. BY: GDG	CHK. BY: SCL	APP. BY:

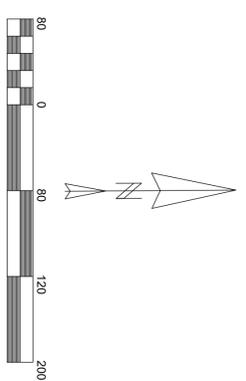
DATE: 11/26/2014
SCALE: AS SHOWN
DRAWING NO. **E1A**
Sheet 2 of 6



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PHASE
INTERIM SOIL COVER
ON INACTIVE SLOPES

TEMPORARY DIVERSION BERM TO
SEGREGATE STORMWATER FROM
C&D DRAINAGE, SEE DETAIL



LEGEND

	PROPOSED -2 FOOT ELEVATION CONTOUR
	PROPOSED -10 FOOT ELEVATION CONTOUR
	CELL AND WASTE LIMITS
	TEMPORARY DIVERSION BERM
	TEMPORARY DITCH
	EXISTING -2 FOOT ELEVATION CONTOUR
	EXISTING -10 FOOT ELEVATION CONTOUR
	FACILITY BOUNDARY
	SANITARY SEWER
	WATERCOURSE

NOTE:
CONTOURS SHOWN FOR CELLS 1A, 1B AND 1C REPRESENT
EXISTING TOP OF WASTE

BASE GRADE CONTOURS FOR PHASE 2
ARE AS-BUILT, SURVEYED IN APRIL 2015



FACILITY MAP



NO.	REVISION	DATE
1	REVISED PER REGULATORY REVIEW	7-14-2014

SHEET TITLE
TEMPORARY STORMWATER SEGREGATION

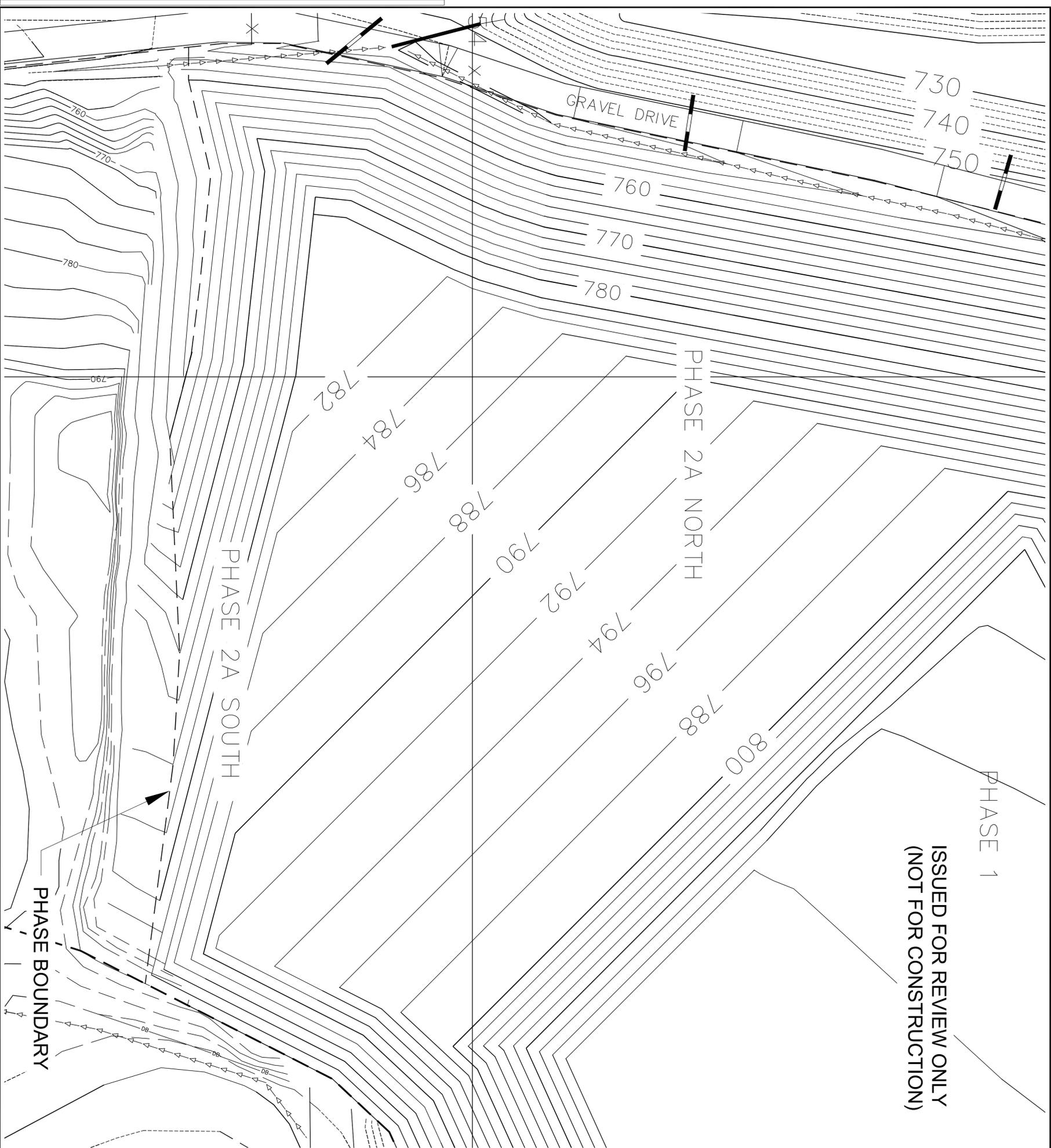
PROJECT TITLE
**PERMIT RENEWAL APPLICATION
PHASE 2A PERMIT TO OPERATE**

CLIENT
A-1 SANDROCK, INC.
PERMIT NO. 41-17-CDLF-2008
2091 BISHOP ROAD
GREENSBORO, NC 27406

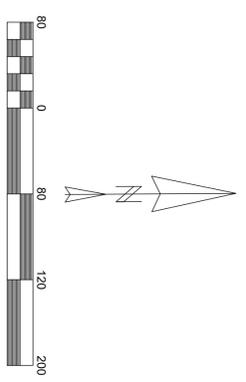
SCS ENGINEERS, PC
2520 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273
PHONE: (704) 504-3107 FAX: (704) 504-3174

PROJ. NO. 02214704.00 T3	DWN. BY: GDG	Q/A R/W BY:
DSN. BY: GDG	CHK. BY: SCL	APP. BY:

DATE: 4/14/2015
SCALE: AS SHOWN
DRAWING NO. **E2A**
Sheet 3 of 6



PHASE 1
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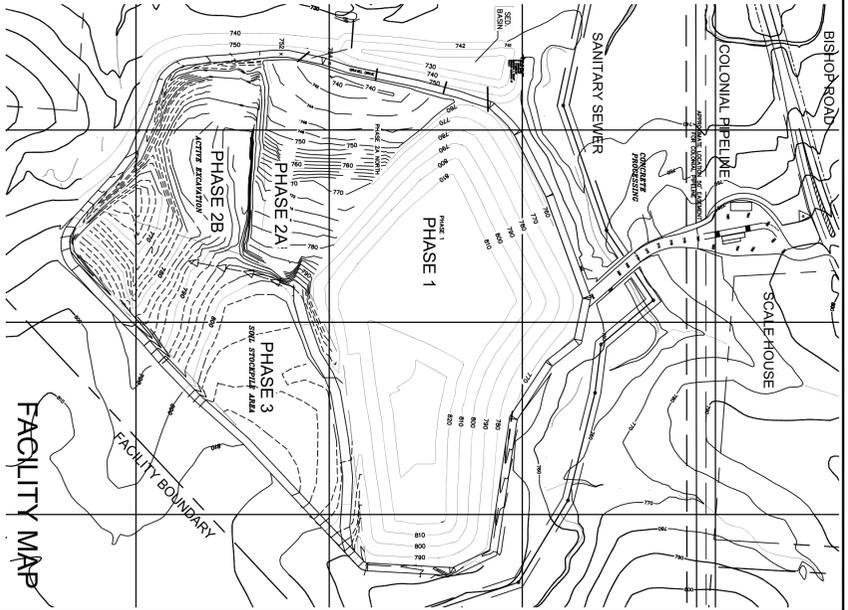


LEGEND

	PROPOSED	- 2 FOOT ELEVATION CONTOUR
	EXISTING	- 2 FOOT ELEVATION CONTOUR
	CELL AND WASTE LIMITS	- 10 FOOT ELEVATION CONTOUR
	TEMPORARY DIVERSION DERRICK	- 10 FOOT ELEVATION CONTOUR
	TEMPORARY DITCH	- 10 FOOT ELEVATION CONTOUR
	FACILITY BOUNDARY	- 10 FOOT ELEVATION CONTOUR
	SANITARY SEWER	- 10 FOOT ELEVATION CONTOUR
	WATERCOURSE	- 10 FOOT ELEVATION CONTOUR

NOTE:
 CONTOURS SHOWN FOR CELLS 1A, 1B AND 1C REPRESENT
 EXISTING TOP OF WASTE

BASE GRADE CONTOURS FOR PHASE 2
 ARE AS-BUILT, SURVEYED IN APRIL 2015



SCS ENGINEERS, PC 2520 WHITEHALL PARK DRIVE, SUITE 450 CHARLOTTE, NORTH CAROLINA 28273 PHONE: (704) 504-3107 FAX: (704) 504-3174	CLIENT A-1 SANDROCK, INC. PERMIT NO. 41-17-CDLF-2008 2091 BISHOP ROAD GREENSBORO, NC 27406	SHEET TITLE PHASE 2A INTERIM OPERATIONAL STAGE	NO. 1 REVISION REVISED PER REGULATORY REVIEW DATE 7-14-2014	
		PROJECT TITLE PERMIT RENEWAL APPLICATION PHASE 2A PERMIT TO OPERATE		
DATE: 4/14/2015 SCALE: AS SHOWN DRAWING NO. E3A Sheet 4 of 6	PROJ. NO. 02214704.00 T3 DSN. BY: GDG DWN. BY: GDG CHK. BY: SCL Q/A RVW BY: APP. BY:	PHASE 1 PHASE 2A PHASE 2B PHASE 3 FACILITY BOUNDARY SANITARY SEWER COLONIAL PIPELINE SCALE HOUSE BISHOP ROAD SANITARY SEWER WATERCOURSE	PHASE 1 PHASE 2A NORTH PHASE 2A SOUTH PHASE BOUNDARY GRAVEL DRIVE	

INTERIM SOIL COVER
ON INACTIVE SLOPES

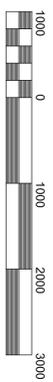
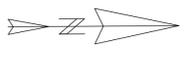
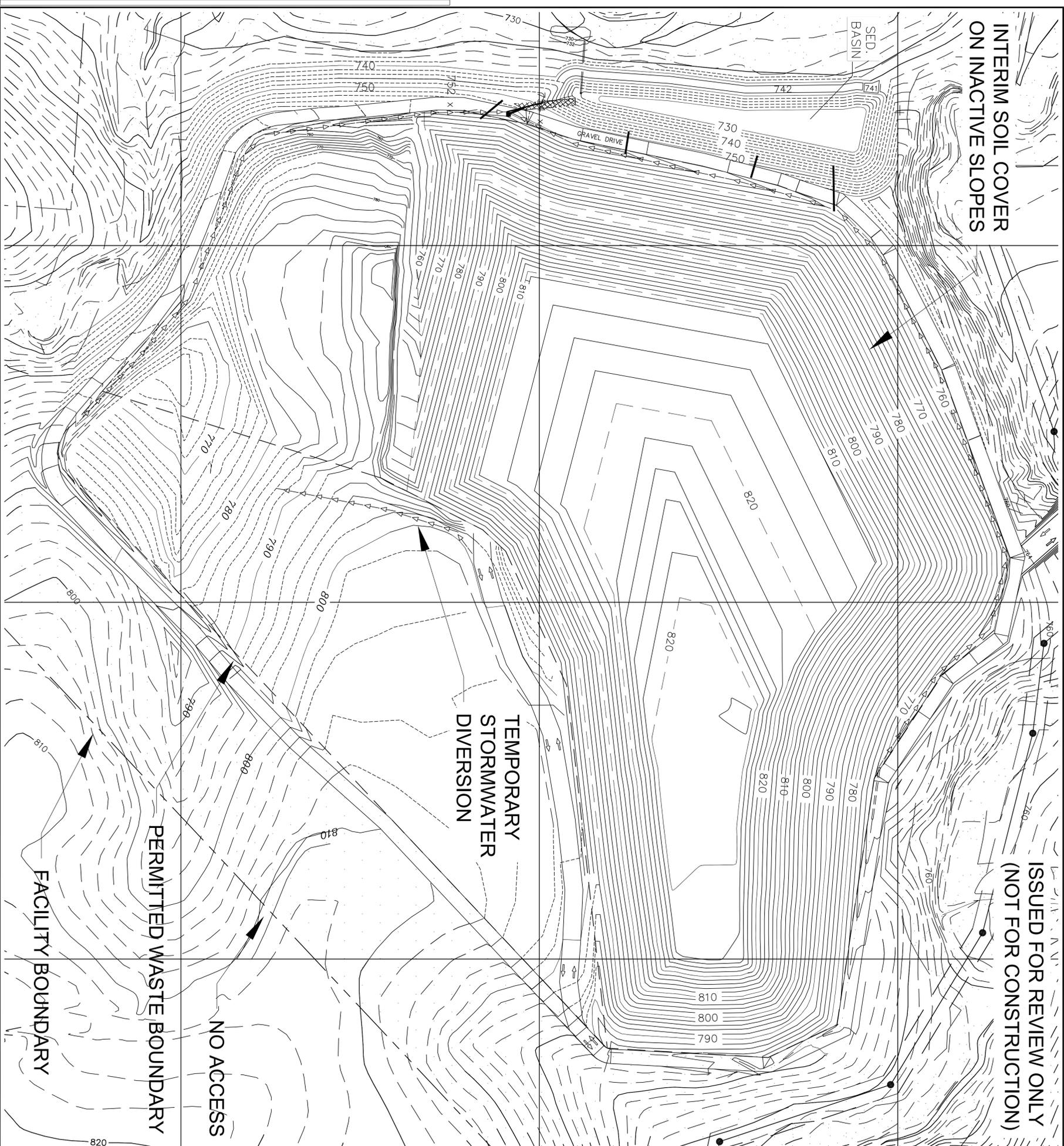
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TEMPORARY
STORMWATER
DIVERSION

PERMITTED WASTE BOUNDARY

FACILITY BOUNDARY

NO ACCESS



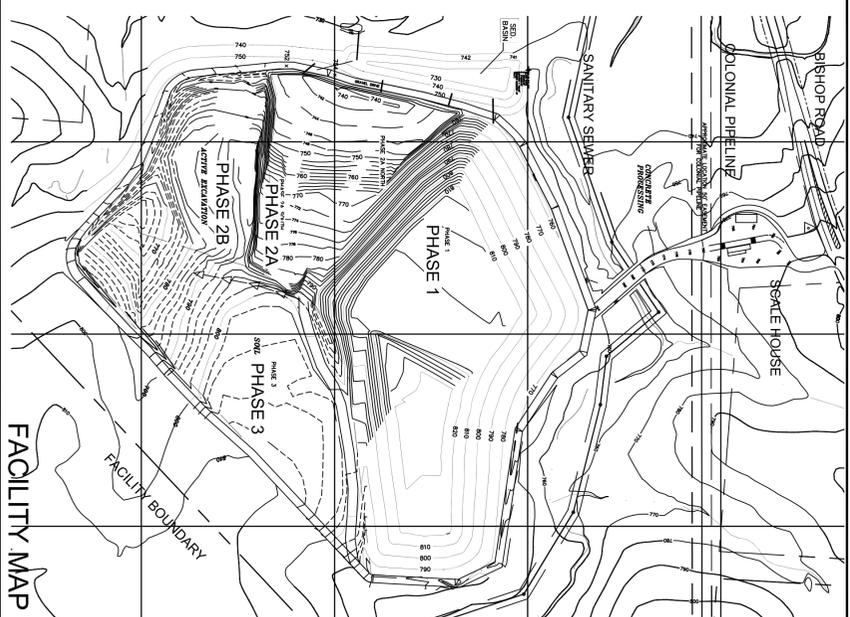
Scale 1" = 200'

Bar is 1" on original drawing

LEGEND

PROPOSED	- 2 FOOT ELEVATION CONTOUR
	- 10 FOOT ELEVATION CONTOUR
	CELL AND WASTE LIMITS
	TEMPORARY DIVERSION DERM
	TEMPORARY DITCH
NOTE:	COUNTOURS SHOWN FOR CELLS 1A, 1B AND 1C REPRESENT EXISTING TOP OF WASTE
EXISTING	- 2 FOOT ELEVATION CONTOUR
	- 10 FOOT ELEVATION CONTOUR
	FACILITY BOUNDARY
	SANITARY SEWER
	WATERCOURSE

BASE GRADE CONTOURS FOR PHASE 2
ARE AS-BUILT, SURVEYED IN APRIL 2015



NO.	REVISION	DATE

SHEET TITLE
INTERIM TOP OF WASTE GRADES

PROJECT TITLE
PERMIT RENEWAL APPLICATION
PHASE 2 PERMIT TO CONSTRUCT

CLIENT
A-1 SANDROCK, INC.
PERMIT NO. 41-17-CDLF-2008
2091 BISHOP ROAD
GREENSBORO, NC 27406

SCS ENGINEERS, PC
2520 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273
PHONE: (704) 504-3107 FAX: (704) 504-3174

PROJ. NO. 02214704.00 T3	DWN. BY: GDG	Q/A RVW BY:
DSN. BY: GDG	CHK. BY: SCL	APP. BY:

DATE: 11/26/2014
SCALE: AS SHOWN
DRAWING NO. E4A
Sheet 5 of 6

