



November 6, 2013

PN: 193001

Edward F. Mussler, III, PE
Permitting Branch Supervisor
Solid Waste Section
Division of Waste Management
NCDENR
217 W Jones St
Raleigh, NC 27699

**RE: LCID Permit Renewal and Modification Application
Weeks Sand Pit No. 2 Landfill Facility, Solid Waste Permit 43F-LCID-2010**

C. T. Clayton, Sr., PE, Inc., on behalf of Weeks Sand Pit No. 2 Landfill Facility, presents the Weeks Sand Pit No. 2 LCID Landfill Facility Permit renewal and modification application. One hard copy and one digital copy of the renewal and modification application are attached.

The plans, as attached, modifies the fill sequence originally permitted to better fit the operational needs of the facility. The originally permitted plans had a total of 7 cells planned for the fill sequence. It has become apparent since the facility began operation under this permit in 2010 that the proposed cell layout and fill pattern was not the most efficient method of operation for the facility. Based on disposal volumes being experienced, it became obvious that the cell volumes needed to increase in size, which led to the attached plans showing a total of 3 cells within the facility. Section 5 of the attached document illustrates the volume and airspace calculations supporting this change.

In addition, the operations plan has been modified and updated to be more free flowing and concise. It has added procedures should the operator choose to process and recycle incoming materials from the waste stream.

Should you need anything that is not contained in this package, please let me know either by email (tyrus@ctclayton.com) or by phone (910-897-7070) and I will respond promptly.

Sincerely,

A handwritten signature in blue ink, appearing to read "C. Tyrus Clayton, Jr.", is written over the "Sincerely," text.

C. Tyrus Clayton, Jr., PE
tyrus@ctclayton.com



11/06/2013

enclosure

cc: file, Jeff Lees (Weeks Sand & Gravel)

46 West Washington Street - Coats, North Carolina 27521
Phone: 910-897-7070 - Fax: 910-897-6767
Offices located in Coats and New Bern, North Carolina
License No. C-2570 - www.ctclayton.com

2013 PERMIT RENEWAL & MODIFICATION

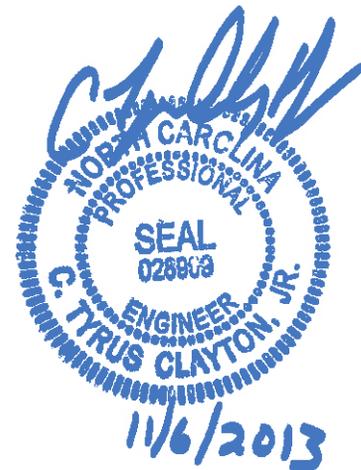
WEEKS SAND PIT NO. 2
LAND CLEARING AND INERT DEBRIS
LANDFILL FACILITY
HARNETT COUNTY
PERMIT# 43F-LCID-2010



OWNER/OPERATOR:

J. S. Weeks Sand, Inc.
20710 Highway 24/27
Cameron, NC 28326
919-499-4272

PREPARED BY
C.T. CLAYTON, SR., P.E., INC.
PROJECT 193001
November 2013



46 West Washington Street - Coats, North Carolina 27521
Phone: 910-897-7070 - Fax: 910-897-6767 - www.ctclayton.com
Offices located in Coats and New Bern, North Carolina
License No. C-2570

Applicant Certification Page

Name of facility: WEEKS SANDPIT NO. 2 LCID LANDFILL – PERMIT NO. 43F-LCID-2010

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision and that the information provided in this application is true, accurate, and complete to the best of my knowledge.

I understand that North Carolina General Statute 130A-22 provides for administrative penalties of upto fifteen thousand dollars (\$15,000.00) per day per each violation of the Solid Waste Management Rules. I further understand that the Solid Waste Management Rules may be revised or amended in the future and that the facility siting and operations of this solid waste management facility will be required to comply with all such revisions or amendments.

Joseph S. Weeks
Signature

Joseph S. Weeks
Print Name

11/5/13
Date

Owner - President
Title

J. S. Weeks Sand, Inc.
Business or organization name

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SECTION 1.0 – GENERAL INFORMATION

Landfill Name:

Weeks Sand Pit No. 2 Landfill Facility – Permit #43F-LCID-2010

Landfill Address:

20710 Highway 24/27
Cameron, N.C. 28326

Operator - Landowner - Permit/Invoice Recipient Contact:

J. S. Weeks Sand, Inc.
20710 Highway 24/27
Cameron, NC 28326
919-499-4272

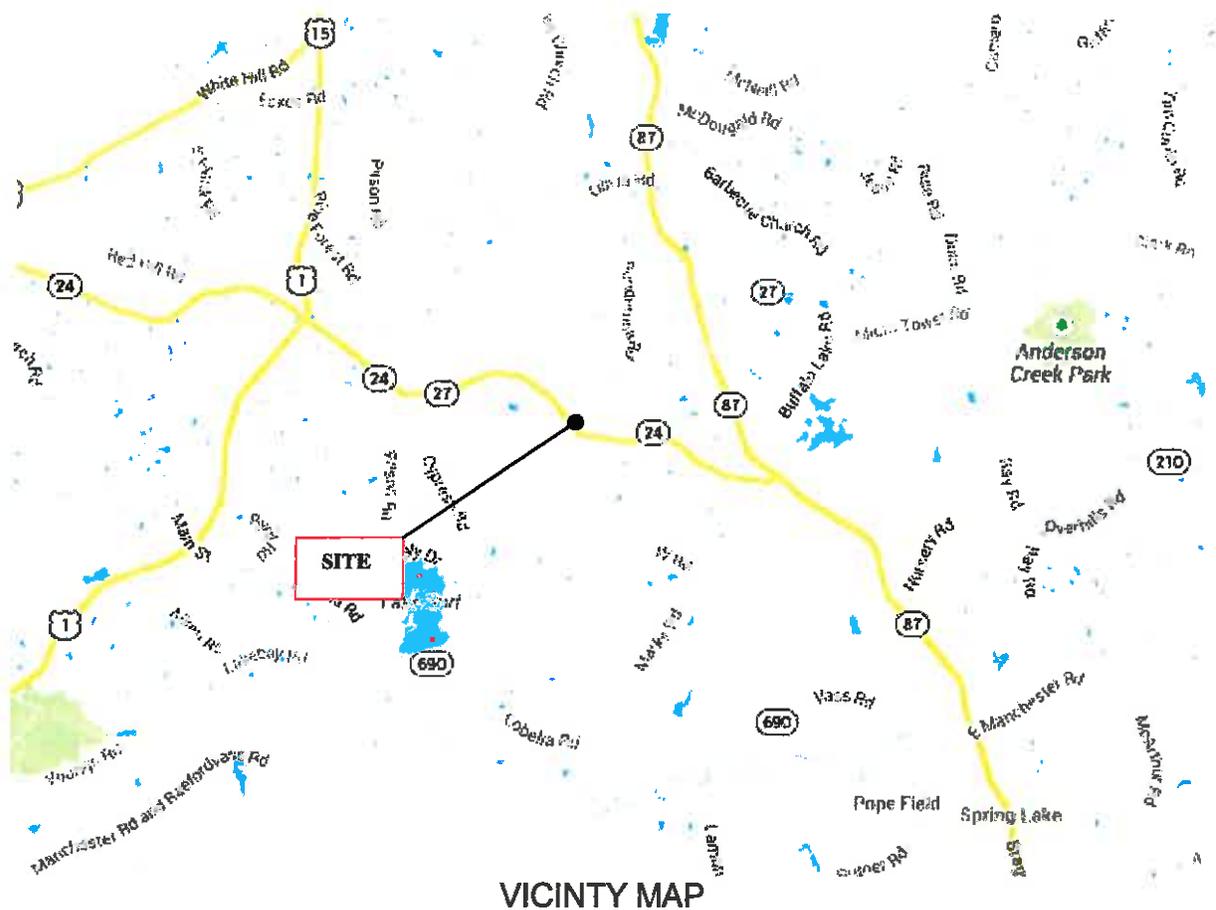
Engineer Contact:

C.T. Clayton, Sr., P.E., Inc.
Mr. Tyrus Clayton, Jr., P.E.
46 W. Washington Street
Coats, NC 27521
910-897-7070

SECTION 2.0 – PROPERTY INFORMATION & MAPS

Facility Description / Acreage:

The existing Weeks Sand Pit No. 2 LCID Landfill Facility is located on the north side of N. C. Highway 24/27 between Mckoytown Road, S. R. 1105, and Hilmon Grove Road, S. R. 1106, approximately 1 mile west of Johnsonville. The figure below is a location map for the Weeks Sand Pit No. 2 Landfill Facility. The existing permitted LCID landfill facility occupies approximately 28 acres within a 115 acre tract owned by J. S. Weeks Sand, Inc., formerly used as a sand pit.



See Section 7.0 for Deed, Zoning Letter, USGS Topographic Map, & ACOE Wetlands information.

SECTION 3.0 – OPERATIONS PLAN

The following Operation Plan has been created for the **Weeks Sand Pit No. 2 Land Clearing and Inert Debris Landfill Facility** (Weeks LCID LF) in accordance with NCDENR-SWS Rule 15A NCAC 13B .0566. This plan discusses the operation of this solid waste management facility:

1. This plan discusses the operation of the following solid waste management activities:
 - a. LCID Landfill
 - b. Landfill mining for processing
 - c. Wood waste processing and reuse
 - d. Reuse and processing of existing LCID landfill debris
 - e. Crushing of block, brick, and concrete debris

2. The approved plans shall be followed. The information contained within the approved plans were prepared to provide facility operating personnel with an understanding of how the Design Engineer assumed the facility would be operated. Minor deviations from the plan outlined herein are expected and anticipated. However, if any deviation from the approved plans or from this Operations plan occurs, the owner must submit a written request to the Solid Waste Section to determine if the change to the design or operation of the facility requires a permit action, including permit fee requirement and/or permit modification application review, and for final approval of the deviation.

3. The operations of this facility should be conducted to comply with the rules stated in NCDENR-SWS Rule 15A NCAC 13B .500 and .300.

4. All required records, correspondence, etc. that pertain to the operation and permit compliance of this facility and copies of operational records and pertinent correspondence will be stored at the office of Weeks Sand Pit No. 2 LCID Landfill Facility located at:

20710 Highway 24/27 West
PO Box 540
Cameron NC 28326
(919) 499-4272

Should this location change, the Owner will notify the NCDENR – Solid Waste Section of the change.

5. The Design Engineer for this facility is as follows:

C. T. Clayton, Sr., PE, Inc.
46 W. Washington Street
Coats, NC 27521
Phone: (910) 897-7070
Fax: (910) 897-6767
Contact: C. Tyrus Clayton, Jr., PE
tyrus@ctclayton.com

6. In the event of an emergency, 911 should be contacted immediately. The 911 operator will dispatch the appropriate emergency personnel based upon the assessment of need.
7. This facility is open Monday through Friday from 8:00am to 5:00pm,. The facility is closed on weekends.
8. Access Control: The Weeks Sand Pit No. 2 LCID Landfill Facility will be for the use of the public in western Harnett County. The site will be secured with a locked gate at the main entry point at the south end of the site. LCID waste will be brought through the lockable gates to the existing scales for screening and direction on disposal. Signs are posted at the entrance to the facility showing the contact name, phone number and the permit number. Signs are also placed throughout the site giving information regarding allowable waste, procedures for dumping and traffic patterns.

The site is surrounded by a combination of chain link fencing and natural barriers such as ditches and thick vegetation. The fencing and natural barriers should be maintained to discourage unauthorized entry into the site.

Access to the site shall be limited only to operational hours in order to prevent the following:

- Unauthorized and illegal dumping of waste materials
- Trespassing and possible injury resulting from the act
- Vandalism

Facility attendants should be present at all times during operational hours to enforce facility rules and restrict unauthorized access.

9. Access roads are of all-weather construction and will be properly maintained.

10. The Weeks Sand Pit No. 2 LCID Landfill will accept only waste as defined in 15A NCAC 13B .0563 (1)(a). No other waste shall be permitted in this area. The list of wastes accepted at the LCID landfill for disposal or processing is as follows:
- a. Stumps
 - b. Trees
 - c. Limbs
 - d. Brush or Yard Trash
 - e. Other naturally occurring vegetative material
 - f. Unpainted concrete
 - g. Unpainted brick
 - h. Unpainted concrete block
 - i. Uncontaminated soil, gravel or rock
 - j. Asphalt, as defined in NCGS 130A-294(m)
 - k. Untreated, unpainted wood
 - i. Note that pallets, dimensional lumber, or any wood material that is considered to be construction and demolition debris (*as defined by G.S. 130A-290(a)(44a)*) may not be disposed of within the LCID landfill.
 - l. Other wastes as approved by the Solid Waste Section of the Division of Waste Management
11. The site attendant will visually check incoming loads for unauthorized waste and redirect the hauler as appropriate. Hazardous waste and liquids are not accepted. Other unacceptable waste such as waste tires, appliances, construction and demolition debris, and household garbage are not accepted. Any unacceptable material found on the landfill will be removed, appropriately stored as necessary, and delivered to an approved/permitted facility or landfill for that type of waste. Standard procedures for waste handling and hauling, as dictated by state and federal laws, will be followed. Unacceptable wastes will be removed from the facility on a daily basis.
- a. Attached is a Waste Screening Form that will be utilized by facility operational staff.
12. The following equipment will be utilized for operation of the LCID Landfill. This equipment is either currently owned by the owner of the facility or will be leased or contracted for periodic operations.
- a. Excavator - *for general soil or waste excavation*
 - b. Bulldozer – *for waste placement, grading, and compaction*
 - c. Dump Truck – *for material hauling*
 - d. Pan –*for soil excavation and placement*
 - e. Grinder/Screening Equipment – *for stored material or existing waste processing (contracted for periodic operation onsite)*
13. Waste will not be disposed of in standing water.
14. The LCID will not accept “hot” loads or waste loads smoldering or on fire. In addition, no open burning is allowed at the landfill.

The Weeks Sand Pit No. 2 Landfill Facility is located approximately five miles from the Spout Springs Fire Department, which provides fire protection. For major fires, the primary fire control policy for the Facility consists of notifying 911, and waiting for their response. A secondary fire control policy consists of utilizing onsite equipment and soils to contain and control small fires if feasible, until the Fire Department can arrive.

If a burning load arrives at the site, the load is directed away from the facility. A Fire Notification Form would then be filled out and issued to the SWS in either case.

Underwriters Laboratory (UL) listed fire extinguishers are located in the office, and on equipment operating on the Landfill. Facility staff are trained on how to use fire extinguishers.

In accordance with Rule 15A NCAC 13B.0505(10)(c), fires that occur at the Weeks Sand Pit No. 2 Landfill require verbal notice to the Division of Solid Waste within 24 hours and written notification shall be submitted within 15 days. Written notification will consist of the DWM "Solid Waste Management Facility Fire Occurrence Notification" form (form attached). Verbal and written notification shall be submitted to the Raleigh Regional Waste Management Specialist:

Department of Environment and Natural Resources
Division of Waste Management, Solid Waste Division
1646 Mail Service Center
Raleigh, North Carolina 27699-1646
(919) 707-8200

15. In order to maintain an orderly work area and to minimize erosion, the working face of the LCID landfill will be kept as small as possible with a ½ acre maximum size. Waste will be compacted as densely as practical. Waste will be deposited in the upper areas first until final grades are reached, thus ensuring that surface runoff is flowing away from the working face.
 - a. Periodic Cover: On a weekly basis, or sooner as needed to maintain a ½ acre working face, a minimum of a 6-inch layer of soil or other material as approved by DWM will be placed over the exposed waste. This cover is intended to control disease, vectors, fire, odors, and blowing debris.
 - b. Intermediate Cover: In areas that have not received waste in the previous 30 days or where the exposed waste reaches one acre in size, but the waste surface is below the final grades of the LCID, the waste shall be covered with a 12-inch layer of soil material. This cover should be graded properly to divert precipitation to the onsite storm water system and seeded/mulched immediately.

- c. Final Cover: Within 120 calendar days or 30 working days after completion of any phase of disposal operations, or upon revocation of a permit, the disposal area shall be covered with a minimum of one foot of suitable soil cover sloped to allow surface water runoff in a controlled manner. The soil cover shall be fertilized, limed and seeded. Erosion control matting shall be applied to assist in achieving stabilization. Further actions in order to correct any condition which is or may become injurious to the public health or a nuisance to the community may be required by DENR.
16. The site will be graded using a bulldozer to ensure that proper drainage of the area is maintained, thus diverting water away from the working face and eliminating any "ponding" of water on top of the waste. Grades shall be kept to a slope steep enough (suggested minimum of 2%) to encourage quick runoff and to minimize infiltration.

Leachate seeps can occur due to a variety of circumstances. The goal in dealing with leachate seeps is to prevent seepage from leaving the limits of waste disposal areas and to minimize the potential for reoccurrence. If evidence of leachate seeps is observed, the Operator will take the following actions. Depending on the circumstances, various combinations of actions may be appropriate.

- a. If leachate is observed outside of the limits of waste disposal areas, notify DENR.
- b. Contain the flow of leachate using soil berms and/or excavation.
- c. Excavate the area of seepage to attempt to allow flow into the underlying layers (i.e. break-up barriers that may be causing the seep.).
- d. Run-on Control: Surface water run-on, when identified will be re-routed through the use of diversion berms and/or diversion ditches to prevent infiltration into the debris facility.
- e. Surface Grading: Filling operations shall include grading with positive slopes (>2%) to promote runoff over the debris. At the end of each day, any low areas should be filled with debris and/or soil to prevent potential impounding of surface water. Furthermore, in the case of impending storms, periodic cover should be advanced to provide a "soil seal" to further promote runoff and minimize infiltration.
- f. Facility Inspections: On a periodic basis and following every drenching rain, long-duration rain or unusually large storm, site personnel should conduct "walk-over" inspections to identify areas of settlement which may create additional areas of "ponding" and leachate seeps. Any areas of "ponding" identified should be re-filled with debris and/or soil to further promote runoff. In the event, seeps are identified on the slopes or near the base of the facility, the area above the seeps shall be inspected for signs of inadequate cover or settlement and the areas shall be re-graded by placement of additional debris and/or soil.
- g. Leachate Diversion Trenches: In the event leachate seeps are identified along the outer slopes of the landfill or at the base, leachate will be diverted back into the limits of waste by excavating trenches at and around the location of the seeps. These trenches will be filled with a granular material to encourage the leachate to re-enter the waste containment area. Then the trench and seep area will be covered with an impermeable type soil material (clay, silt, or clay mix) and compacted.

- h. The use of soil (particularly clay) to plug the seepage may also be successful in the case where flows are minor
 - i. Repair landfill cover as necessary.

- 17. Adequate erosion and sediment control measures, structures, and devices shall be employed and maintained to prevent silt from leaving the site and to prevent excessive erosion. The facility Erosion and Sediment Control Plan(s) as approved by NCDENR Land Quality Section shall be followed at all times.

- 18. The concentration of explosive gases, if generated by the facility, will not exceed the following:
 - a. 25% of the lower explosive limit (LEL) for the gases in facility structures
 - b. The LEL for the gases at the property boundary

- 19. Open burning will not be conducted at the landfill. Should an accidental fire start at the landfill, landfill equipment will be used to extinguish the blaze. If the fire is beyond the capability of available equipment, the local fire department will be summoned.

- 20. All incoming LCID waste shall go directly to the landfill or to a recycle stockpile within the waste limits for temporary storage until it can be processed for sale or reuse. There is to be no excessive stockpile of unprocessed material within the processing area. Stockpiled unprocessed Inert Debris and overage is to be covered with 6" of soil at least every 30 days.

- 21. Recovery (mining) of the landfill will be considered an alternative procedure to recycle both woody materials and inert debris. All material from the recovery (mining) of the site is assumed at 50 cubic yards per day (~260 days per year) of recovered wastes for processing. Thus, approximately 13,000 cubic yards per year (maximum) of recovered wastes are anticipated for processing at the proposed facility. Landfill operation personnel will perform the recovery operations on a limited basis to supplement the processing operations as described in Section 22 below. Generally, the process includes excavation, sorting of the material into small and large fraction materials for grinding, crushing and screening further described below.

- 22. The Weeks Sand Pit No. 2 LCID Landfill Facility may engage in material processing from time to time in order to divert and reduce the amount of waste disposed of in the LCID landfill. The operations of the material processing will be as follows:
 - a. Material determined to be acceptable for processing and diversion from the working face of the landfill or existing waste removed from the landfill shall be stored within the permitted limits of waste for the facility. This will be on the base grades of the cell or on areas of the landfill that have received final or intermediate cover.
 - b. Materials acceptable for grinding are as follows:
 - i. Woody material
 - ii. Untreated, unpainted, non-engineered wood
 - iii. Wood pallets.

- No materials defined as yard trash by NCGS 130A-290(a)(45) will be processed.
- c. Materials acceptable for crushing/screening are as follows:
 - i. Unpainted concrete block
 - ii. Unpainted brick
 - iii. Unpainted and untreated concrete
 - iv. Uncontaminated soil, gravel or rock
 - d. All grinding, crushing and/or screening activities will be conducted within the approved landfill footprint. The grinding, crushing, screening and recovery operations will be conducted as needed, on a periodic basis, to facilitate landfill recovery and incoming waste operations by contracted equipment and operators. The contractor selected will be responsible for maintaining an adequate safety plan and procedures per current standards and the safety and maintenance literature of the equipment manufacturer.
 - e. Finished products anticipated to be produced from this process are as follows:
 - i. Mulch
 - ii. Amended Soil
 - iii. Crushed aggregate
 - f. Final products are to be used onsite at the Weeks Sand Pit No. 2 Facility for operational uses such as, but not limited to:
 - i. Road bed material
 - ii. Drainage media
 - iii. Topsoil amendment for seeding and stabilization
 - iv. Daily/Periodic cover of waste areas
 - v. Other uses as permitted by DWM
 - g. Processed materials will be stockpiled for use within the facility boundary in designated areas. A minimum buffer between stockpiles and other operations will be 25 feet. For safety and fire protection, stockpiles will be monitored for size and temperature. If the temperature of a stockpile reaches 110 degrees Fahrenheit, sufficient material will be removed from the pile to reduce the temperature. The removed material will be placed in the landfill or formed into one or more separate stockpiles.
 - h. If the amount of stockpiled, processed material is determined to exceed the quantity required for onsite operations, the Operator may choose to sell the material to the public. The Landfill will keep weight or volume records of all materials sold and leaving the site.

23. Periodically, the Operator will evaluate the overall landfill operations. At a minimum of twice yearly, an evaluation of the general site conditions will be conducted to identify problems with routine operations. Additionally, daily, weekly and quarterly inspections will be performed as appropriate. A site inspection checklist is attached to the end of this document. Any deficiencies can be incorporated into a "punch list" for further action. After evaluation, any deficiencies noted should be corrected and records kept of the correction.

24. Markers shall be placed to clearly delineate the edge-of-waste around the perimeter of every active, inactive and closed disposal area. All markers must be maintained throughout the life of the landfill and throughout the required period of post-closure care.

In addition, facility staff should be aware of and be able to show Division staff the permitted boundary of the facility.

25. Closure Activities: Within 120 calendar days after completion of any phase of disposal operations, or upon revocation of a permit, the disposal area shall be covered with a minimum of one foot of suitable soil cover sloped to allow surface water runoff in a controlled manner. The soil cover shall be fertilized, limed and seeded. Erosion control matting shall be applied to assist in achieving stabilization. Further actions in order to correct any condition which is or may become injurious to the public health or a nuisance to the community may be required by DENR. (See item 15.c above)

SECTION 4.0 – LCID RENEWAL DRAWINGS

Attached and following are the renewal drawings for the LCID Landfill (6 Sheets). As stated in the cover letter, the original plans called for a fill pattern that has proven to be difficult to follow from an operational standpoint. In addition, the volume of incoming wasted has exceeded the original projections and the cells have been revised based on actual volume arriving at the facility.

The New Cell Layout is summarized below:

Cell	Acreage	Airspace* Available (cy)	Airspace* Used (cy)
Cell 1	7.25	62,106	140,133
Cell 2	5.59	202,239	0
Cell 3	2.35	84,940	0
Total	15.19	349,285	140,133

*Includes Final Cover

WEEKS SANDPIT No. 2 LCID LANDFILL HARNETT COUNTY PERMIT MODIFICATION

OCTOBER 2013
PERMIT #: 43F-LCID-2010

REGISTERED AGENT: J. S. WEEKS
8731 OLD E. C. WOMACK RD.
SANFORD, NC 27330
PO BOX 687
BROADWAY, NC 27505
(910) 258-3911

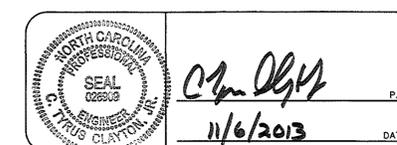
OPERATOR INFORMATION

OPERATED BY J. S. WEEKS SAND, INC.
20170 HWY. 24-27
PO BOX 540
CAMERON, NC 28326
(910) 890-8653
CONTACT: J. S. WEEKS

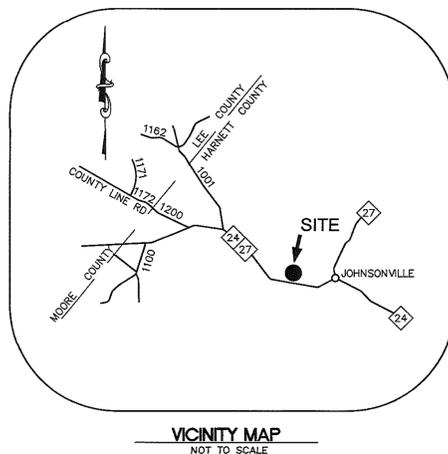
SHEET INDEX

COVER SHEET	
EXISTING CONDITIONS PLAN	1
FILL PLAN	2
EROSION & SEDIMENT CONTROL PLAN	3
SECTIONS	4
DETAILS	5

DESIGNED	WLF	DATE	10/31/13
DRAWN	WLF	CTC PROJ. #	193001
CHECKED	CTC Jr.	DWG FILE	193001 MAS.dwg
PROJ. ENG.	CTC Jr.		

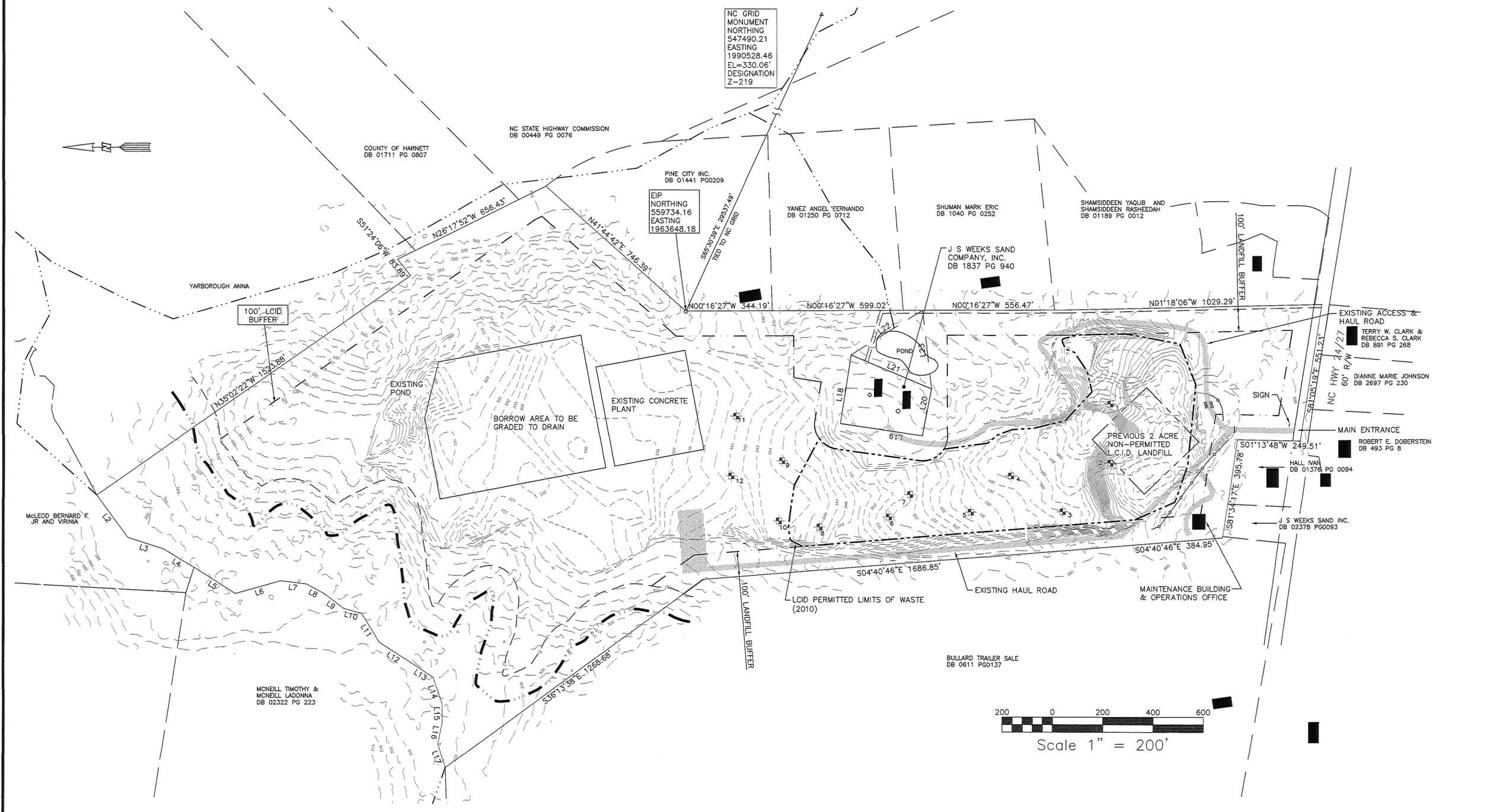


FINAL DRAWINGS
FOR PERMITTING ONLY
NOT RELEASED FOR CONSTRUCTION



General Notes

- EXISTING SITE FEATURES SHOWN ARE FROM THE ORIGINAL PERMIT DRAWINGS, VISUAL OBSERVATIONS AND A TOPOGRAPHIC SURVEY UPDATE PERFORMED BY STREAMLINE LAND SURVEYING IN AUGUST, 2013.



FINAL DRAWINGS
FOR PERMITTING ONLY
NOT RELEASED FOR CONSTRUCTION

No.	Revision/Issue	Date

Professional Engineer Seal for C. Travis Clayton, No. 025820, State of North Carolina. Signature: C. Travis Clayton, Date: 11/6/2013.

Clayton, Sr., P.E., Inc.
CIVIL & ENVIRONMENTAL ENGINEERING
46 WEST WASHINGTON STREET
COATS, NORTH CAROLINA 27521
PHONE: 919-897-7070 FAX: 919-897-6757
License No. C-2570 www.dclayton.com

**WEEKS SAND COMPANY
L.C.I.D. LANDFILL**

HARNETT COUNTY, NORTH CAROLINA

Project No:	193001	File Name:	193001 Mas.dwg
Designed By:	CTC Jr.	Drawn By:	WLF
Checked By:	CTC Jr.	Proj. Eng.:	CTC Jr.

EXISTING CONDITIONS PLAN

Date:	10/31/13	Sheet:	1
Scale:	1" = 200'		OF 5

LINE TABLE

L2	S53°41'54"W	209.88'
L3	S17°46'18"W	148.68'
L4	S31°15'48"W	150.25'
L5	S32°21'39"W	186.92'
L6	S15°56'26"E	187.39'
L7	S07°08'33"W	102.98'
L8	S28°29'04"W	83.79'
L9	S37°38'36"W	91.89'
L10	S16°13'16"W	77.15'
L11	S59°05'03"W	131.59'
L12	S32°51'34"W	164.35'
L13	S33°30'53"W	94.16'
L14	S71°49'33"W	112.35'
L15	N89°25'46"W	75.77'
L16	N78°46'20"W	84.28'
L17	S71°37'02"W	98.89'
L18	N81°20'28"W	276.78'
L19	S08°26'44"W	329.00'
L20	S79°03'16"E	190.00'
L21	N22°56'44"E	347.32'
L22	S32°01'52"E	335.38'
L23	S83°31'56"W	315.29'

LEGEND

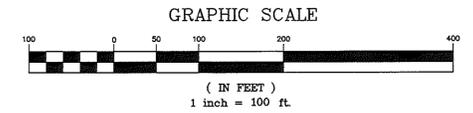
- PROPERTY LINE
- 100' LCID BUFFER
- LCID LIMITS
- WETLAND LIMITS
- 100' WETLAND BUFFER
- BASE CONTOUR
- EXISTING CONTOUR
- EXISTING ROAD
- EXISTING HAUL ROAD
- EXISTING BUILDING
- APPROXIMATE LOCATION OF TEST PIT

P:\193 Weeks L.C.I.D. Permit Modification\CAD\193001 Mas 11/6/2013 2:13 PM



APPROXIMATE LOCATIONS OF PROPOSED MATERIAL STOCKPILES FOR SALE, REUSE OR FURTHER PROCESSING (GRINDING, CHIPPING ETC.) THESE STOCKPILES SHALL BE WITHIN THE PERMITTED LIMITS OF THE LCID LANDFILL

FILL PLAN
SCALE: 1" = 100'



CELL EXTENT SUMMARY			
Cell	Acreage	Airspace* Available (cy)	Airspace* Used (cy)
Cell 1	7.25	62,106	140,133
Cell 2	5.59	202,239	0
Cell 3	2.35	84,940	0
Total	15.19	349,285	140,133

*Includes Final Cover

LEGEND	
	PROPERTY LINE
	100' LCID BUFFER
	LCID WASTE LIMITS
	BASE CONTOUR
	EXISTING CONTOUR
	PROPOSED FINAL CONTOUR
	PHASE LINE
	SECTION LINE
	EXISTING ROAD
	PROPOSED HAUL ROAD
	EXISTING BUILDING
	APPROXIMATE LOCATION OF TEST PIT

FINAL DRAWINGS
FOR PERMITTING ONLY
NOT RELEASED FOR CONSTRUCTION

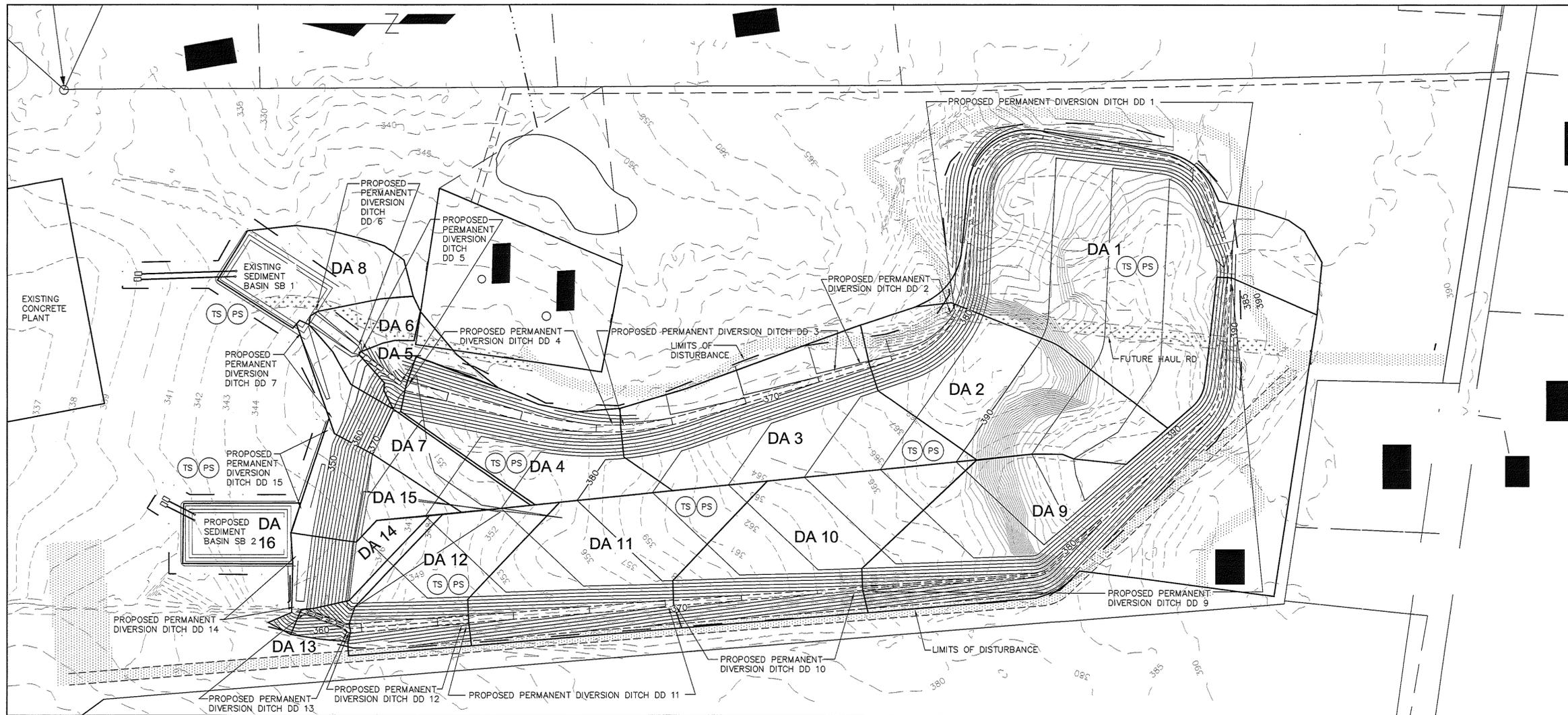
No.	Revision/Issue	Date

WEEKS SAND COMPANY
L.C.I.D. LANDFILL

HARNETT COUNTY, NORTH CAROLINA

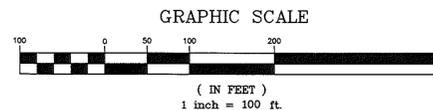
Project No:	193001	File Name:	193001 Mas.dwg
Designed By:	CTC Jr.	Drawn By:	WLF
Checked By:	CTC Jr.	Proj. Eng.:	CTC Jr.

Sheet Title	
FILL PLAN	
Date	10/31/13
Scale	1" = 100'
Sheet	2
OF	5



EROSION & SEDIMENT CONTROL PLAN

SCALE: 1" = 100'



TEMPORARY SEEDING SCHEDULE FOR LATE WINTER AND EARLY SPRING

DATES	SPECIES	RATE (LB/ACRE)
JAN 1 - MAY 1	RYE (GRAIN)	120
	KOBE LESPEDEZA	50

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

MULCH
APPLY 4000 LB/ACRE SMALL GRAIN STRAW AND TACK WITH ASPHALT.

MAINTENANCE
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

TEMPORARY SEEDING SCHEDULE FOR SUMMER

DATES	SPECIES	RATE (LB/ACRE)
MAY 1 - APR 15	GERMAN MILLET	40

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

MULCH
APPLY 4000 LB/ACRE SMALL GRAIN STRAW AND TACK WITH ASPHALT.

MAINTENANCE
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

TEMPORARY SEEDING SCHEDULE FOR FALL

DATES	SPECIES	RATE (LB/ACRE)
AUG 15 - DEC 30	RYE (GRAIN)	120

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1000 LB/ACRE 10-10-10 FERTILIZER.

MULCH
APPLY 4000 LB/ACRE SMALL GRAIN STRAW AND TACK WITH ASPHALT.

MAINTENANCE
REPAIR AND REFERTILIZE AND RESEED DAMAGED AREAS IMMEDIATELY. TOPDRESS WITH 50 LB/ACRE OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/ACRE KOBE LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

PERMANENT SEEDING SCHEDULE FOR GRASS-LINED CHANNELS

DATES	SPECIES	RATE (LB/ACRE)
BEST		
AUG 15 - OCT 31	TALL FESCUE	200
POSSIBLE		
FEB 1 - APR 15		

NURSE PLANTS
PRIOR TO MAY 1 OR AFTER AUG 15, ADD 40 LB/ACRE RYE (GRAIN).

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 4,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1000 LB/ACRE 10-10-10 FERTILIZER. OPERATE TILLAGE EQUIPMENT ACROSS THE WATERWAY.

MULCH
USE A ROLLED EROSION CONTROL PRODUCT TO COVER THE BOTTOM OF CHANNELS AND DITCHES AND STAPLE SECURELY. THE LINING SHOULD EXTEND ABOVE THE HIGHEST CALCULATED DEPTH OF FLOW.

MAINTENANCE
INSPECT AND REPAIR MULCH FREQUENTLY. REFERTILIZE IN LATE WINTER OF THE FOLLOWING YEAR. FOLLOW RECOMMENDATIONS OF SOIL TESTS OR USE 150 LB/ACRE OF 10-10-10. MOW REGULARLY TO A HEIGHT OF 2-4 INCHES.

PERMANENT SEEDING SCHEDULE FOR AREAS OTHER THAN CHANNELS

SPECIES	RATE (LB/ACRE)	SLOPES 3:1 AND STEEPER	SLOPES FLATTER THAN 3:1
TALL FESCUE	100	80	
SERICEA LESPEDEZA	30	20	
KOBE LESPEDEZA	10	10	
PENSACOLA BAHIAGRASS	25		NONE

AFTER AUGUST 15 USE UNSCARIFIED SERICEA SEED.

NURSE PLANTS
PRIOR TO MAY 1 OR AFTER AUG 15, ADD 40 LB/ACRE RYE (GRAIN).

SEEDING DATES	BEST	POSSIBLE
FALL:	AUG 25 - SEP 15	AUG 20 - OCT 25
LATE WINTER:	FEB 15 - MAR 21	FEB 1 - APR 15

FALL IS BEST FOR TALL FESCUE AND LATE WINTER FOR LESPEDEZAS. OVERSEEDING OF KOBE LESPEDEZA OVER FALL-SEEDED TALL FESCUE IS VERY EFFECTIVE.

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 4,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1000 LB/ACRE 10-10-10 FERTILIZER.

MULCH
APPLY 4,000-5,000 LB/ACRE GRAIN STRAW. ANCHOR BY TACKING WITH ASPHALT. ON SLOPE 3:1 OR STEEPER ANCHOR STRAW WITH NETTING.

MAINTENANCE
REFERTILIZE IN THE SECOND YEAR UNLESS GROWTH IS FULLY ADEQUATE. MAY BE MOWED ONCE OR TWICE A YEAR, BUT MOWING IS NOT NECESSARY. REFERTILIZE, RESEED AND MULCH DAMAGED AREAS IMMEDIATELY.

LEGEND

- PROPERTY LINE
- LIMITS OF DISTURBANCE
- - - - - BASE CONTOUR
- - - - - EXISTING CONTOUR
- 370— PROPOSED FINAL CONTOUR
- ▨ EXISTING ROAD
- ▩ PROPOSED HAUL ROAD
- EXISTING BUILDING
- TS TEMPORARY SEEDING
- PS PERMANENT SEEDING

SEEDING SPECIFICATIONS

- PLOW COMPACTED AREAS 6 INCHES DEEP.
- APPLY TOPSOIL IF AVAILABLE.
- APPLY LIME AND FERTILIZER UNIFORMLY AND INCORPORATE INTO THE TOP 4-6 INCHES OF SOIL. IF A HYDRAULIC SEEDER IS USED, DO NOT MIX SEED AND FERTILIZER MORE THAN 30 MINUTES BEFORE APPLICATION.
- UNLESS HYDROSEEDING IS USED, BREAK UP LARGE CLODS. IF SURFACE IS SEALED, LOOSEN IT IMMEDIATELY BEFORE SEEDING BY RAKING, DISKING, HARROWING OR OTHER SUITABLE METHODS. GROOVE OR FURROW SLOPES STEEPER THAN 3:1 ON THE CONTOUR BEFORE SEEDING.
- EVENLY APPLY SEED USING A CYCLONE SEEDER (BROADCAST), DRILL, CULTIPACKER SEEDER OR HYDROSEEDER. SMALL GRAINS SHOULD BE PLANTED NO MORE THAN ONE INCH DEEP, GRASSES AND LEGUMES NO MORE THAN 1/2 INCH.
- BROADCAST SEED MUST BE COVERED BY RAKING OR CHAIN DRAGGING AND THEN LIGHTLY FIRMED WITH A ROLLER OR CULTIPACKER. HYDROSEEDED MIXTURES SHOULD INCLUDE A WOOD FIBER (CELLULOSE) MULCH.
- IN AREAS NOT HYDROSEEDED, MULCH WITH GRAIN STRAW. SEE SEEDING SCHEDULES.

CONSTRUCTION SEQUENCE

- CONSTRUCT NEW OUTLET FOR SEDIMENT BASIN SB 1 AND CONSTRUCT SEDIMENT BASIN SB 2.
- CONSTRUCT DIVERSION DITCHES DD 1 AND DD 9 FROM SOUTH END TO TOP OF FILL SLOPE.
- INSTALL SLOPE DRAINS FROM DIVERSION DITCHES TO BASE GRADE. PRIOR TO FILLING BEYOND SLOPE DRAIN LOCATIONS, REMOVE SLOPE DRAINS, EXTEND DIVERSION DITCHES AND RELOCATE SLOPE DRAINS TO TOP OF NEW FILL SLOPE.
- APPLY TEMPORARY SEEDING AND MULCH TO ANY AREA LEFT INACTIVE MORE THAN 7 DAYS.
- PERMANENTLY SEED DIVERSION DITCHES AS ADJOINING FILL IS COMPLETED.
- AFTER ENTIRE SITE IS STABILIZED, REMOVE SEDIMENT BASINS AND SEED AT THEIR LOCATIONS.

SITE AREA DESCRIPTION	NEW STABILIZATION TIMEFRAMES (Effective Aug. 3, 2011)	
	STABILIZATION	TIMEFRAME EXCEPTIONS
Perimeter dikes, swales, ditches, slopes	7 days	None
High Quality Water (HQW) Zones	7 days	None
Slopes steeper than 3:1	7 days	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed.
Slopes 3:1 or flatter	14 days	7 days for slopes greater than 50' in length.
All other areas with slopes flatter than 4:1	14 days	None, except for perimeters and HQW Zones.

General Notes

- LIMITS OF DISTURBANCE FOR LCID OPERATIONS AND CONSTRUCTION FALL WITHIN PERMITTED LIMITS OF THE MINE PERMIT (PERMIT #43-28)

FINAL DRAWINGS
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No.	Revision/Issue	Date

SEAL
11/06/13
Date

[Signature]

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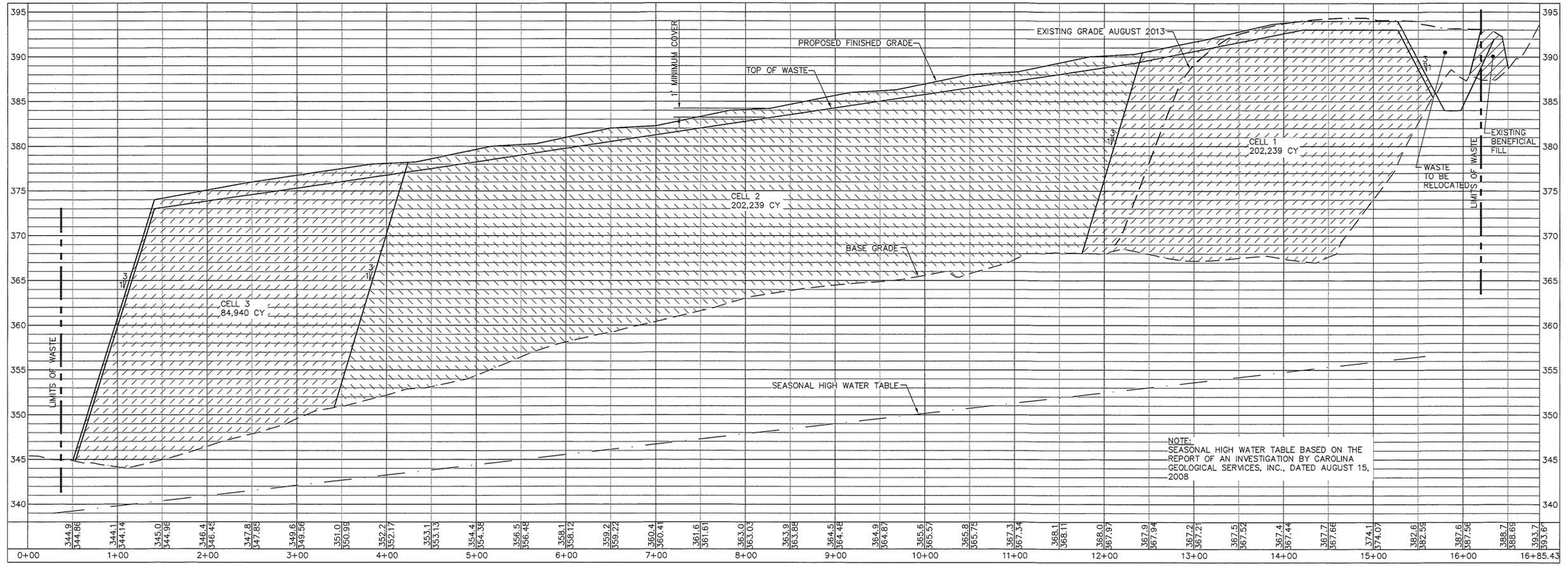
HARNETT COUNTY, NORTH CAROLINA

Project No: 193001	File Name: 193001.Mss.dwg
Designed By: CTC Jr.	Drawn By: WLF
Checked By: CTC Jr.	Proj. Eng.: CTC Jr.

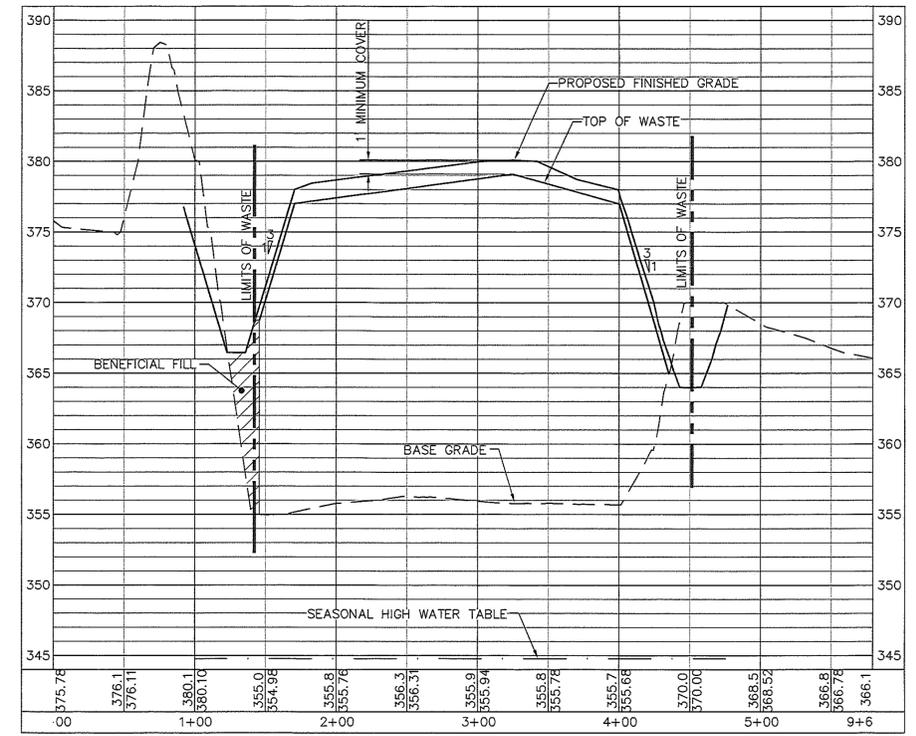
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Date: 10/31/13	Sheet: 3
Scale: 1" = 100'	OF 5

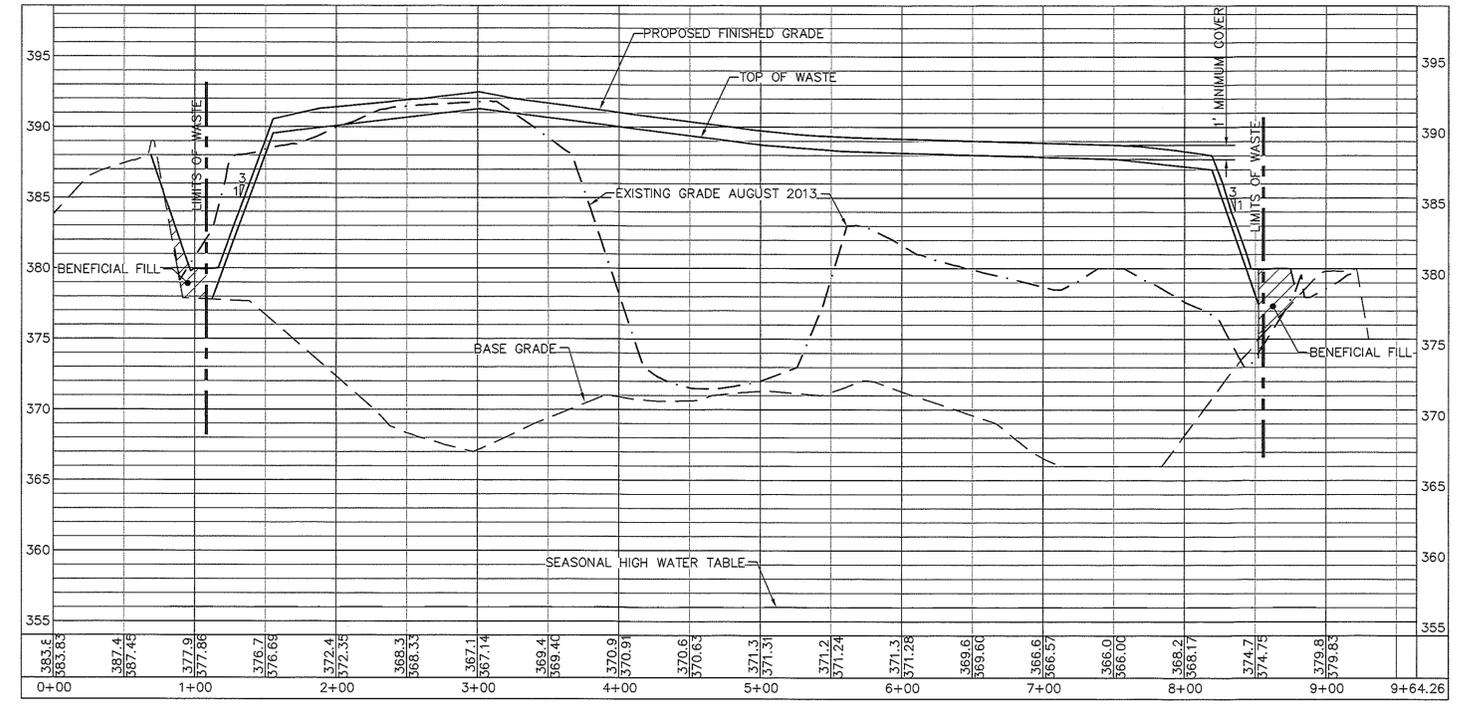
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SECTION A-A
 HORIZONTAL SCALE: 1" = 60'
 VERTICAL SCALE: 1" = 6'



SECTION B-B
 HORIZONTAL SCALE: 1" = 60'
 VERTICAL SCALE: 1" = 6'



SECTION C-C
 HORIZONTAL SCALE: 1" = 60'
 VERTICAL SCALE: 1" = 6'

General Notes

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No.	Revision/Issue	Date

Professional Engineer Seal for Travis Clayton, License No. C-2870, dated 11/6/2013.

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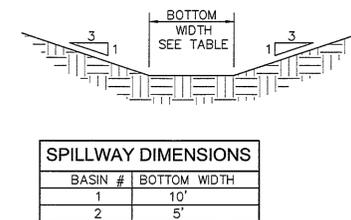
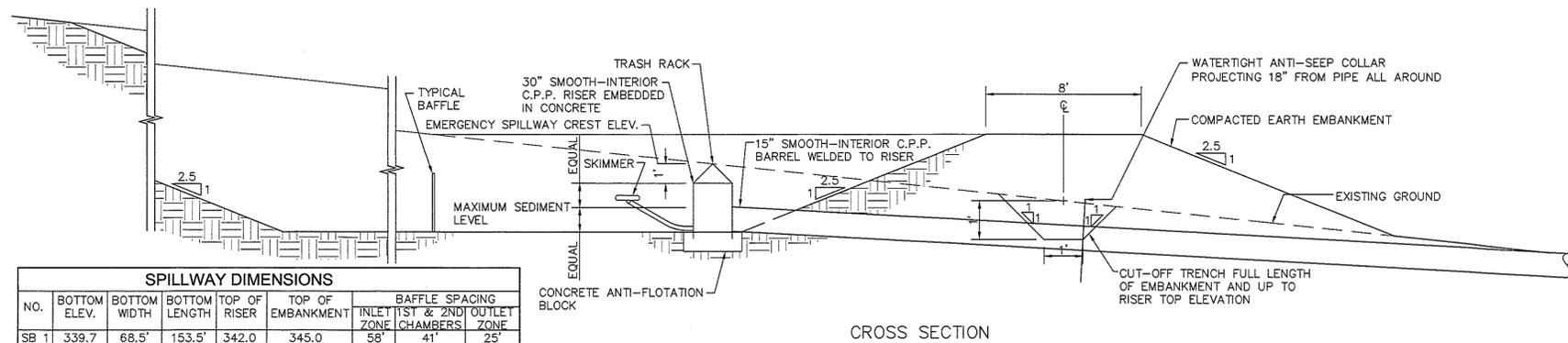
HARNETT COUNTY, NORTH CAROLINA

Project No: 193001	File Name: 193001 Mas.dwg
Designed By: CTC Jr.	Drawn By: WLF
Checked By: CTC Jr.	Proj. Eng.: CTC Jr.

SECTIONS	
Date: 10/31/13	Sheet: 4
Scale: AS NOTED	OF 5

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NO.	BOTTOM ELEV.	BOTTOM WIDTH	BOTTOM LENGTH	TOP OF RISER	TOP OF EMBANKMENT	BAFFLE SPACING		
						INLET	1ST & 2ND	OUTLET
						CHAMBERS	ZONE	ZONE
SB 1	339.7	68.5'	153.5'	342.0	345.0	58'	41'	25'
SB 2	341.2	68.5'	153.5'	343.5	346.0	58'	41'	25'

CROSS SECTION

SECTION AT EMERGENCY SPILLWAY

SPECIFICATIONS

- SITE PREPARATIONS** - CLEAR, GRUB, AND STRIP TOPSOIL FROM AREAS UNDER THE EMBANKMENT TO REMOVE TREES, VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL. DELAY CLEARING THE POOL AREA UNTIL THE DAM IS COMPLETE AND THEN REMOVE BRUSH, TREES, AND OTHER OBJECTIONABLE MATERIALS TO FACILITATE SEDIMENT CLEANOUT. STOCKPILE ALL TOPSOIL OR SOIL CONTAINING ORGANIC MATTER FOR USE ON THE OUTER SHELL OF THE EMBANKMENT TO FACILITATE VEGETATIVE ESTABLISHMENT. PLACE TEMPORARY SEDIMENT CONTROL MEASURES BELOW THE BASIN AS NEEDED.
- CUT-OFF TRENCH** - EXCAVATE A CUT-OFF TRENCH ALONG THE CENTER LINE OF THE EARTH FILL EMBANKMENT. CUT THE TRENCH TO STABLE SOIL MATERIAL, BUT IN NO CASE MAKE IT LESS THAN 2 FEET DEEP. THE CUT-OFF TRENCH MUST EXTEND INTO BOTH ABUTMENTS TO AT LEAST THE ELEVATION OF THE RISER CREST, OR THE SPILLWAY CREST IF THERE IS NO RISER. MAKE THE MINIMUM BOTTOM WIDTH WIDE ENOUGH TO PERMIT OPERATION OF EXCAVATION AND COMPACTION EQUIPMENT, BUT IN NO CASE LESS THAN 2 FEET. MAKE SIDE SLOPES OF THE TRENCH NO STEEPER THAN 1:1. COMPACTION REQUIREMENTS ARE THE SAME AS THOSE FOR THE EMBANKMENT. KEEP THE TRENCH DRY DURING BACKFILLING AND COMPACTION OPERATIONS.
- EMBANKMENT** - TAKE FILL MATERIAL FROM THE APPROVED AREAS SHOWN ON THE PLANS. IT SHOULD BE CLEAN MINERAL SOIL, FREE OF ROOTS, WOODY VEGETATION, ROCKS, AND OTHER OBJECTIONABLE MATERIAL. SCARIFY AREAS ON WHICH FILL IS TO BE PLACED BEFORE PLACING FILL. THE FILL MATERIAL MUST CONTAIN SUFFICIENT MOISTURE SO IT CAN BE FORMED BY HAND INTO A BALL WITHOUT

CRUMBLING. IF WATER CAN BE SQUEEZED OUT OF THE BALL IT IS TOO WET FOR PROPER COMPACTION. PLACE FILL MATERIAL IN 6 TO 8 INCH CONTINUOUS LAYERS OVER THE ENTIRE LENGTH OF THE FILL AREA AND COMPACT IT. COMPACTION MAY BE OBTAINED BY ROUTING THE CONSTRUCTION HAULING EQUIPMENT OVER THE FILL TO THAT THE ENTIRE SURFACE OF EACH LAYER IS TRAVERSED BY AT LEAST ONE WHEEL OR TREAD TRACK OF HEAVY EQUIPMENT, OR A COMPACTOR MAY BE USED. CONSTRUCT THE EMBANKMENT TO AN ELEVATION 10 PERCENT HIGHER THAN THE DESIGN HEIGHT TO ALLOW FOR SETTLING.

- CONDUIT SPILLWAYS** - SECURELY ATTACH THE RISER TO THE BARREL OR BARREL STUB TO MAKE A WATERTIGHT STRUCTURAL CONNECTION. SECURE ALL CONNECTIONS BETWEEN BARREL SECTIONS BY APPROVED WATERTIGHT ASSEMBLIES. PLACE THE BARREL AND RISER ON A FIRM, SMOOTH FOUNDATION OF IMPERVIOUS SOIL. DO NOT USE PERVIOUS MATERIAL SUCH AS SAND, GRAVEL, OR CRUSHED STONE AS BACKFILL AROUND THE PIPE OR ANTI-SEEP COLLARS. PLACE THE FILL MATERIAL AROUND THE PIPE SPILLWAY IN 4-INCH LAYERS, AND COMPACT IT UNDER AND AROUND THE PIPE TO AT LEAST THE SAME DENSITY AS THE ADJACENT EMBANKMENT. CARE MUST BE TAKEN NOT TO RAISE THE PIPE FROM FIRM CONTACT WITH ITS FOUNDATION WHEN COMPACTING UNDER THE PIPE HAUNCHES.

PLACE A MINIMUM OF 2 FEET OF COMPACTED BACKFILL OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT. ANCHOR THE RISER IN PLACE BY CONCRETE OR OTHER SATISFACTORY MEANS TO PREVENT FLOTATION. IN NO CASE SHOULD THE PIPE CONDUIT BE INSTALLED BY CUTTING A TRENCH THROUGH THE DAM AFTER THE EMBANKMENT IS COMPLETE.

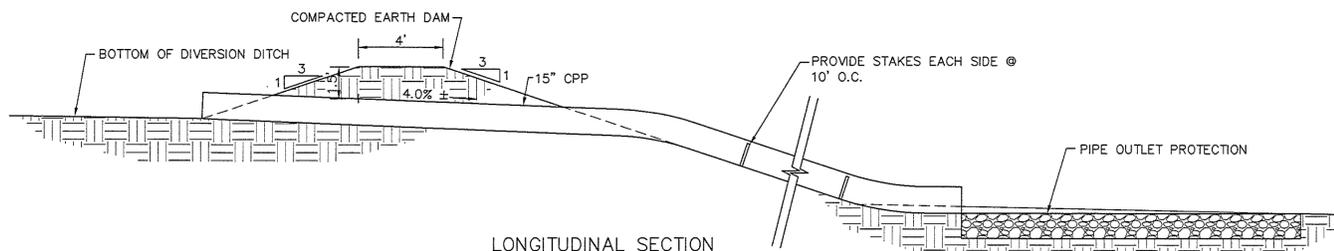
- EMERGENCY SPILLWAY** - INSTALL THE EMERGENCY SPILLWAY IN UNDISTURBED SOIL. THE ACHIEVEMENT OF PLANNED ELEVATIONS, GRADE, DESIGN WIDTH, AND ENTRANCE AND EXIT CHANNEL SLOPES ARE CRITICAL TO THE SUCCESSFUL OPERATION OF THE EMERGENCY SPILLWAY.
- INLETS** - DISCHARGE WATER INTO THE BASIN IN A MANNER TO PREVENT EROSION. USE DIVERSIONS WITH OUTLET PROTECTION TO DIVERT SEDIMENT-LADEN WATER TO THE UPPER END OF THE POOL TO IMPROVE BASIN TRAP EFFICIENCY.
- EROSION CONTROL** - CONSTRUCT THE STRUCTURE SO THAT THE DISTURBED AREA IS MINIMIZED. DIVERT SURFACE WATER AWAY FROM BARE AREAS. COMPLETE THE EMBANKMENT BEFORE THE AREA IS CLEARED. STABILIZE THE EMERGENCY SPILLWAY EMBANKMENT AND ALL OTHER DISTURBED AREAS ABOVE THE CREST OF THE PRINCIPAL SPILLWAY IMMEDIATELY AFTER CONSTRUCTION.

MAINTENANCE
INSPECT TEMPORARY SEDIMENT BASINS AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN IT ACCUMULATES TO ONE-HALF THE DESIGN DEPTH. PLACE REMOVED SEDIMENT IN AREAS WITH SEDIMENT CONTROLS.

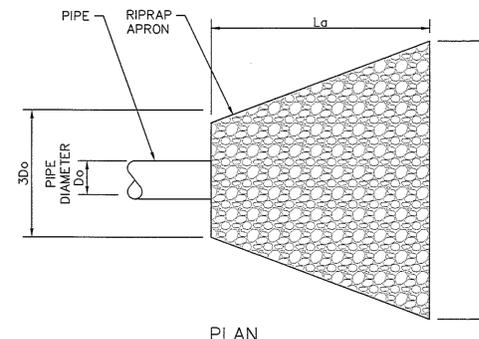
CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. MAKE ALL NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE RISER AND POOL AREA.

SEDIMENT BASIN DETAIL

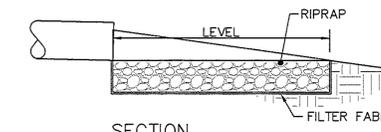
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LONGITUDINAL SECTION



PLAN



SECTION

LOCATION	D _p	L _a	W	RIPRAP SIZE	APRON THICKNESS
SLOPE DRAINS	15"	20'	22'	CLASS A	9"
CONCRETE LINED DITCHES	-	16'	17'	CLASS B	18"
SEDIMENT BASINS	24"	16'	18'	CLASS A	9"

SPECIFICATIONS

- ENSURE THAT THE SUBGRADE FOR THE FILTER AND RIPRAP FOLLOWS THE REQUIRED LINES AND GRADES SHOWN IN THE PLAN. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO THE DENSITY OF THE SURROUNDING UNDISTURBED MATERIAL. LOW AREAS IN THE SUBGRADE ON UNDISTURBED SOIL MAY ALSO BE FILLED BY INCREASING THE RIPRAP THICKNESS.
- THE RIPRAP AND GRAVEL FILTER MUST CONFORM TO THE SPECIFIED GRADING LIMITS SHOWN ON THE PLANS.
- FILTER CLOTH, WHEN USED, MUST MEET DESIGN REQUIREMENTS AND BE PROPERLY PROTECTED FROM PUNCHING OR TEARING DURING INSTALLATION. REPAIR ANY DAMAGE BY REMOVING THE RIPRAP AND PLACING ANOTHER PIECE OF FILTER CLOTH OVER THE DAMAGED AREA. ALL CONNECTING JOINTS SHOULD OVERLAP A MINIMUM OF 1 FT. IF THE DAMAGE IS EXTENSIVE, REPLACE THE ENTIRE FILTER CLOTH.
- RIPRAP MAY BE PLACED BY EQUIPMENT, BUT TAKE CARE TO AVOID DAMAGING THE FILTER.
- THE MINIMUM THICKNESS OF THE RIPRAP SHOULD BE 1.5 TIMES THE MAXIMUM STONE DIAMETER.
- RIPRAP MAY BE FIELD STONE OR ROUGH QUARRY STONE. IT SHOULD BE HARD, ANGULAR, HIGHLY WEATHER-RESISTANT AND WELL GRADED.
- CONSTRUCT THE APRON ON ZERO GRADE WITH NO OVERFALL AT THE END. MAKE THE TOP OF THE RIPRAP AT THE DOWNSTREAM END LEVEL WITH THE RECEIVING AREA OR SLIGHTLY BELOW IT.
- ENSURE THAT THE APRON IS PROPERLY ALIGNED WITH THE RECEIVING STREAM AND PREFERABLY STRAIGHT THROUGHOUT ITS LENGTH. IF A CURVE IS NEEDED TO FIT SITE CONDITIONS, PLACE IT IN THE UPPER SECTION OF THE APRON IMMEDIATELY AFTER CONSTRUCTION. STABILIZE ALL DISTURBED AREAS WITH VEGETATION.

MAINTENANCE

- INSPECT RIP-RAP OUTLET STRUCTURES WEEKLY AND AFTER SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENTS TO SEE IF ANY EROSION AROUND OR BELOW THE RIP-RAP HAS TAKEN PLACE, OR IF STONES HAVE BEEN DISLODGED. PROMPTLY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.

PIPE/DITCH OUTLET PROTECTION DETAIL

NOT TO SCALE

SPECIFICATIONS

A COMMON FAILURE OF SLOPE DRAINS IS CAUSED BY WATER SATURATING THE SOIL AND SEEPING ALONG THE PIPE. THIS CREATES VOIDS FROM CONSOLIDATION AND PIPING AND CAUSES WASHOUTS. PROPER BACKFILLING AROUND AND UNDER THE PIPE 'HAUNCHES' WITH STABLE SOIL MATERIAL AND HAND COMPACTING IN 6-INCH LIFTS TO ACHIEVE FIRM CONTACT BETWEEN THE PIPE AND THE SOIL AT ALL POINTS WILL ELIMINATE THIS TYPE OF FAILURE.

- PLACE SLOPE DRAINS ON UNDISTURBED SOIL OR WELL COMPACTED FILL AT LOCATIONS AND ELEVATIONS SHOWN ON THE PLAN.
- SLIGHTLY SLOPE THE SECTION OF PIPE UNDER THE DIKE TOWARD ITS OUTLET.
- HAND TAMP THE SOIL UNDER AND AROUND THE ENTRANCE SECTION IN LIFTS NOT TO EXCEED 6 INCHES.
- ENSURE THAT ALL SLOPE DRAIN CONNECTIONS ARE WATERTIGHT.

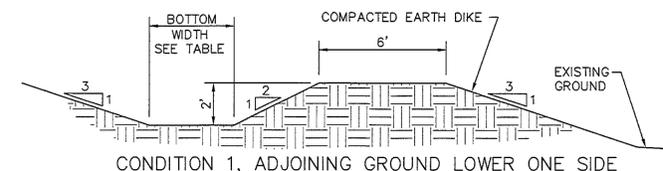
- ENSURE THAT ALL FILL MATERIAL IS WELL COMPACTED.
- ADEQUATELY PROTECT THE DRAIN OUTLET FROM EROSION.
- MAKE THE SETTLED, COMPACTED DIKE RIDGE NO LESS THAN ONE FOOT ABOVE THE TOP OF THE PIPE AT EVERY POINT.
- IMMEDIATELY STABILIZE ALL DISTURBED AREAS FOLLOWING CONSTRUCTION.

MAINTENANCE

INSPECT THE SLOPE DRAIN AND SUPPORTING DIVERSION AFTER EVERY RAINFALL, AND PROMPTLY MAKE NECESSARY REPAIRS. WHEN THE PROTECTED AREA HAS BEEN PERMANENTLY STABILIZED, TEMPORARY MEASURES MAY BE REMOVED, MATERIALS DISPOSED OF PROPERLY, AND ALL DISTURBED AREAS STABILIZED APPROPRIATELY.

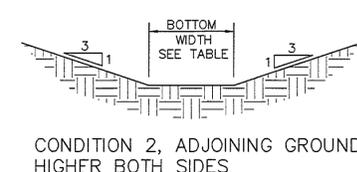
SD SLOPE DRAIN DETAIL

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

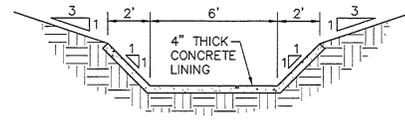


CONDITION 1, ADJOINING GROUND LOWER ONE SIDE

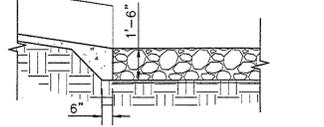
DITCH NO.	BOTTOM WIDTH	DITCH SLOPE	DITCH NO.	BOTTOM WIDTH	DITCH SLOPE
1	6'	1.5%	9	6'	1.5%
2	9'	1.5%	10	9'	1.5%
3	12'	1.5%	11	12'	1.5%
4	15'	1.5%	12	15'	1.5%
5	6'	15.0%	13	6'	15.0%
6	15'	1.5%	14	15'	1.5%
7	6'	2.0%	15	6'	1.5%



CONDITION 2, ADJOINING GROUND HIGHER BOTH SIDES



CROSS SECTION



LONGITUDINAL SECTION AT TOE

CONDITION 3, 15% DITCH SLOPE

CONSTRUCTION

- REMOVE AND PROPERLY DISPOSE OF ALL TREES, BRUSH, STUMPS OR OTHER OBJECTIONABLE MATERIAL. FILL AND COMPACT ALL DITCHES, SWALES OR GULLIES THAT WILL BE CROSSED TO NATURAL GROUND LEVEL OR ABOVE.
- JUST BEFORE PLACEMENT OF FILL, THE BASE OF THE RIDGE SHOULD BE DISKED BY MACHINERY.
- EXCAVATE, SHAPE AND STABILIZE THE DIVERSION TO LINE, GRADE AND CROSS SECTION, AS SHOWN ON THE DRAWINGS.
- COMPACT THE RIDGE TO PREVENT UNEQUAL SETTLEMENT AND TO PROVIDE STABILITY AGAINST SEEPAGE.
- VEGETATIVELY STABILIZE THE DIVERSION.

MAINTENANCE

- INSPECT PERMANENT DIVERSIONS AFTER EVERY RAINFALL DURING THE CONSTRUCTION OPERATION. IMMEDIATELY REMOVE ANY OBSTRUCTIONS FROM THE FLOW AREA AND REPAIR THE DIVERSION RIDGE. CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED. MAINTAIN THE VEGETATION IN A VIGOROUS, HEALTHY CONDITION AT ALL TIMES.

DIVERSION DITCH DETAIL

SCALE: 1/2" = 1'-0"

FINAL DRAWINGS
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No.	Revision/Issue	Date



Signature: *Travis Clayton, Jr.*
Date: 11/6/2023



WEEKS SAND COMPANY
L.C.I.D. LANDFILL

HARNETT COUNTY, NORTH CAROLINA

Project No: 193001	File Name: 193001_Mus.dwg
Designed By: CTC Jr.	Drawn By: WLF
Checked By: CTC Jr.	Proj. Eng.: CTC Jr.

DETAILS

Date: 10/31/13	Sheet: 5
Scale: AS NOTED	OF 5

SECTION 5.0 – AIRSPACE ANALYSIS

The existing conditions of the LCID landfill were surveyed in August 2013, to facilitate an analysis of the available airspace and the approximate life left in the LCID Landfill. The analysis is presented below. This analysis found the overall capacity, 489,400 cubic yards, of the cell to be in close proximity to that originally anticipated, 493,000 cubic yards, in the original application submitted in 2009/2010 by TWK, PA.

The analysis anticipates that approximately 8.6 years of available airspace is left in the Weeks Sand Pit No. 2 LCID Landfill. This estimate was generated based on an assumed average tonnage of 38,000 cubic yards of LCID waste being received per year at the facility. It also assumes no reduction in waste due to mining, settlement, grinding or other methods of waste reduction or diversion. Any of these activities will ultimately extend the life of the LCID landfill.

However, if natural occurrences such as tornadoes or hurricanes that generate waste that is disposed of in the LCID landfill strike the area, a significant temporary increase in tonnage will be experienced.

Overall, the estimated remaining life of 8.6 years should be a sufficient estimate for planning purposes at this time. A breakdown of volume and acreage in each cell was provided in Section 4.

Weeks Sand Pit No. 2 LCID Landfill Facility Expected Life Calculation 2013

Volume used from February, 2010, to August, 2013:	140,133 yd ³
Deduction for final cover:	6,655 yd ³
Waste volume =	133,478 yd ³
Time:	3.5 years
Average annual waste intake =	38,137 yd ³
Volume between base surface and final surface:	489,419 yd ³
Volume between base surface and 2013 surface:	140,133 yd ³
Deduction for final cover:	22,000 yd ³
Air space remaining August, 2013 =	327,286 yd ³
Projected annual waste intake:	38,200 yd ³
Expected life of landfill from August, 2013 =	8.6 years

SECTION 6.0 – STORMWATER CONTROL AND MINING PERMIT

The Weeks Sand Pit No. 2 Landfill operates under a Mining Permit from the Land Quality Section of NCDENR for different activities within the facility. This application is for a permit renewal and fill plan modification. We do not propose to expand the footprint of the LCID Landfill or the stormwater drainage patterns and thus a revision to the existing Mining Permit is not anticipated. Copy of the current Mining Permit for this property and stormwater calculations for the Landfill are found in Section 7.0.

SECTION 7.0 – APPENDIX DOCUMENTS

Legal Description of Property
USGS Topographic Quadrangle Map
Zoning Letter
FEMA Flood Map
Mining Permit
Stormwater Calculations
Fire Occurrence Notification Form
Waste Screening Form
Routine Inspection Forms

Legal Description of Property

Deed information for Parcel 9565-38-1737



FOR REGISTRATION REGISTER OF DEEDS
 KIMBERLY S. HARGROVE
 HARNETT COUNTY, NC
 2003 OCT 02 01:34:28 PM
 BK: 1037 PG: 940-944 FEE: \$23 00
 NS: \$25.00
 INSTRUMENT # 2003020491

HARNETT COUNTY TAX ID #
 09 9565 0081 -01
 09 9565 0081
 09 9565 0083
 09 9566 0150
 10/2 BY MT

NORTH CAROLINA GENERAL WARRANTY DEED

Excise Tax:

Parcel Identifier No. _____ Verified by _____ County on the _____ day of _____, 20____
 By: _____

Mail/Box to: J S. Weeks Sand, Inc., P.O. Box 687, Broadway, N. C. 27505

This instrument was prepared by: Jonathan Silverman, P. O. Box 1320, Sanford, N. C. 27330

Brief description for the Index: _____

THIS DEED made this 24th day of September, 2002, by and between

GRANTOR	GRANTEE
Joseph S. Weeks, unmarried PO Box 687 Broadway NC 27505	J. S. Weeks Sand, Inc. P. O. Box 687 Broadway, N. C. 27505

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

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

See Exhibit A attached hereto for description of the tracts conveyed.

DEED PREPARED WITHOUT TITLE OPINION OR TAX ADVICE

The property hereinabove described was acquired by Grantor by instrument recorded in Book 1368, page 947.

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

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

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

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

J.S. Weeks Sand Co. Inc.
(Entity Name)

Joseph S. Weeks (SEAL)
Joseph S. Weeks

By: Joseph S. Weeks
Title: President

(SEAL)

By: _____
Title: _____

(SEAL)

By: _____

(SEAL)

State of North Carolina - County of Lee

I, the undersigned Notary Public of the County and State aforesaid, certify that Joseph S. Weeks, personally appeared before me this day and acknowledged the due execution of the foregoing instrument for the purposes therein expressed. Witness my hand and Notarial stamp of seal, this 2nd day of OCT., 2008.

My Commission Expires: Sept. 29, 2004

Elizabeth W. Smith
Notary Public

State of North Carolina - County of Lee

I, the undersigned Notary Public of the County and State aforesaid, certify that Joseph S. Weeks personally appeared before me this day and acknowledged that he is the President of J.S. Weeks Sand Co. Inc., a corporation/limited liability company/general partnership/limited partnership (strike through one is applicable), and that authority duly given and as the act of such entity, he signed the following instrument in its name on its behalf as its act and deed. Witness my hand and Notarial stamp or seal, this 2nd day of OCT., 2008.

My Commission Expires: Sept. 29, 2004

Elizabeth W. Smith
Notary Public

The foregoing Certificate(s) of _____ is/are certified to be correct. This instrument and this certificate are duly registered at the date and time and in the Book and Page shown on the first page hereof.

By: _____ Register of Deeds for _____ County
Deputy/Assistant - Register of Deeds

EXHIBIT A

TRACT ONE: BEING all of that 70.54 acre tract as shown by map entitled "B & C Lands", prepared for Douglas Wayne Mangum and Clyde L. Patterson by Dowell G. Eakes, RLS, dated May 12, 1994, and recorded in Plat Cabinet F, Slide 282-B, Hamett County Registry. Reference to said map is hereby made for a more particular description.

Back Deed Reference: See Book 1052, Page 35, Hamett County Registry.

TRACT TWO: BEGINNING at a point marked by an concrete monument in the east line of Bullard, now or formerly (Book 611, page 137, Hamett County Registry), in the northwest corner of Joseph S. Weeks, et ux (Book 1052, page 35, Hamett County Registry); thence from the point of beginning along the eastern line of Bullard North 31 deg. 05 min. 47 sec. West 1268.68 feet to a point in the centerline of a creek, said point being North 31 deg. 05 min. 47 sec. West 20.00 feet from an existing concrete monument; thence along the centerline of the creek the following courses and distances: North 76 deg. 44 min. 53 sec. East 98.89 feet; South 73 deg. 38 min. 29 sec. East 84.28; South 84 deg. 17 min. 55 sec. East 75.77 feet; North 76 deg. 57 min. 24 sec. East 112.35 feet; North 38 deg. 38 min. 44 sec. East 94.16 feet; North 37 deg. 59 min. 25 sec. East 164.35 feet; North 64 deg. 12 min. 54 sec. East 131.59 feet; North 21 deg. 21 min. 07 sec. East 77.15 feet; North 42 deg. 46 min. 27 sec. East 91.89 feet; North 33 deg. 36 min. 55 sec. East 83.79 feet; North 12 deg. 16 min. 24 sec. East 102.98 feet; North 10 deg. 48 min. 35 sec. West 187.39 feet; North 37 deg. 29 min. 30 sec. East 186.92 feet; North 36 deg. 23 min. 39 sec. East 150.25 feet; North 22 deg. 54 min. 09 sec. East 148.68 feet; and North 58 deg. 49 min. 45 sec. East 209.88 feet; thence departing from the centerline of the creek South 29 deg. 54 min. 31 sec. East 1531.72 feet to a point marked by an iron in the north line of Weeks; thence South 51 deg. 30 min. 00 sec. West 1677.60 feet to the point and place of BEGINNING, being all of 48.94 acres, the aforesaid being taken from a "Survey for Weeks Sand Co., Inc.", prepared by Melvin A. Graham, RLS, dated 7-2-94, and revised 12-29-97.

Conveyed with Tract Two is an access easement across Tract One for ingress, egress and regress to Tract Two.

Back Deed Reference: See Book 1264, Page 400, Hamett County Registry.

TRACT THREE: BEGINNING 55 feet west of a marked pine near the dam and runs thence North 77 West 280 feet to an iron stake corner; thence South 12 West 329 feet to an iron stake corner; thence South 75 deg. 30 min. East 190 feet to an iron stake corner; thence North 26 deg. 30 min. East 348 feet to the point of beginning and containing 1.83 acres, more or less, by actual survey of Joe H. Ross, April, 1967, and being a part of the property described in Book 392, page 255 of the Hamett County Registry; also in same registry refer to Book 515, at page 121.

Less and Except the following: Being all of that 0.689 acre tract as shown on map entitled "Walter H. Moore, Jr. and wife, Teresa P. Moore, by Dowell G. Eakes, RLS, dated August 2, 1990, and recorded in Plat Cabinet E, Slide 50-C, Hamett County Registry. Reference to said map is hereby made for greater certainty of description.

CONVEYED with the foregoing is right of ingress, egress and regress as contained in deed recorded in Book 518, page 87, Hamett County Registry.

Also conveyed with the foregoing is a 30 foot roadway easement across Tract One for ingress, egress and regress to Tract Three.

Back Deed Reference: See Book 1264, page 392, Hamett County Registry.

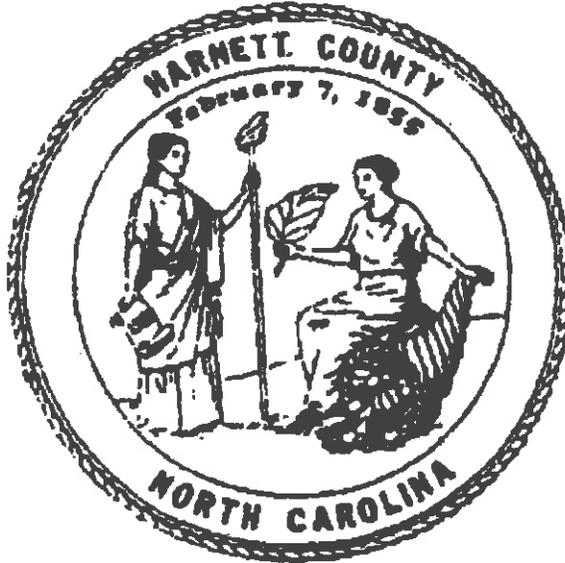
TRACT FOUR: Being all that 0.689 acre tract as shown on a map entitled "Walter H. Moore, Jr. and wife, Teresa P. Moore," by Dowell G. Eakes, RLS, dated August 2, 1990, and recorded in Plat Cabinet E, Slide 50-C, Hamett County Registry. Reference to said map is hereby made for a greater certainty of description.

CONVEYED with the foregoing is right of ingress, egress and regress as contained in deed recorded in Book 518, page 87, Hamett County Registry.

Also conveyed with the foregoing is a 30 foot roadway easement across Tract One for ingress, egress and regress to Tract Three and Tract Four.

Back Deed Reference: See Book 1264, page 389, Hamett County Registry.

Joseph Weeks former wife, Adrin Tess Weeks quitclaimed her interest in the above four tracts by deed recorded in Book 1368, Page 947, Hamett County Registry.



KIMBERLY S. HARGROVE
REGISTER OF DEEDS, HARNETT
305 W CORNELIUS HARNETT BLVD
SUITE 200
LILLINGTON, NC 27546

Filed For Registration: 10/02/2003 01:34:28 PM
Book: RE 1837 Page: 940-944
Document No.: 2003020491
DEED 5 PGS \$23.00
NS: \$25.00
Recorder: ELMIRA MCLEAN

State of North Carolina, County of Harnett

The foregoing certificate of ELIZABETH W. SMITH Notary is certified to be correct. This 2 ND of October 2003

KIMBERLY S. HARGROVE , REGISTER OF DEEDS

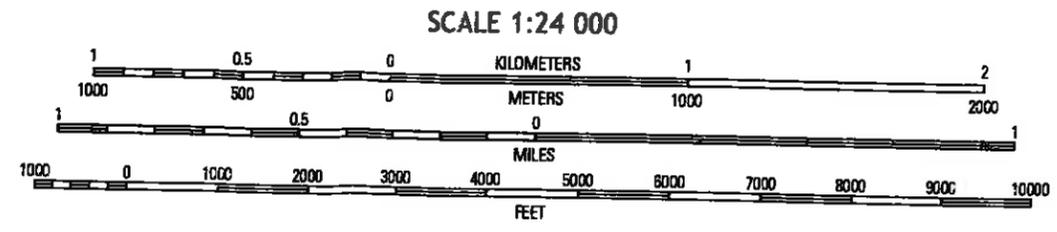
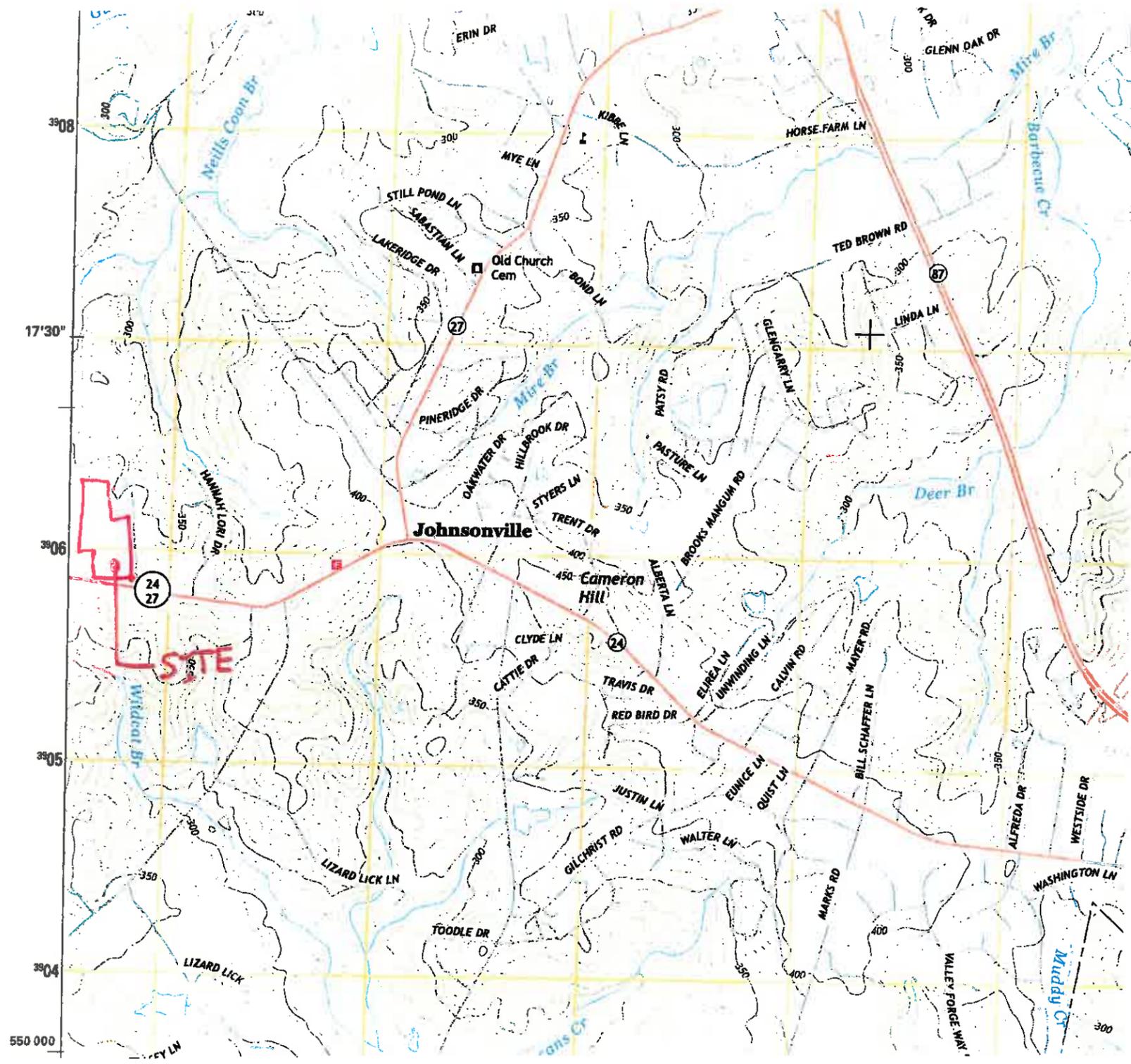
By: *Elmira McLean*
Deputy/Assistant Register of Deeds

DO NOT DISCARD



2003020491

USGS Topographic Quadrangle Map



CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

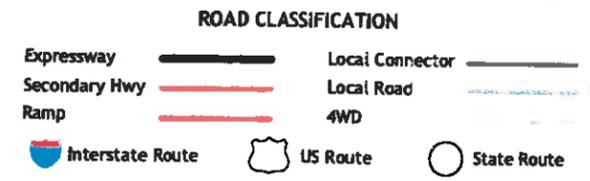
This map was produced to conform with the
National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.11



QUADRANGLE LOCATION

Sanford	Broadway	Mamers
Murchisonstown	Olivia	Anderson Creek
Lobelia	Overhills	Manchester

ADJOINING 7.5' QUADRANGLES



OLIVIA, NC
2013

Zoning Letter

JS Weeks Sand Co, Inc
PO Box 540
Cameron, NC 28326

November 14, 2007

RE: LCID

To Whom It May Concern:

This is to inform you that on November 13, 2007 the Harnett County Board of Adjustment approved a conditional use permit for the above referenced request. Your next step will be the commercial site plan process.

Please be aware that a conditional use permit is valid for a period of one year from the date of approval. If no further action is taken before that period expires, the conditional use permit will become invalid.

With further questions or concerns, the Harnett County Planning Department can be reached at (910)893-7525, option 4.

Thanks,



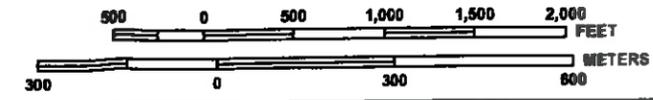
Jay Sikes
Senior Planner

FEMA Flood Map



GRID NORTH

MAP SCALE 1" = 1,000' (1 : 12,000)



NFIP

PANEL 9564J

FIRM
FLOOD INSURANCE RATE MAP
NORTH CAROLINA

PANEL 9564
 (SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	CID No.	PANEL	SUFFIX
HARNETT COUNTY	370328	9564	J

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

EFFECTIVE DATE **MAP NUMBER**
OCTOBER 3, 2006 **3710956400J**



State of North Carolina
 Federal Emergency Management Agency

NATIONAL FLOOD INSURANCE PROGRAM

Mining Permit



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

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

October 13, 2010

Beverly Eaves Perdue, Governor
Dee Freeman, Secretary

Mr. Joseph S. Weeks
J.S. Weeks Sand, Inc.
PO Box 687
Broadway, North Carolina 27505

RE: Permit No. 43-28 - Weeks Sand Pit No. 2
Harnett County - Cape Fear River Basin

Dear Mr. Weeks:

Your recent request to have the above referenced mining permit modified has been approved. The modification is to allow the disposal of land clearing and inert debris at the site on approximately 23.0 acres as indicated on the mine Site Plan dated April 4, 2010 and in accordance with Land Clearing and Inert Debris (LCID) Landfill Permit No. 43F-LCID-2010 issued by the Division of Waste Management. A copy of the modified permit is enclosed.

The conditions in the modified permit were based primarily upon the initial application. Modifications were made as indicated by the modification request and as required to insure compliance with The Mining Act of 1971. The expiration date, mine name and permit number shall remain the same as before the modification. I would like to draw your particular attention to the following conditions where minor additions or changes were made: Operating Condition Nos. 4F and 10E.

The issuance of a mining permit and/or any modification to it does not supersede local zoning regulations. The responsibility of compliance with any applicable zoning regulations lies with you.

As a reminder, your permitted acreage at this site is 117.61 acres and the amount of land you are approved to disturb is 76.2 acres.

Please review the modified permit and contact Ms. Judy Wehner, Assistant Mining Specialist, at (919) 733-4574 should you have any questions concerning this matter.

Sincerely,


Francis M. Nevils, Jr., PE
Section Chief

FMN/jw

Enclosures

cc: Mr. Steve Cook
Ms. Shannon Deaton - WRC, w/permit
Mr. Bradley Bennett - DWQ, w/permit
Mr. William Geringer-Mine and Quarry Bureau, w/o enclosures

**DEPARTMENT OF ENVIRONMENT
AND NATURAL RESOURCES**

DIVISION OF LAND RESOURCES

LAND QUALITY SECTION

P E R M I T

for the operation of a mining activity

In accordance with the provisions of G.S. 74-46 through 68, "The Mining Act of 1971," Mining Permit Rule 15A NCAC 5 B, and other applicable laws, rules and regulations

Permission is hereby granted to:

J. S. Weeks Sand, Inc.

Weeks Sand Pit No. 2

Harnett County - Permit No. 43-28

for the operation of a

Sand Mine

which shall provide that the usefulness, productivity and scenic values of all lands and waters affected by this mining operation will receive the greatest practical degree of protection and restoration.

MINING PERMIT EXPIRATION DATE: July 27, 2014

In accordance with the application for this mining permit, which is hereby approved by the Department of Environment and Natural Resources, hereinafter referred to as the Department, and in conformity with the approved Reclamation Plan attached to and incorporated as part of this permit, provisions must be made for the protection of the surrounding environment and for reclamation of the land and water affected by the permitted mining operation. This permit is expressly conditioned upon compliance with all the requirements of the approved Reclamation Plan. However, completed performance of the approved Reclamation Plan is a separable obligation, secured by the bond or other security on file with the Department, and may survive the expiration, revocation or suspension of this permit.

This permit is not transferable by the permittee with the following exception: If another operator succeeds to the interest of the permittee in the permitted mining operation, by virtue of a sale, lease, assignment or otherwise, the Department may release the permittee from the duties imposed upon him by the conditions of his permit and by the Mining Act with reference to the permitted operation, and transfer the permit to the successor operator, provided that both operators have complied with the requirements of the Mining Act and that the successor operator agrees to assume the duties of the permittee with reference to reclamation of the affected land and posts a suitable bond or other security.

In the event that the Department determines that the permittee or permittee's successor is not complying with the Reclamation Plan or other terms and conditions of this permit, or is failing to achieve the purposes and requirements of the Mining Act, the Department may give the operator written notice of its intent to modify, revoke or suspend the permit, or its intent to modify the Reclamation Plan as incorporated in the permit. The operator shall have right to a hearing at a designated time and place on any proposed modification, revocation or suspension by the Department. Alternatively and in addition to the above, the Department may institute other enforcement procedures authorized by law.

Definitions

Wherever used or referred to in this permit, unless the context clearly indicates otherwise, terms shall have the same meaning as supplied by the Mining Act, N.C.G.S. 74-49.

Modifications

June 9, 1995: This permit has been modified to increase the affected area as indicated on the revised Mine Map dated April 27, 1995.

December 23, 1996: This permit has been modified to increase the affected acreage to 26.5 acres, to change the reclamation plan to allow the pit to be reclaimed as an acceptable lake, and to modify the buffer zones as indicated on the Site Plan dated December 19, 1996.

July 22, 1997: A partial release of 3.4 acres has been granted.

February 22, 2000: This permit has been modified to increase the permitted acreage by 56.7 acres and the affected acreage by 15.4 acres as indicated on the Mining Application Map dated September 21, 1999. In addition, the buffer and visual screening requirements around the existing structures (previously the Moore and Perry home sites) have been modified to be less restrictive.

February 27, 2003: This permit has been modified to release a 4.47-acre area as indicated on the mine map last revised December 17, 2002.

October 31, 2003: This permit has been modified to increase the affected acreage at this site to 48.15 acres. The modification includes the addition of approximately 7 acres to the existing mining area, which is within the previously permitted area.

December 11, 2003: A partial release of 1.72 acres has been granted.

March 18, 2005: This permit has been modified to increase the affected acreage to 61.53 acres. The modification includes an additional 13.38 acres of pit area within the permit boundary as indicated on the mine map last revised November 8, 2004.

March 3, 2006: This permit has been modified to increase the affected acreage to 76.2 acres. The modification includes an additional 13.17 acres of pit area within the permit boundary as indicated on the Site Plan last revised January 9, 2006.

June 12, 2008: This permit has been modified to allow the disposal of land clearing and inert debris at the site on 2.0 acres as indicated on the mine map last revised April 21, 2008 in accordance with the approval letter issued by Mr. Geoffrey H. Little of the Division of Waste Management dated February 28, 2008.

October 13, 2010: This permit has been modified to allow the disposal of land clearing and inert debris at the site on approximately 23.0 acres as indicated on the mine Site Plan dated April 4, 2010 and in accordance with Land Clearing and Inert Debris (LCID) Landfill Permit No. 43F-LCID-2010 issued by the Division of Waste Management.

Expiration Date

This permit shall be effective from the date of its issuance until July 27, 2014.

Conditions

This permit shall be subject to the provisions of the Mining Act, N.C.G.S. 74-46, et. seq., and to the following conditions and limitations:

OPERATING CONDITIONS:

1. A. Any wastewater processing or mine dewatering shall be in accordance with the permitting requirements and rules promulgated by the N.C. Environmental Management Commission.

- B. Any stormwater runoff from the affected areas at the site shall be in accordance with any applicable permit requirements and regulations promulgated by the Environmental Protection Agency and enforced by the N.C. Environmental Management Commission. It shall be the permittee's responsibility to contact the Division of Water Quality to secure any necessary stormwater permits or other approval documents.
2.
 - A. Any mining process producing air contamination emissions shall be subject to the permitting requirements and rules promulgated by the N.C. Environmental Management Commission and enforced by the Division of Air Quality.
 - B. During mining operations, water trucks or other means that may be necessary shall be utilized to prevent dust from leaving the permitted area.
 3.
 - A. Sufficient buffer (minimum 100 foot undisturbed) shall be maintained between any affected land and any adjoining waterway or wetland to prevent sedimentation of that waterway or wetland from erosion of the affected land and to preserve the integrity of the natural watercourse or wetland.
 - B. Any mining activity affecting waters of the State, waters of the U. S., or wetlands shall be in accordance with the requirements and regulations promulgated and enforced by the N. C. Environmental Management Commission.
 4.
 - A. Adequate mechanical barriers including but not limited to diversions, earthen dikes, check dams, sediment retarding structures, rip rap pits, or ditches shall be provided in the initial stages of any land disturbance and maintained to prevent sediment from discharging onto adjacent surface areas or into any lake, wetland or natural watercourse in proximity to the affected land.
 - B. All drainage from the affected area around the mine excavation shall be diverted internal to said excavation.
 - C. A 100-foot long gravel construction entrance shall be constructed and maintained at the intersection of the access road and NC Highway 24/27, using appropriately sized stone.
 - D. Final perimeter slopes shall be excavated to a 3 foot horizontal to 1 foot vertical or flatter slope and shall be stabilized immediately upon completion of each mined section.
 - E. Mining activities shall be conducted as indicated on the Site Plan last revised January 9, 2006.
 - F. All mining activities associated with the Land Clearing and Inert Debris land Fill shall be conducted as indicated on the mine Site Plan map dated April 4, 2010 and the supplemental information received by the Land Quality Section on March 2, 2009, April 1, 2009, June 25, 2009 and August 26, 2010.

5. All affected area boundaries (76.2 acres) shall be permanently marked at the site on 100-foot intervals unless the line of sight allows for larger spacing intervals.
6.
 - A. The angle for graded slopes and fills shall be no greater than the angle, which can be retained by vegetative cover or other adequate erosion control measure, structure, or device. In any event, exposed slopes or any excavated channels, the erosion of which may cause off-site damage because of siltation, shall be planted or otherwise provided with ground cover, devices or structures sufficient to restrain such erosion.
 - B. Final perimeter slopes shall be excavated to a 3 foot horizontal to 1 foot vertical or flatter slope and shall be stabilized immediately upon completion of each mined section.
7. The affected land shall be graded so as to prevent collection of pools of water that are, or likely to become, noxious or foul. Necessary structures such as drainage ditches or conduits shall be constructed or installed when required to prevent such conditions.
8.
 - A. Existing vegetation or vegetated earthen berms shall be maintained between the mine and public thoroughfares whenever practical to screen the operation from the public.
 - B. Additional tree and shrub plantings shall be provided along the McLean and Price property boundaries if the existing plants do not survive or if additional screening is required by the Department. No plantings shall be planted within any contested easements.
9. Sufficient buffer (minimum 50 foot undisturbed except for the placement of any necessary screening berms or tree planting) shall be maintained between any excavation and any mining permit boundary to protect adjacent property.
10.
 - A. No on-site disposal of refuse or other solid waste that is generated outside of the mining permit area shall be allowed within the boundaries of the mining permit area unless authorization to conduct said disposal has first been obtained from both the Division of Waste Management and the Land Quality Section, Department of Environment and Natural Resources. The method of disposal shall be consistent with the approved reclamation plan.
 - B. Mining refuse as defined by G.S. 74-49 (14) of The Mining Act of 1971 generated on-site and directly associated with the mining activity may be disposed of in a designated refuse area. All other waste products must be disposed of in a disposal facility approved by the Division of Waste Management. No petroleum products, acids, solvents or their storage containers or any other material that may be considered hazardous shall be disposed of within the permitted area.

- C. For the purposes of this permit, the Division of Land Resources considers the following materials to be "mining refuse" (in addition to those specifically listed under G.S. 74-49 (14) of the N.C. Mining Act of 1971):
1. on-site generated land clearing debris
 2. conveyor belts
 3. wire cables
 4. v-belts
 5. steel reinforced air hoses
 6. drill steel
- D. If mining refuse is to be permanently disposed within the mining permit boundary, the following information must be provided to and approved by the Division of Land Resources prior to commencement of such disposal:
1. the approximate boundaries and size of the refuse disposal area;
 2. a list of refuse items to be disposed;
 3. verification that a minimum of 4 feet of cover will be provided over the refuse;
 4. verification that the refuse will be disposed at least 4 feet above the seasonally high water table; and,
 5. verification that a permanent vegetative groundcover will be established.
- E. Any C & D landfilling activities conducted within the mining permit boundary shall be conducted in accordance with Land Clearing and Inert Debris (LCID) Landfill Permit No. 43F-LCID-2010 issued by the Division of Waste Management and any other statutes, regulations and permit requirements promulgated and enforced by the Division of Waste Management and any applicable local government body.
11. An Annual Reclamation Report shall be submitted on a form supplied by the Department by February 1 of each year until reclamation is completed and approved.
12. The operator shall notify the Department in writing of the desire to delete, modify or otherwise change any part of the mining, reclamation, or erosion/sediment control plan contained in the approved application for a mining permit or any approved revision to it. Approval to implement such changes must be obtained from the Department prior to on-site implementation of the revisions.
13. The security, which was posted pursuant to N.C.G.S. 74-54 in the form of a \$103,700.00 surety bond, is sufficient to cover the operation as indicated in the approved application. This security must remain in force for this permit to be valid. The total affected land shall not exceed the bonded acreage.
14. A. Authorized representatives of the Division of Archives and History shall be granted access to the site to determine the presence of significant archaeological resources.

- B. Pursuant to N. C. G. S. 70 Article 3, "The Unmarked Human Burial and Human Skeletal Remains Protection Act," should the operator or any person in his employ encounter human skeletal remains, immediate notification shall be provided to the county medical examiner and the chief archaeologist, North Carolina Division of Archives and History.

APPROVED RECLAMATION PLAN

The Mining Permit incorporates this Reclamation Plan, the performance of which is a condition on the continuing validity of that Mining Permit. Additionally, the Reclamation Plan is a separable obligation of the permittee, which continues beyond the terms of the Mining Permit.

The approved plan provides:

Minimum Standards As Provided By G.S. 74-53

1. The final slopes in all excavations in soil, sand, gravel and other unconsolidated materials shall be at such an angle as to minimize the possibility of slides and be consistent with the future use of the land.
2. Provisions for safety to persons and to adjoining property must be provided in all excavations in rock.
3. All overburden and spoil shall be left in a configuration which is in accordance with accepted conservation practices and which is suitable for the proposed subsequent use of the land.
4. No small pools of water shall be allowed to collect or remain on the mined area that are, or are likely to become noxious, odious or foul.
5. The revegetation plan shall conform to accepted and recommended agronomic and reforestation practices as established by the North Carolina Agricultural Experiment Station and the North Carolina Forest Service.
6. Permittee shall conduct reclamation activities pursuant to the Reclamation Plan herein incorporated. These activities shall be conducted according to the time schedule included in the plan, which shall to the extent feasible provide reclamation simultaneous with mining operations and in any event, provide reclamation at the earliest practicable time after completion or termination of mining on any segment of the permit area and shall be completed within two years after completion or termination of mining.

RECLAMATION CONDITIONS:

1. Provided further, and subject to the Reclamation schedule, the planned reclamation shall be to restore portions of the mine excavation to a lake area and to grade and revegetate all other adjacent disturbed areas.
2. The specifications for surface gradient restoration to a surface suitable for the planned future use are as follows:
 - A. The lake area shall be excavated to maintain a minimum water depth of four feet measured from the low water table elevation.

- B. The side slopes to the lake excavation shall be graded to a 3 horizontal to 1 vertical or flatter to the water line and 2 horizontal to 1 vertical or flatter below the water line.
- C. The side slopes to the LCID landfill shall be graded to a 3 horizontal to 1 vertical or flatter and properly revegetated.
- D. Any areas used for wastepiles, screening, stockpiling or other processing shall be leveled and smoothed.
- E. No contaminants shall be permanently disposed of at the mine site. On-site disposal of waste shall be in accordance with Operating Condition Nos. 10A through E.
- F. The affected land shall be graded to prevent the collection of noxious or foul water.

3. Revegetation Plan:

After site preparation, all disturbed land areas shall be revegetated as per the seeding specifications included on the Mining Application Map dated September 21, 1999.

Whenever possible, disturbed areas should be vegetated with native warm season grasses such as switch grass, Indian grass, bluestem and gamma grass.

In addition, the permittee shall consult with a professional wildlife biologist with the N.C. Wildlife Resources Commission to enhance post-project wildlife habitat at the site.

4. Reclamation Plan:

Reclamation shall be conducted simultaneously with mining to the extent feasible. In any event, reclamation shall be initiated as soon as feasible after completion or termination of mining of any mine segment under permit. Final reclamation, including revegetation, shall be completed within two years of completion or termination of mining.

This permit, issued November 4, 1994, modified June 9, 1995, December 23, 1996, July 22, 1997, February 22, 2000, February 27, 2003, October 31, 2003, and December 11, 2003, renewed July 27, 2004, and modified March 18, 2005, March 3, 2006, and June 12, 2008 is hereby modified this 13th day of October, 2010 pursuant to G.S. 74-52.

By: Francis M. Neufly

for James D. Simons, Director
Division of Land Resources
By Authority of the Secretary
Of the Department of Environment and Natural Resources

Stormwater Calculations

RUNOFF CALCULATIONS

Project:	Weeks LCID Landfill
Project #:	193001
Date:	September, 20013
By:	WLF



DA 1		to DD 1
Drainage Area, A:	4.49 acres	
Drainage Area, A:	4.041 acres	
Runoff Coefficient, C:	0.4	
Time of Concentration, Tc:	5 min.	
Rainfall Intensity, I		
2-year:	6.17 in/hr	
10-year:	7.91 in/hr	
Runoff, Q=CxIxA		
2-year:	11.08 ft ³ /sec	
10-year:	14.21 ft ³ /sec	

DA 2		to DD 2
Drainage Area, A:	2.11 acres	
Drainage Area, A:	2.11 acres	
Runoff Coefficient, C:	0.4	
Time of Concentration, Tc:	5 min.	
Rainfall Intensity, I		
2-year:	6.17 in/hr	
10-year:	7.91 in/hr	
Runoff, Q=CxIxA		
2-year:	5.21 ft ³ /sec	
10-year:	6.68	

DA 3		DD 3
Drainage Area, A:	2.28 acres	
Drainage Area, A:	2.28 acres	
Runoff Coefficient, C:	0.4	
Time of Concentration, Tc:	5 min.	
Rainfall Intensity, I		
2-year:	6.17 in/hr	
10-year:	7.91 in/hr	
Runoff, Q=CxIxA		
2-year:	5.63 ft ³ /sec	
10-year:	7.21 ft ³ /sec	

DA 4		to DD 4
Drainage Area, A:	1.38 acre	
Drainage Area, A:	1.38 acres	
Runoff Coefficient, C:	0.4	
Time of Concentration, Tc:	5 min.	
Rainfall Intensity, I		
2-year:	6.17 in/hr	
10-year:	7.91 in/hr	
Runoff, Q=CxIxA		
2-year:	3.41 ft ³ /sec	
10-year:	4.37	

DIVERSION DITCH

DD 1

Project:	Weeks LCID Landfill	
Project #:	193001	
Date:	September, 20013	
By:	WLF	

Runoff

Drainage Area 1
 10-year Runoff: **14.21** ft³/sec

Ditch Design

Lining: Grass-legume mixture, easily erodible soil

Check stability

Check capacity

	Bare Earth	Vegetative Lining	
Bottom Width:	6.0 ft	6.0 ft	6.0 ft
Side Slope Ratio Uphill:	3.0 ft h/ft v	3.0 ft h/ft v	3.0 ft h/ft v
Side Slope Ratio Downhill:	3.0 ft h/ft v	3.0 ft h/ft v	3.0 ft h/ft v
Water Depth:	0.34 ft	0.63 ft	0.89 ft
Side Slope Width Uphill =	1.02	1.89	2.67
Side Slope Width Downhill =	1.02	1.89	2.67
Area, A =	3.06 ft ²	5.67 ft ²	7.72 ft ²
Wetted Perimeter =	8.15 ft	9.98 ft	11.63 ft
Hydraulic Radius, R =	0.375 ft	0.568 ft	0.664 ft
VR:	-	1.42	1.24
Roughness Coefficient, n:	0.020 (bare)	0.050 (2"-6" grass)	0.074 (6"-10" grass)
Slope, S:	0.015 ft/ft	0.015 ft/ft	0.015 ft/ft
Velocity, $V=1.49/nxR^{2/3}xS^{1/2}$:	4.73 ft/sec	2.50 ft/sec	1.87 ft/sec
Flow, Q:	14.48 ft ³ /sec	14.16 ft ³ /sec	14.46 ft ³ /sec
Permissible Velocity:	2.50 ft/sec	3.5 ft/sec	Flow Required: 14.21 ft ³ /sec
Conclusion:	Temporary lining required	STABLE	Conclusion: ADEQUATE

DIVERSION DITCH

DD 2

Project:	Weeks LCID Landfill	
Project #:	193001	
Date:	September, 20013	
By:	WLF	

Runoff

Drainage Areas 1 & 2

10-year Runoff: **20.89** ft³/sec

Ditch Design

Lining: Grass-legume mixture, easily erodible soil

Check stability

Check capacity

	Bare Earth	Vegetative Lining	
Bottom Width:	9.0 ft	9.0 ft	9.0 ft
Side Slope Ratio Uphill:	3.0 ft h/ft v	3.0 ft h/ft v	3.0 ft h/ft v
Side Slope Ratio Downhill:	3.0 ft h/ft v	3.0 ft h/ft v	3.0 ft h/ft v
Water Depth:	0.36 ft	0.67 ft	0.88 ft
Side Slope Width Uphill =	1.08	2.01	2.64
Side Slope Width Downhill =	1.08	2.01	2.64
Area, A =	4.32 ft ²	8.04 ft ²	10.24 ft ²
Wetted Perimeter =	11.28 ft	13.24 ft	14.57 ft
Hydraulic Radius, R =	0.383 ft	0.607 ft	0.703 ft
VR:	-	1.59	1.45
Roughness Coefficient, n:	0.020 (bare)	0.050 (2"-6" grass)	0.070 (6"-10" grass)
Slope, S:	0.015 ft/ft	0.015 ft/ft	0.015 ft/ft
Velocity, $V=1.49/nxR^{2/3}xS^{1/2}$:	4.80 ft/sec	2.61 ft/sec	2.06 ft/sec
Flow, Q:	20.72 ft ³ /sec	21.01 ft ³ /sec	21.09 ft ³ /sec
Permissible Velocity:	2.50 ft/sec	3.5 ft/sec	Flow Required: 20.89 ft ³ /sec
Conclusion:	Temporary lining required	STABLE	Conclusion: ADEQUATE

Use North American Green S75 (or equal)

DIVERSION DITCH

DD 3

Project:	Weeks LCID Landfill	
Project #:	193001	
Date:	September, 20013	
By:	WLF	

Runoff

Drainage Areas 1, 2 & 3

10-year Runoff: **28.10 ft³/sec**

Ditch Design

Lining: Grass-legume mixture, easily erodible soil

Check stability

Check capacity

	Bare Earth	Vegetative Lining	
Bottom Width:	12.0 ft	12.0 ft	12.0 ft
Side Slope Ratio Uphill:	3.0 ft h/ft v	3.0 ft h/ft v	3.0 ft h/ft v
Side Slope Ratio Downhill:	3.0 ft h/ft v	3.0 ft h/ft v	3.0 ft h/ft v
Water Depth:	0.38 ft	0.68 ft	0.86 ft
Side Slope Width Uphill =	1.14	2.04	2.58
Side Slope Width Downhill =	1.14	2.04	2.58
Area, A =	5.70 ft ²	10.20 ft ²	12.54 ft ²
Wetted Perimeter =	14.40 ft	16.30 ft	17.44 ft
Hydraulic Radius, R =	0.396 ft	0.626 ft	0.719 ft
VR:	-	1.74	1.64
Roughness Coefficient, n:	0.020 (bare)	0.048 (2"-6" grass)	0.064 (6"-10" grass)
Slope, S:	0.015 ft/ft	0.015 ft/ft	0.015 ft/ft
Velocity, $V=1.49/nxR^{2/3}xS^{1/2}$:	4.90 ft/sec	2.78 ft/sec	2.29 ft/sec
Flow, Q:	27.95 ft ³ /sec	28.33 ft ³ /sec	28.66 ft³/sec
Permissible Velocity:	2.50 ft/sec	3.5 ft/sec	Flow Required: 28.10 ft ³ /sec
Conclusion:	Temporary lining required	STABLE	Conclusion: ADEQUATE

Use North American Green S75 (or equal)

DIVERSION DITCH

DD 4

Project:	Weeks LCID Landfill	
Project #:	193001	
Date:	September, 20013	
By:	WLF	

Runoff

Drainage Areas 1, 2, 3 & 4

10-year Runoff: **32.47 ft³/sec**

Ditch Design

Lining: Grass-legume mixture, easily erodible soil

Check stability

Check capacity

	Bare Earth	Vegetative Lining	
Bottom Width:	15.0 ft	15.0 ft	15.0 ft
Side Slope Ratio Uphill:	3.0 ft h/ft v	3.0 ft h/ft v	3.0 ft h/ft v
Side Slope Ratio Downhill:	3.0 ft h/ft v	3.0 ft h/ft v	3.0 ft h/ft v
Water Depth:	0.38 ft	0.66 ft	0.82 ft
Side Slope Width Uphill =	1.14	1.98	2.46
Side Slope Width Downhill =	1.14	1.98	2.46
Area, A =	6.84 ft ²	11.88 ft ²	14.32 ft ²
Wetted Perimeter =	17.40 ft	19.17 ft	20.19 ft
Hydraulic Radius, R =	0.393 ft	0.620 ft	0.709 ft
VR:	-	1.71	1.63
Roughness Coefficient, n:	0.020 (bare)	0.048 (2"-6" grass)	0.063 (6"-10" grass)
Slope, S:	0.015 ft/ft	0.015 ft/ft	0.015 ft/ft
Velocity, $V=1.49/nxR^{2/3}xS^{1/2}$:	4.88 ft/sec	2.76 ft/sec	2.30 ft/sec
Flow, Q:	33.38 ft ³ /sec	32.77 ft ³ /sec	32.94 ft³/sec
Permissible Velocity:	2.50 ft/sec	3.5 ft/sec	Flow Required: 32.47 ft ³ /sec
Conclusion:	Temporary lining required	STABLE	Conclusion: ADEQUATE

Use North American Green S75 (or equal)

DIVERSION DITCH

DD 5

Project:	Weeks LCID Landfill	
Project #:	193001	
Date:	September, 20013	
By:	WLF	

Runoff

Drainage Areas 1, 2, 3, 4 & 5

10-year Runoff: **33.42** ft³/sec

Ditch Design

Lining: Concrete

Check capacity

Bottom Width: 6.0 ft

Side Slope Ratio Uphill: 1.0 ft h/ft v

Side Slope Ratio Downhill: 1.0 ft h/ft v

Water Depth: 0.29 ft

Side Slope Width Uphill = 0.29

Side Slope Width Downhill = 0.29

Area, A = 1.82 ft²

Wetted Perimeter = 6.82 ft

Hydraulic Radius, R = 0.267 ft

VR: =

Roughness Coefficient, n: 0.013

Slope, S: 0.150 ft/ft

Velocity, $V=1.49/nxR^{2/3}xS^{1/2}$: 18.35 ft/sec

Flow, Q: **33.47** ft³/sec

Flow Required: 33.42 ft³/sec

Conclusion: **ADEQUATE**

DIVERSION DITCH

DD 6

Project:	Weeks LCID Landfill	
Project #:	193001	
Date:	September, 20013	
By:	WLF	

Runoff

Drainage Areas 1, 2, 3 4, 5 & 6

10-year Runoff: **33.77** ft³/sec

Ditch Design

Lining: Grass-legume mixture, easily erodible soil

Check stability

Check capacity

	Bare Earth	Vegetative Lining	
Bottom Width:	15.0 ft	15.0 ft	15.0 ft
Side Slope Ratio Uphill:	3.0 ft h/ft v	3.0 ft h/ft v	3.0 ft h/ft v
Side Slope Ratio Downhill:	3.0 ft h/ft v	3.0 ft h/ft v	3.0 ft h/ft v
Water Depth:	0.39 ft	0.67 ft	0.82 ft
Side Slope Width Uphill =	1.17	2.01	2.46
Side Slope Width Downhill =	1.17	2.01	2.46
Area, A =	7.02 ft ²	12.06 ft ²	14.32 ft ²
Wetted Perimeter =	17.47 ft	19.24 ft	20.19 ft
Hydraulic Radius, R =	0.402 ft	0.627 ft	0.709 ft
VR:	-	1.78	1.69
Roughness Coefficient, n:	0.020 (bare)	0.047 (2"-6" grass)	0.061 (6"-10" grass)
Slope, S:	0.015 ft/ft	0.015 ft/ft	0.015 ft/ft
Velocity, $V=1.49/nxR^{2/3}xS^{1/2}$:	4.95 ft/sec	2.84 ft/sec	2.38 ft/sec
Flow, Q:	34.78 ft ³ /sec	34.25 ft ³ /sec	34.03 ft ³ /sec
Permissible Velocity:	2.50 ft/sec	3.5 ft/sec	Flow Required: 33.77 ft ³ /sec
Conclusion:	Temporary lining required	STABLE	Conclusion: ADEQUATE

Use North American Green S75 (or equal)

DIVERSION DITCH

DD 8

Project:	Weeks LCID Landfill	
Project #:	193001	
Date:	September, 20013	
By:	WLF	

Runoff

Drainage Area 1
 10-year Runoff: **15.44** ft³/sec

Ditch Design

Lining: Grass-legume mixture, easily erodible soil

Check stability

Check capacity

	Bare Earth	Vegetative Lining	
Bottom Width:	6.0 ft	6.0 ft	6.0 ft
Side Slope Ratio Uphill:	3.0 ft h/ft v	3.0 ft h/ft v	3.0 ft h/ft v
Side Slope Ratio Downhill:	3.0 ft h/ft v	3.0 ft h/ft v	3.0 ft h/ft v
Water Depth:	0.36 ft	0.67 ft	0.91 ft
Side Slope Width Uphill =	1.08	2.01	2.73
Side Slope Width Downhill =	1.08	2.01	2.73
Area, A =	3.24 ft ²	6.03 ft ²	7.94 ft ²
Wetted Perimeter =	8.28 ft	10.24 ft	11.76 ft
Hydraulic Radius, R =	0.391 ft	0.589 ft	0.676 ft
VR:	-	1.51	1.34
Roughness Coefficient, n:	0.020 (bare)	0.050 (2"-6" grass)	0.071 (6"-10" grass)
Slope, S:	0.015 ft/ft	0.015 ft/ft	0.015 ft/ft
Velocity, $V=1.49/nxR^{2/3}xS^{1/2}$:	4.87 ft/sec	2.56 ft/sec	1.98 ft/sec
Flow, Q:	15.77 ft ³ /sec	15.44 ft ³ /sec	15.70 ft ³ /sec
Permissible Velocity:	2.50 ft/sec	3.5 ft/sec	Flow Required: 15.44 ft ³ /sec
Conclusion:	Temporary lining required	STABLE	Conclusion: ADEQUATE

DIVERSION DITCH

DD 9

Project:	Weeks LCID Landfill	
Project #:	193001	
Date:	September, 20013	
By:	WLF	

Runoff

Drainage Areas 8 & 9

10-year Runoff: **21.61** ft³/sec

Ditch Design

Lining: Grass-legume mixture, easily erodible soil

Check stability

Check capacity

	Bare Earth	Vegetative Lining	
Bottom Width:	9.0 ft	9.0 ft	9.0 ft
Side Slope Ratio Uphill:	3.0 ft h/ft v	3.0 ft h/ft v	3.0 ft h/ft v
Side Slope Ratio Downhill:	3.0 ft h/ft v	3.0 ft h/ft v	3.0 ft h/ft v
Water Depth:	0.37 ft	0.68 ft	0.88 ft
Side Slope Width Uphill =	1.11	2.04	2.64
Side Slope Width Downhill =	1.11	2.04	2.64
Area, A =	4.44 ft ²	8.16 ft ²	10.24 ft ²
Wetted Perimeter =	11.34 ft	13.30 ft	14.57 ft
Hydraulic Radius, R =	0.392 ft	0.614 ft	0.703 ft
VR:	-	1.65	1.49
Roughness Coefficient, n:	0.020 (bare)	0.049 (2"-6" grass)	0.068 (6"-10" grass)
Slope, S:	0.015 ft/ft	0.015 ft/ft	0.015 ft/ft
Velocity, $V=1.49/nxR^{2/3}xS^{1/2}$:	4.87 ft/sec	2.68 ft/sec	2.12 ft/sec
Flow, Q:	21.61 ft ³ /sec	21.91 ft ³ /sec	21.71 ft ³ /sec
Permissible Velocity:	2.50 ft/sec	3.5 ft/sec	Flow Required: 21.61 ft ³ /sec
Conclusion:	Temporary lining required	STABLE	Conclusion: ADEQUATE

Use North American Green S75 (or equal)

DIVERSION DITCH

DD 10

Project:	Weeks LCID Landfill	
Project #:	193001	
Date:	September, 20013	
By:	WLF	

Runoff

Drainage Areas 8, 9 & 10

10-year Runoff: **27.87 ft³/sec**

Ditch Design

Lining: Grass-legume mixture, easily erodible soil

Check stability

Check capacity

	Bare Earth	Vegetative Lining	
Bottom Width:	12.0 ft	12.0 ft	12.0 ft
Side Slope Ratio Uphill:	3.0 ft h/ft v	3.0 ft h/ft v	3.0 ft h/ft v
Side Slope Ratio Downhill:	3.0 ft h/ft v	3.0 ft h/ft v	3.0 ft h/ft v
Water Depth:	0.38 ft	0.68 ft	0.85 ft
Side Slope Width Uphill =	1.14	2.04	2.55
Side Slope Width Downhill =	1.14	2.04	2.55
Area, A =	5.70 ft ²	10.20 ft ²	12.37 ft ²
Wetted Perimeter =	14.40 ft	16.30 ft	17.38 ft
Hydraulic Radius, R =	0.396 ft	0.626 ft	0.712 ft
VR:	-	1.74	1.62
Roughness Coefficient, n:	0.020 (bare)	0.048 (2"-6" grass)	0.064 (6"-10" grass)
Slope, S:	0.015 ft/ft	0.015 ft/ft	0.015 ft/ft
Velocity, $V=1.49/nxR^{2/3}xS^{1/2}$:	4.90 ft/sec	2.78 ft/sec	2.27 ft/sec
Flow, Q:	27.95 ft ³ /sec	28.33 ft ³ /sec	28.08 ft³/sec
Permissible Velocity:	2.50 ft/sec	3.5 ft/sec	Flow Required: 27.87 ft ³ /sec
Conclusion:	Temporary lining required	STABLE	Conclusion: ADEQUATE

Use North American Green S75 (or equal)

DIVERSION DITCH

DD 11

Project:	Weeks LCID Landfill	
Project #:	193001	
Date:	September, 20013	
By:	WLF	

Runoff

Drainage Areas 8, 9, 10 & 11

10-year Runoff: **31.36 ft³/sec**

Ditch Design

Lining: Grass-legume mixture, easily erodible soil

Check stability

Check capacity

	Bare Earth	Vegetative Lining	
Bottom Width:	15.0 ft	15.0 ft	15.0 ft
Side Slope Ratio Uphill:	3.0 ft h/ft v	3.0 ft h/ft v	3.0 ft h/ft v
Side Slope Ratio Downhill:	3.0 ft h/ft v	3.0 ft h/ft v	3.0 ft h/ft v
Water Depth:	0.37 ft	0.65 ft	0.82 ft
Side Slope Width Uphill =	1.11	1.95	2.46
Side Slope Width Downhill =	1.11	1.95	2.46
Area, A =	6.66 ft ²	11.70 ft ²	14.32 ft ²
Wetted Perimeter =	17.34 ft	19.11 ft	20.19 ft
Hydraulic Radius, R =	0.384 ft	0.612 ft	0.709 ft
VR:	-	1.68	1.58
Roughness Coefficient, n:	0.020 (bare)	0.048 (2"-6" grass)	0.065 (6"-10" grass)
Slope, S:	0.015 ft/ft	0.015 ft/ft	0.015 ft/ft
Velocity, $V=1.49/nxR^{2/3}xS^{1/2}$:	4.81 ft/sec	2.74 ft/sec	2.23 ft/sec
Flow, Q:	32.01 ft ³ /sec	32.02 ft ³ /sec	31.93 ft³/sec
Permissible Velocity:	2.50 ft/sec	3.5 ft/sec	Flow Required: 31.36 ft ³ /sec
Conclusion:	Temporary lining required	STABLE	Conclusion: ADEQUATE

Use North American Green S75 (or equal)

DIVERSION DITCH

DD 12

Project:	Weeks LCID Landfill	
Project #:	193001	
Date:	September, 20013	
By:	WLF	

Runoff

Drainage Areas 8, 9, 10, 11 & 12

10-year Runoff: **31.99** ft³/sec

Ditch Design

Lining: Concrete

Check capacity

Bottom Width: 6.0 ft
Side Slope Ratio Uphill: 1.0 ft h/ft v
Side Slope Ratio Downhill: 1.0 ft h/ft v
Water Depth: 0.29 ft
Side Slope Width Uphill = 0.29
Side Slope Width Downhill = 0.29
Area, A = 1.82 ft²
Wetted Perimeter = 6.82 ft
Hydraulic Radius, R = 0.267 ft
VR: =
Roughness Coefficient, n: 0.013
Slope, S: 0.150 ft/ft
Velocity, $V=1.49/nxR^{2/3}xS^{1/2}$: 18.35 ft/sec
Flow, Q: **33.47** ft³/sec
Flow Required: 31.99 ft³/sec
Conclusion: **ADEQUATE**

DIVERSION DITCH

DD 13

Project:	Weeks LCID Landfill	
Project #:	193001	
Date:	September, 20013	
By:	WLF	

Runoff

Drainage Areas 8, 9, 10, 11, 12 & 13

10-year Runoff: **38.44** ft³/sec

Ditch Design

Lining: Grass-legume mixture, easily erodible soil

Check stability

Check capacity

	Bare Earth	Vegetative Lining	
Bottom Width:	15.0 ft	15.0 ft	15.0 ft
Side Slope Ratio Uphill:	3.0 ft h/ft v	3.0 ft h/ft v	3.0 ft h/ft v
Side Slope Ratio Downhill:	3.0 ft h/ft v	3.0 ft h/ft v	3.0 ft h/ft v
Water Depth:	0.47 ft	0.82 ft	0.97 ft
Side Slope Width Uphill =	1.41	2.46	2.91
Side Slope Width Downhill =	1.41	2.46	2.91
Area, A =	8.46 ft ²	14.76 ft ²	17.37 ft ²
Wetted Perimeter =	17.97 ft	20.19 ft	21.13 ft
Hydraulic Radius, R =	0.471 ft	0.731 ft	0.822 ft
VR:	-	1.92	1.82
Roughness Coefficient, n:	0.020 (bare)	0.046 (2"-6" grass)	0.059 (6"-10" grass)
Slope, S:	0.010 ft/ft	0.010 ft/ft	0.010 ft/ft
Velocity, $V=1.49/nxR^{2/3}xS^{1/2}$:	4.50 ft/sec	2.63 ft/sec	2.21 ft/sec
Flow, Q:	38.04 ft ³ /sec	38.76 ft ³ /sec	38.47 ft ³ /sec
Permissible Velocity:	2.50 ft/sec	3.5 ft/sec	Flow Required: 38.44 ft ³ /sec
Conclusion:	Temporary lining required	STABLE	Conclusion: ADEQUATE

Use North American Green S75 (or equal)

SEDIMENT BASIN 1

(RISER & BARREL)

Project:	Weeks LCID Landfill	
Project #:	193001	
Date:	September, 20013	
By:	WLF	

Basin Sizing

Drainage areas 1-13

10-year runoff (Disturbed

Area), Q_{10} : 75.31 ft³/sec

Disturbed area: 22.38 acres

Volume required = 1800 ft³ per acre disturbed area

= 1800 X 22.381 =

40,286 ft³

Surface area required = 325 ft² per ft³/sec Q_{10}

= 325 X 75.3108 =

24476 ft²

Basin is rectangular.

Surface elevation: 342

Bottom elevation: 339.7

Ponding depth: 2.3 ft

Side slope ratio: 2.5 h : 1 v

Surface width: 110 ft

Surface length: 223 ft

Surface area = 110 x 223 = L/W = 2.03

24530 ft² ADEQUATE

Bottom width: 98.5

Bottom length: 211.5

Bottom area = 98.5 x 211.5 =

20832.75 ft²

Ponding volume = (24530 + 20832.75) / 2 x 2.3

= 52,167 ft³ ADEQUATE

Spillway Design

Principal Spillway

3 Riser & barrel, C.M.P.

Bottom Elevation: 339.7

Principal Spillway Crest Elevation: 342.0

Riser Diameter: 30 in

Riser Circumference = 8 ft

Riser Capacity @ 1 ft head = 23.56 ft³/sec

Barrel Diameter: 24 in

Barrel Area, A = 3.142 ft²

Wetted Perimeter = 6.283 ft

Hydraulic Radius, R = 0.50 ft

Roughness Coefficient, n: 0.024

Barrel Slope, S: 0.008 ft/ft

Velocity, $V = 1.49/nxR^{2/3}xS^{1/2}$: 3.49 ft/sec

Barrel Capacity = 10.96 ft³/sec

Each Riser & Barrel Capacity = 10.96 ft³/sec

Principal Spillway Capacity = 32.89

Prin. Spillway Capacity Required: 59.48 ft³/sec

Emergency Spillway

Trapezoidal channel

Emergency Spillway Crest Elev.: 343.0

Emergency Spillway Width: 8.0 ft

Side Slope Ratio: 3.0 ft h/ft v

Water Depth: 0.76 ft

Area, A: 7.81 ft²

Wetted Perimeter: 12.81 ft

Hydraulic Radius, R: 0.610 ft

VR: 1.17

Roughness Coefficient, n: 0.079 (6"-12" grass)

Slope, S: 0.020 ft/ft

Velocity, $V = 1.49/nxR^{2/3}xS^{1/2}$: 1.92 ft/sec

Emergency Spillway Capacity = VxA : 14.97 ft³/sec

Required Capacity: 42.42 ft³/sec

Top of Embankment Elevation: 375.0

Baffle Spacing Calculation

Inlet Zone - 35%	78.1 ft
First Chamber - 25%	55.8 ft
Second Chamber - 25%	55.8 ft
Outlet Zone - 15%	33.5 ft

Routine Inspection Forms

INSPECTION CHECKLIST
WEEKS SAND PIT NO. 2 LCID LANDFILL
SWS PERMIT #43F-LCID-2010

Date of Inspection: _____ Weather: _____

Inspector's Name: _____

Category	No.	Inspection Item to be Conducted	(Circle Answer)	
Site Access and Control	1	Is entrance gate and lock functioning properly?	Yes	No
	2	Is fencing and/or perimeter controls maintained?	Yes	No
	3	Is access controlled by wooded areas where no fence exists?	Yes	No
	4	Are conditions of roads from State Road to landfill acceptable?	Yes	No
	5	Is traffic pattern safe for landfill users?	Yes	No
Waste Handling	6	Are wastes being deposited and contained within designated areas?	Yes	No
	7	Is working face contained to ½ acre or less?	Yes	No
	8	Are any unacceptable wastes present on working face or surrounding areas?	Yes	No
	9	Are unacceptable wastes removed from cell being handled and removed from site per the operational plan?	Yes	No
	10	Is surface water being properly diverted away from the working face?		
Closed and Inactive Areas	11	Are finished areas of the cell being properly covered with soils?	Yes	No
	12	Is there any waste exposed on inactive areas of the cell?	Yes	No
	13	Has final cover been applied to areas at final grade?	Yes	No
	14	Is vegetative cover established on closed and inactive areas?	Yes	No
	15	Is there settlement occurring or water ponding on closed or inactive areas?	Yes	No
	16	Does the vegetation require mowing and is the vegetation healthy?	Yes	No
Erosion and Sediment Control	17	Are the Erosion & Sediment Control devices being properly maintained?	Yes	No
	18	Is there any evidence of erosion, rills, or gullies on the surface of the landfill and surrounding areas?	Yes	No
	19	Do the sediment basins/traps require cleaning?	Yes	No
	20	Are inactive and closed areas receiving vegetative cover in a timely manner?	Yes	No
Records	21	Are previous inspection records up to date and properly filed?	Yes	No
	22	Is a copy of the current SWS permit in the file?	Yes	No
	23	Are records of facility audits by SWS present?	Yes	No
	24	Are records maintained of incoming waste volumes/loads?	Yes	No
	25	Are records of rejected loads/materials and actions taken maintained?	Yes	No

Notes: _____

(use back as necessary)

Fire Occurrence Notification Form

**SOLID WASTE MANAGEMENT FACILITY
FIRE OCCURRENCE NOTIFICATION
NC DENR Division of Waste Management
Solid Waste Section**



Notify the Section verbally within 24 hours and submit written notification within 15 days of the occurrence.
(If additional space is needed, use back of this form.)

NAME OF FACILITY: _____ PERMIT # _____

DATE AND TIME OF FIRE: _____ @ _____

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:

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:

Waste Screening Form

RANDOM WASTE SCREENING FORM

GENERAL INFORMATION (completed by transporter or landfill personnel)

Date & Time : _____
Transporter Name : _____
License Plate No. : _____
Drivers License No. : _____
Source of Waste : _____
Waste Description : _____

INSPECTION OBSERVATIONS (completed by landfill personnel)

Hazardous waste labels or placards ?	YES / NO
PCB transformers, labels or placards ?	YES / NO
Lead-acid batteries ?	YES / NO
Unrinsed pesticide containers ?	YES / NO
Bulk or containerized liquids ?	YES / NO
Free liquids present ?	YES / NO
Sludges, pastes or slurries ?	YES / NO
Powders, dusts, smoke or vapors ?	YES / NO
Petroleum odors ?	YES / NO
Unusual odors ?	YES / NO
Other suspicious conditions ?	YES / NO
If YES, describe :	_____

Photos Taken ? YES / NO (attach when available)

Will the wastes pass the Paint Filter Liquids Test ? YES / NO

Waste Accepted ? YES / NO

If NO, complete information of the back of this form

Signature (landfill personnel)

Date

WASTE REJECTION INFORMATION (completed by landfill personnel only if waste is rejected)

Why was the waste rejected ?

What happened to the rejected waste ? (who took it where?)

Who was contacted at the SHWD ?

Time : _____ AM / PM

Date : _____

ORIGINAL : Facility Records
COPY : Generator or Transporter