Fee/Permit/Co ID # 43TK-
Date 03/12/09
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Received
MAR 2009

RWK, PA

ENGINEERING-SURVEYING
101 W. MAIN STREET, SUITE 202
P.O. BOX 444, GARNER, NC 27529
PHONE: (919) 779-4854
FAX: (919) 779-4056

TRANSMITTAL

SEND TO	
Company name SOLID WASTE MANAGEMENT	*From* Chuck Piratzky
Attention DONNA WILSON	*Date* 3/12/2009
Address 401 OBERLIN ROAD SUITE 150 RALEIGH NC	*Subject* WEEKS LCID PERMIT

☐ *Urgent* ☐ *Reply* ☐ *Please comment* ☒ *Please review* ☐ *For your information*

Total pages, including cover: _____

COMMENTS

Enclosed
APPLICATION FOR LCID LANDFILL PERMIT (SCANNED)
EXHIBIT 1 APPROVED SITE PLAN (SCANNED)
EXHIBIT 2 COUNTY ROAD MAP (SCANNED)
EXHIBIT 3 GROUND WATER LEVEL DETERMINATION LETTER (NOT SCANNED)
EXHIBIT 4 LCID OPERATIONS MANUAL (SCANNED)
EXHIBIT 5 DEED (NOT SCANNED)
EXHIBIT 6 ACRE LCID APPORVAL LETTER (NOT SCANNED)
EXHIBIT 7 MODIFICATION OF PERMIT #43-28 (NOT SCANNED)
EXHIBIT 8 EMAIL FROM NATURAL HERITAGE PROGRAM (NOT SCANNED)
EXHIBIT 9 TEMPORARY SLOPE DRAIN DETAILS (NOT SCANNED)
EXHIBIT 10 EROSION CONTROL CALCULATIONS (NOT SCANNED)
EXHIBIT 11 SET OF LCID PLANS (SCANNED)
1 CD WITH SCANNED FILES

Thank you.
Chuck Piratzky

RWK, PA
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GARNER, NC 27529
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MARCH 11, 2009

Weeks sandpit #2
Harnett county North Carolina
Land Clearing/Inert Debris (LCID)Landfills permit Application

Five sets of plans, maps, and reports shall be required with each application. The seal of a professional engineer is required when submitting plans for a Land Clearing and Inert Debris (LCID) landfill.

(1) The following information is required in order to review and approve the siting of a Land Clearing and Inert Debris (LCID) landfill:

(a) An approval letter from the unit of local government having zoning authority over the area where the facility is to be located stating that the site meets all of the requirements of the local zoning ordinance, or that the site is not zoned.
Applicants response
Approved LCID site plan provided (EXHIBIT 1)

(b) Location on a county road map.
Applicants response
Location of site given on county road map (EXHIBIT 2)

(c) Information showing that the bottom elevation of the waste shall be four feet above the seasonal high water table. Seasonal high water table elevations shall be obtained from on site test borings, test pits, or from other geological or water table investigations, studies, or reports from the immediate area of the proposed facility.
Applicants response
Letter provided by Carolina Geological Services indicating that the seasonal high water table is lower then four feet from bottom elevation of the waste (EXHIBIT 3)

(d)A written report indicating that the facility shall comply with all the requirements set forth under Rule .0564 of this Section.
Applicants response
Land clearing/inert debris (LCID) land fill operations manual given it indicates all the requirements under rule .0564.(EXHIBIT 4)

(e) A copy of the deed or other legal description of the site that would be sufficient as a description in an instrument of conveyance, showing property owner's name.
Applicants response
Copy of deed provided.(EXHIBIT 5)

(f) Any other information pertinent to the suitability of the proposed facility.
Applicants response
Copy of approval letter for two acre LCID, and modification of permit #4328, allowing LCID landfill in reclamation plan have been provided to demonstrate the suitability of site for proposed facility. (EXHIBIT 6)(EXHIBIT 7)

(2) The following shall be provided on a map or aerial photograph with a scale of at least one inch equals four hundred feet showing the area within one-fourth mile of the site:
Entire property or portion thereof owned or leased by the person providing the disposal site.

(b) Location of all homes, buildings, public or private utilities, roads, wells, watercourses, water or other impoundments, and any other applicable features or details.
Applicants response
Items provided on cover sheet (cs) of plans (EXHIBIT 11)

(c) 100-year flood plain boundaries, if any.
Applicants response
Site is not in a 100-year flood plain boundary therefore not shown.(EXHIBIT 11)

(d)Wetland boundaries, if any.
Applicants response
wetland boundaries given on map (EXHIBIT 11)

(e) Historical or archaeological sites, if any.
Applicants response
no historical or archaeological sites with one half mile of site, see email from Harry LeGrand (EXHIBIT 8)

(f) Park, scenic, or recreation area boundaries, if any.
Applicants response
There are no parks, scenic, or recreation area with quarter mile of site.

(3) Development and design plans and details, at a scale of at least one inch equals one hundred feet with one inch equals forty feet preferred, and specifications containing the following information shall be submitted with the application for a proposed Land Clearing and Inert Debris (LCID) landfill:

(a) Property or site boundary, fully dimensioned with bearings and distances, tied to North Carolina grid coordinates where reasonably feasible.
Applicants response
Site is boundary fully dimensioned on sheet c1 existing condition sheet.(EXHIBIT 11)

(b) Easements and right-of-ways.
Applicants response
Easements and right of ways are labeld and shown on existing conditon sheet c1(EXHIBIT 11)

(c) Existing pertinent on site and adjacent structures such as houses, buildings, wells, roads and bridges, water and sewer utilities, septic fields, and storm drainage features.
Applicants response
Features stated are on the existing condition sheet c1(EXHIBIT 11)

(d)Proposed and existing roads, points of ingress and egress along with access control such as gates, fences, or berms.
Applicants response
Existing points of egress and ingress are on exisiting conditions sheet c1, proposed roads and points of ingress and egress are labled on the site plan sheet c2(EXHIBIT 11)

(e) Buffer and set back lines along with the buffered boundary or feature.
Applicants response
Existing and proposed features are on the existing condition sheet and site plan(EXHIBIT 11)

(f) Springs, streams, creeks, rivers, ponds, and other waters and impoundments.
Applicants response
Existing features of site are on the existing condition sheet c1 (EXHIBIT 11)

(g) Wetlands, if any.
Applicants response
Existing features of site are on the existing condition sheet c1 (EXHIBIT 11)

(h) Boundary of the proposed waste area.
Applicants response
Boundary of the proposed waste area is on site plan sheet c2 (EXHIBIT 11)

(i)Existing topography with contours at a minimum of five foot intervals. Where necessary, a smaller interval shall be utilized to clarify existing topographic conditions.
Applicants response
existing topography with contours at a minimum of five foot intervals are on the exisiting condition sheet. c1(EXHIBIT 11)

(j) Proposed excavation, grading, and final contours at a minimum of five foot intervals. Where necessary, a smaller interval shall be utilized to clarify proposed grading. Excavation, grading, and fill material side slopes shall not exceed three to one (3:1).
Applicants response
Proposed excavation, grading and final contours are on the erosion control sheet c3 (EXHIBIT 11)

(k) Where on site borrow for operational and final cover is proposed, indicate the borrow excavation and grading plan with contours at a minimum of five foot intervals. Where necessary, a smaller interval shall be utilized to clarify proposed grading.
Applicants response
Borrow areas are labled with both b1 and b2 Proposed excavation, grading and final contours are on the erosion control sheet c3 (EXHIBIT 11)

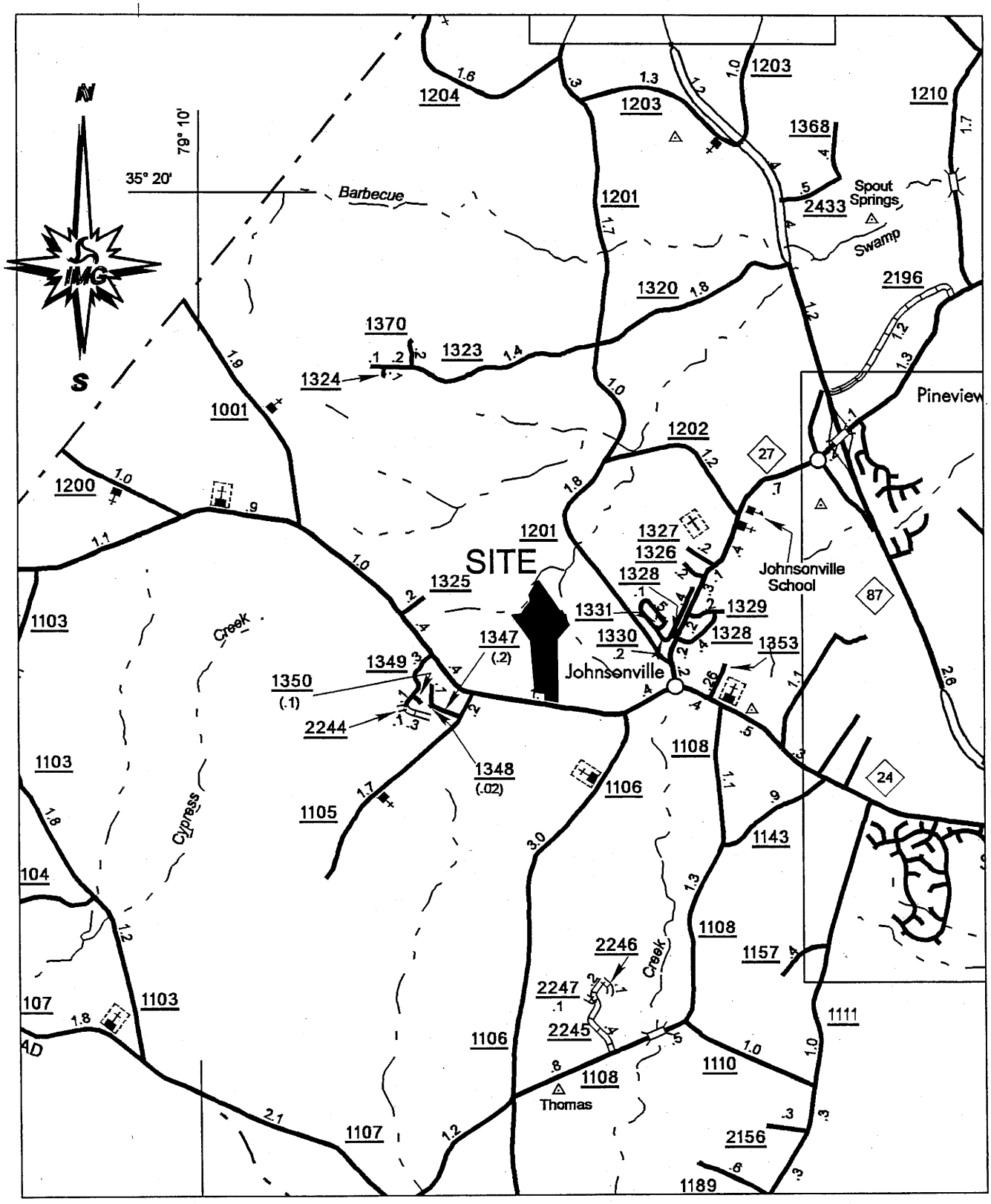
(l)Proposed surface water control features and devices such as slope drains, storm water pipes, inlets, culverts, and channels.
Applicants response
Features listed above are on the erosion control sheet c3 and sheet d1 and d2 for erosion control detials(EXHIBIT 9)(EXHIBIT 10)(EXHIBIT 11)

(m)Information showing that the project meets the requirements of 15A NCAC 4, Sedimentation

(e) An emergency contingency plan, including fire fighting procedures.
Applicants response
Item covered in Land clearing/inert debris (LCID) land fill operations manual see 2.4.14 "emergency contingency plan" (EXHIBIT 4)

History Note: Statutory Authority G.S. 130A-294; Eff. January 4, 1993.

Exhibit 2



COUNTY HIGHWAY MAP
OF LOCATION OF

WEEKS SAND PIT # 2

HARNETT COUNTY, NC

SCALE:
1" = 1 MILE

RWK, PA
ENGINEERING ~ SURVEYING
101 W. Main St., Suite 202
Garner, NC 27529
Phone (919) 779-4854
Fax (919) 779-4056

Exhibit 3

CAROLINA GEOLOGICAL SERVICES, INC.

August 15, 2008

Mr. Joey Weeks
Weeks Sand Co.
PO Box 540
Cameron, NC 28326

Subject: Groundwater level determination, Weeks Stump Dump

Dear Mr. Weeks;

At your request, I have evaluated the groundwater levels at the Weeks Stump Dump LCID site in Harnett County, NC. It is my understanding that you intend to apply with NCDENR for expansion of your current 2 acre LCID to approximately 35 acres. The purpose of this evaluation was to determine the static groundwater level in the area to be affected by the expanded LCID landfill, as well as to estimate any seasonal fluctuation of these levels.

On August 13, 2008, we utilized a backhoe to excavate several test pits within the evaluation area. This method was chosen to allow us to sample and examine the soils as well as accurately measure depth to static water levels and seasonal high levels. Each pit was excavated to a saturated zone, then left to allow the water level to stabilize. Soils were carefully examined for impervious clay, oxidation or reduction zones, and saturated conditions. A total of 12 pits were excavated across the site, each extending to a depth of at least 12 feet.

The entire area to be affected by the expanded LCID consists of soils derived from Coastal Plain sediments. Since it is located within a former sand pit, it should be noted that 10-15 feet of sand has been removed. The remaining soil consists of a sand to sandy-clay for approximately 3 to 4 feet, then a dense clay layer for 3 to 8 feet. A saturated sand layer is found beneath the clay. It appears that the groundwater levels at this site are closely related to the presence of the dense clay layer found in each test area.

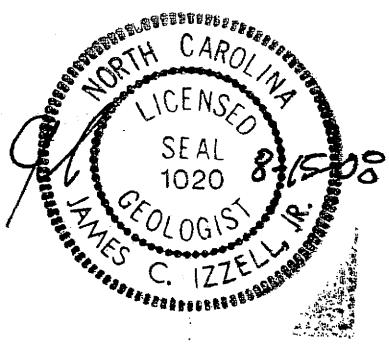
P.O. Box 429, Garner, NC 27529 (919)779-0017 fax: (919)779-7227
Offices at 101 West Main Street, Garner, NC

Static groundwater levels range from 12 feet below the surface in the southern portion of the area (near the entrance) to 6 feet near the northern limits of the evaluation area. It appears that the northern portions of the sand pit may have been excavated a few feet deeper, indicating that the difference in groundwater levels may be related to topography. In each test pit, groundwater was always at or very near the base of the dense clay layer that covers the site. This clay layer appears to be somewhat impervious, indicating that there is no seasonal fluctuation of the water table above this level.

If you have any questions, or need additional information, please call.

Sincerely,

James C. Izzell, Jr., PG



cc: Mr. Chuck Piratzky, RWK, PA

Exhibit 4

Land Clearing / Inert Debris (LCID) Landfill Operations Manual

For:
WEEKS SAND PIT NUMBER 2 MINE
Location of LCID:
20710 N.C. HIGHWAY 24/27

35-16-52N 079-07-24W

MAILING ADDRESS:
P.O.BOX 687

BROADWAY, NC
27505

Manual prepared by:

RWK, PA
PO Box 444
101 E. Main Street
Garner, North Carolina 27529

March 11, 2009

Table of contents:

1.1 DEFINITIONS

1.1.1 "Closure" means the cessation of operation of a solid waste management facility and the act of securing the facility so that it will pose no significant threat to human health or the environment.

1.1.2 "Construction" or "demolition" when used in connection with "waste" or "debris" means solid waste resulting solely from construction, remodeling, repair, or demolition operations on pavement, buildings, or other structures, but does not include inert debris, land-clearing debris or yard debris.

1.1.3 "Department" means the Department of Environment and Natural Resources.

1.1.4 "Land-clearing debris" means solid waste which is generated solely from land-clearing activities

1.1.5 "Land clearing waste" means solid waste which is generated solely from land clearing activities such as stumps, trees, limbs, brush, grass, and other naturally occurring vegetative material.

1.1.6 "Land clearing and inert debris landfill" means a facility for the land disposal of land clearing waste, concrete, brick, concrete block, uncontaminated soil, gravel and rock, untreated and unpainted wood, and yard trash.

1.1.7 "Landfill" means a disposal facility or part of a disposal facility where waste is placed in or on land and which is not a land treatment facility, a surface impoundment, an injection well, a hazardous waste long-term storage facility or a surface storage facility

1.1.8 "Operator" means any person, including the owner, who is principally engaged in, and is in charge of, the actual operation, supervision, and maintenance of a solid waste management facility and includes the person in charge of a shift or periods of operation during any part of the day.

1.1.9 "Explosive gas" means Methane (CH4).

1.1.10 "Lower explosive limit" means the lowest percent by volume of a mixture of explosive gases: the services the room of in an in will which will propagate a flame in air at 25EC and atmospheric pressure.

1.1.11 "Floodplain" means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, which are inundated by the 100-year flood.

1.1.12 "Leachate" means any liquid, including any suspended components in liquid, that has percolated through or drained from solid waste and

1.1.13 "Runoff" means the portion of precipitation that drains from an area as surface flow.

1.1.14 "Sediment" means solid particulate matter both mineral and organic, that has been or is being transported by water, air, gravity, or ice from its site of origin.

1.1.15 "Open burning" means any fire wherein the products of combustion are emitted directly into the outdoor atmosphere and are not directed thereto through a stack or chimney, incinerator, or other similar devices.

1.1.16 "Working face" means that portion of the land disposal site where solid wastes are discharged, spread, and compacted prior to the placement of cover material.

1.1.17 "Yard trash" means solid waste resulting from landscaping and yard maintenance such as brush, grass, tree limbs, and similar vegetative material.

1.1.18 "Erosion control measure, structure, or device" means physical devices constructed, and management practices utilized, to control sedimentation and soil erosion such as silt fences, sediment basins, check dams, channels, swales, energy dissipation pads, seeding, mulching and other similar items.

1.1.19 "Mulch" means a protective covering of various substances, especially organic, to which no plant food has been added and for which no plant food is claimed. Mulch is generally placed around plants to prevent erosion, compaction, evaporation of moisture, freezing of roots, and weed growth.

1.1.20 "Respondent" means the person against whom an administrative penalty has been assessed.

1.1.21 "Chamber" means compacted solid waste completely enveloped by a compacted cover material.

1.122 "Cell" means a working area of the LCID made up of a series of Chambers. Generally, only one Cell is being worked or filled at a time.

1.2.1 APPLICABILITY REQUIREMENTS

.0563 APPLICABILITY REQ. FOR LAND CLEARING/INERT DEBRIS (LCID) LANDFILLS

Management of land clearing is that the ladder mother of daughter of Delaware wound the year and I 1.1.6 with the State hierarchy for managing solid waste as provided for under G.S. 130A-309.04(a). Disposal in a landfill is considered to be the least desirable method of managing land clearing and inert debris. Where land filling is necessary, the requirements of this Rule apply.

(1) An individual permit from the Division of Solid Waste Management is not required for Land Clearing and Inert Debris (LCID) landfills that meet all of the following conditions:

(a) The facility is to be operated for the disposal of land clearing waste, inert debris, untreated wood, and yard trash. Operations must be consistent and in compliance with the local government solid waste management plan as approved by the Division of Solid Waste Management.

(b) The total disposal area is under two acres in size.

(c) The facility and practices comply with the sitting criteria under Rule .0564, and operational requirements under Rule .0566.

(d) The fill activity is not exempt from, and must comply with all other Federal, State, or Local laws, ordinances, Rules, regulations, or orders, including but not limited to zoning restrictions, flood plain restrictions, wetland restrictions, sedimentation and erosion control requirements, and mining regulations.

(2) Where an individual permit is not required, the following applies:

(a) The owner of the land where the landfill is located must notify the Division on a prescribed form, duly signed, notarized, and recorded as per Sub-item (2)(b) of this Rule. The operator of the landfill, if different from the land owner, shall also sign the notification form.

(b) The owner must file the prescribed notification form for recordation in the Register of Deeds' Office. The Register of Deeds shall index the notification in the grantor index under the name of the owner of the land in the county or counties in which the land is located. A copy of the recorded notification, affixed with the Register's seal and the date, book and page number of recording shall be sent to the Division of Solid Waste Management.

(c) When the land on which the Land Clearing and Inert Debris Landfill is sold, leased, conveyed, or transferred in any manner, the deed or other instrument of transfer shall contain in the description section in no smaller type than that used in the body of the deed or instrument a statement that the property has been used as a Land Clearing and Inert Debris Landfill and a reference by book and page to the recordation of the notification.

(3) An individual permit is required, except for landfills subject to Item (5) of this Rule, for the construction and operation of a Land Clearing and Inert Debris (LCID) landfill when:

(a) The facility is to be operated for the disposal of land clearing waste, inert debris, untreated wood, and yard trash. Operations must be consistent and in compliance with the local government solid waste management plan as approved by the Division of Solid Waste Management, and

(b) The total disposal area is greater than two acres in size.

(4) Individual permits for land clearing and inert debris landfills shall be issued for not more than five years.

(5) Land filling of land clearing and inert debris generated solely from, and within the right of way of, North Carolina Department of Transportation projects shall be subject to the following:

(a) Only waste types as described in Sub-item (1)(a) of this Rule may be disposed of within the Department of Transportation right of way.

(b) Waste is land filled within the project right of way from which it was generated.

(c) The disposal area shall not exceed two contiguous acres in size.

(d) Disposal sites shall comply with the siting requirements of Rule .0564 of this Section except for Item (10).

(e) Disposal sites are not subject to the requirements of Item (2) of this Rule and Rule .0204 of this Subchapter.

(6) Landfills that are currently permitted as demolition landfills are required to comply with the following:

(a) Only waste types as described in Sub-item (3)(a) of this Rule may be accepted for disposal, as of the effective date of this Rule unless otherwise specified in the existing permit.

(b) Operations must be in compliance with Rule .0566 of this Section as of the effective date of this Rule.

(c) Existing demolition landfills must comply with the siting criteria requirements of these Rules as of January 1, 1998 or cease operations and close in accordance with these Rules.

History Note: Statutory Authority G.S. 130A-294; 130A-301; Eff. January 4, 1993.

1.2.2 SITING CRITERIA

.0564 SITING CRITERIA FOR LAND CLEARING AND INERT DEBRIS (LCID) LANDFILLS

The following siting criteria shall apply for Land Clearing and Inert Debris (LCID) landfills:

(1) Facilities or practices, shall not be located in the 100-year floodplain.

(2) Facilities or practices shall not cause or contribute to the taking of any endangered or threatened species of plants, fish, or wildlife.

(3) Facilities or practices shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species as identified in 50 CFR Part 17 which is hereby incorporated by reference including any subsequent amendments and editions. This material is available for inspection at the Department of Environment, Health, and Natural Resources, Division of Solid Waste Management, 401 Oberlin Road, Raleigh, North Carolina 27605 where copies can be obtained at no cost.

(4) Facilities or practices shall not damage or destroy an archaeological or historical site.

(5) Facilities or practices shall not cause an adverse impact on a state park, recreation or scenic area, or any other lands included in the state nature and historic preserve.

(6) Facilities shall not be located in any wetland as defined in the Clean Water Act, Section 404(b).

(7) It must be shown that adequate suitable soils are available for cover, either from on or off site.

(8) Land Clearing and Inert Debris landfills shall meet the following surface and ground water requirements:

(a) Facilities or practices shall not cause a discharge of pollutants into waters of the state that is in violation of the requirements of the National Pollutant Discharge Elimination System (NPDES), under Section 402 of the Clean Water Act, as amended.

(b) Facilities or practices shall not cause a discharge of dredged materials or fill material into waters of the state that is in violation of the requirements under Section 404 of the Clean Water Act, as amended.

(c) Facilities or practices shall not cause non-point source pollution of waters of the state that violates assigned water quality standards.

(d) Waste in landfills with a disposal area greater than two acres shall be placed a minimum of four feet above the seasonal high water table, except where an alternative separation is approved by the Division.

(e) Waste in landfills with a disposal area less than two acres shall be placed above the seasonal high water table.

(9) The facility shall meet the following minimum buffer requirements:

(a) 50 feet from the waste boundary to all surface waters of the state as defined in G.S. 143-212.

(b) 100 feet from the disposal area to property lines, residential dwellings, commercial or public buildings, and wells.

(c) Buffer requirements may be adjusted as necessary to insure adequate protection of public health and the environment.

(10) The facility shall meet all requirements of any applicable zoning ordinance.

History Note: Statutory Authority G.S. 130A-294; Eff. January 4, 1993

1.2.3 APPLICATION REQUIREMENTS

.0565 APPLICATION REQUIREMENTS FOR LAND CLEARING/INERT DEBRIS (LCID) LANDFILLS

Five sets of plans, maps, and reports shall be required with each application. The seal of a professional engineer is required when submitting plans for a Land Clearing and Inert Debris (LCID) landfill.

(1) The following information is required in order to review and approve the siting of a Land Clearing and Inert Debris (LCID) landfill:

(a) An approval letter from the unit of local government having zoning authority over the area where the facility is to be located stating that the site meets all of the requirements of the local zoning ordinance, or that the site is not zoned.

(b) Location on a county road map.

(c) Information showing that the bottom elevation of the waste shall be four feet above the seasonal high water table. Seasonal high water table elevations shall be obtained from on site test borings, test pits, or from other geological or water table investigations, studies, or reports from the immediate area of the proposed facility.

(d) A written report indicating that the facility shall comply with all the requirements set forth under Rule .0564 of this Section.

(e) A copy of the deed or other legal description of the site that would be sufficient as a description in an instrument of conveyance, showing property owner's name.

(f) Any other information pertinent to the suitability of the proposed facility.

(2) The following shall be provided on a map or aerial photograph with a scale of at least one inch equals four hundred feet showing the area within one-fourth mile of the site:

(a) Entire property or portion thereof owned or leased by the person providing the disposal site.

(b) Location of all homes, buildings, public or private utilities, roads, wells, watercourses, water or other impoundments, and any other applicable features or details.

(c) 100-year flood plain boundaries, if any.

(d) Wetland boundaries, if any.

(e) Historical or archaeological sites, if any.

(f) Park, scenic, or recreation area boundaries, if any.

(3) Development and design plans and details, at a scale of at least one inch equals one hundred feet with one inch equals forty feet preferred, and specifications containing the following information shall be submitted with the application for a proposed Land Clearing and Inert Debris (LCID) landfill:

(a) Property or site boundary, fully dimensioned with bearings and distances, tied to North Carolina grid coordinates where reasonably feasible.

(b) Easements and right-of-ways.

(c) Existing pertinent on site and adjacent structures such as houses, buildings, wells, roads and bridges, water and sewer utilities, septic fields, and storm drainage features.

(d) Proposed and existing roads, points of ingress and egress along with access control such as gates, fences, or berms.

(e) Buffer and set back lines along with the buffered boundary or feature.

(f) Springs, streams, creeks, rivers, ponds, and other waters and impoundments.

(g) Wetlands, if any.

(h) Boundary of the proposed waste area.

(i) Existing topography with contours at a minimum of five foot intervals. Where necessary, a smaller interval shall be utilized to clarify existing topographic conditions.

(j) Proposed excavation, grading, and final contours at a minimum of five foot intervals. Where necessary, a smaller interval shall be utilized to clarify proposed grading. Excavation, grading, and fill material side slopes shall not exceed three to one (3:1).

(k) Where on site borrow for operational and final cover is proposed, indicate the borrow excavation and grading plan with contours at a minimum of five foot intervals. Where necessary, a smaller interval shall be utilized to clarify proposed grading.

(l) Proposed surface water control features and devices such as slope drains, storm water pipes, inlets, culverts, and channels.

(m) Information showing that the project meets the requirements of 15A NCAC 4, Sedimentation Control Rules.

(n) Location of test borings or test pits, if used to determine the seasonal high water table elevation, shall be shown on the plans.

(o) A minimum of two cross-sections, one each along each major axis, per operational area showing:

(i) Original elevations.

(ii) Proposed excavation.

(iii) Proposed final elevations.

(4) An operational plan addressing the requirements under Rule .0566 of this Section and containing the following information shall be submitted with the application for a proposed Land Clearing and Inert Debris (LCID) landfill:

(a) Name, address, and phone number of individual responsible for operation and maintenance of the facility.

(b) Projected use of the land after completion.

(c) Description of systematic usage of disposal area, operation, orderly development and closure of the landfill.

(d) Type, source, and quantity of waste to be accepted.

(e) An emergency contingency plan, including fire fighting procedures.

History Note: Statutory Authority G.S. 130A-294; Eff. January 4, 1993.

1.2.4 OPERATIONAL REQUIREMENTS

.0566 OPERATIONAL REQ. FOR LAND CLEARING/INERT DEBRIS (LCID) LANDFILLS

Land Clearing and Inert Debris (LCID) landfills shall meet the following operational requirements:

(1) Operational plans shall be approved and followed as specified for the facility.

(2) The facility shall only accept those solid wastes, which it is permitted to receive.

(3) Solid waste shall be restricted to the smallest area feasible and compacted as densely as practical into chambers.

(4) Adequate soil cover shall be applied monthly, or when the active area reaches one acre in size, whichever occurs first.

(5) 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

Division may require further action in order to correct any condition which is or may become injurious to the public health, or a nuisance to the community.

(6) Adequate erosion control measures, structures, or devices shall be utilized to prevent silt from leaving the site and to prevent excessive on site erosion.

(7) Provisions for a ground cover sufficient to restrain erosion must be accomplished within 30 working days or 120 calendar days upon completion of any phase of landfill development.

(8) The facility shall be adequately secured by means of gates, chains, berms, fences, etc. to prevent unauthorized access except when an operator is on duty. An attendant shall be on duty at all times while the landfill is open for public use to assure compliance with operational requirements and to prevent acceptance of unauthorized wastes.

(9) Access roads shall be of all-weather construction and properly maintained.

(10) Surface water shall be diverted from the working face and shall not be impounded over waste.

(11) Solid waste shall not be disposed of in water.

(12) Open burning of solid waste is prohibited.

(13) The concentration of explosive gases generated by the facility shall not exceed:

(a) Twenty-five percent of the lower explosive limit for the gases in facility structures.

(b) The lower explosive limit for the gases at the property boundary.

(14) Leachate shall be properly managed on site through the use of current best management practices.

(15) Should the Division deem it necessary, ground water or surface water monitoring, or both, may be required as provided for under Rules .0601 and .0602 of this Subchapter.

(16) A sign shall be posted at the facility entrance showing the contact name and number in case of an emergency and the permit number. The permit number requirement is not applicable for facilities not requiring an individual permit.

History Note: Statutory Authority G.S. 130A-294; Eff. January 4, 1993.

1.2.5

.0601 GROUND-WATER MONITORING

(a) The Division shall require a solid waste management facility to provide such ground-water monitoring capability as the Division determines to be necessary to detect the effects of the facility on ground-water in the area. In making such a determination, the Division shall consider the following factors:

(1) the design of the facility, the nature of the processes it will use, and the type of waste it will handle;

(2) soil and other geological conditions in the area;

(3) nearness of ground-water to the facility;

(4) uses that are being or may be made of any ground-water that may be affected by the facility; and

(5) any other factors that reasonably relate to the potential for ground-water effects from the facility.

(b) Responsibility for sample collection and analysis will be defined as a part of the permit condition.

(c) Any other information that the Division deems pertinent to the development of a ground-water monitoring system will be required.

(d) All monitoring wells required pursuant to this Rule shall comply with monitoring well construction standards of 15A NCAC 2C .0105. Copies of 15A NCAC 2C may be obtained from and inspected at the Division.

(e) A record of well installation shall be filed with the Division upon completion of the monitoring wells.

(f) Groundwater quality monitoring wells shall be constructed of materials, and by procedures, approved by the Division.

History Note: Statutory Authority G.S. 130A-294; Eff. April 1, 1982; Amended Eff. September 1, 1990; August 1, 1988;

1.2.6

.0602 SURFACE WATER MONITORING

(a) The Division shall require a solid waste management facility to provide such surface water monitoring capability as the Division determines to be necessary to detect the effects of the

facility on surface water in the area. In making such a determination, the Division shall consider the following factors:

(1) the design of the facility, the nature of the process it will use, and the type of waste it will handle;

(2) drainage patterns and other hydrological conditions in the area;

(3) nearness of surface water to the facility;

(4) uses that are being or may be made of any surface water that may be affected by the facility; and

(5) any other factors that reasonably relate to the potential for surface water effects from the facility.

(b) Responsibility for sample collection and analysis will be defined as a part of the permit conditions. Any other information that the Division deems pertinent to the development of a surface water monitoring system will be required.

History Note: Statutory Authority G.S. 130A-294; Eff. April 1, 1982.

2.0 Additional requirements of the Owner/ or Operator Responsible (O/OR) of an LCID

2.1 Governmental changes

2.1.1 It is the responsibility of the (O/OR) to stay abreast of all, state, county and town, governmental changes that will occur with regard to the operation of an LCID.

2.1.2 In the event it is necessary a professional engineer or testing service will be required to conduct investigations and prepare changes to the plans to meet Governmental requirements.

2.2 Signage

2.2.1 Required information

The O/OR will it erected the required information signage as outlined in 15 A NCAC BB .05X. The signage must be in a conspicuous location visible from the paved road. If two signs are needed to identify the site they will be provided. The information signage must be maintained in reasonable

readable condition as long as the site is an active LCID, or until the North Carolina Division of Solid Waste deems it unnecessary.

2.2.2 Warnings

On the site road to the LCID a sign with lettering of a size readable from the cab of a truck and in a conspicuous location information as to the operational hours of the LCID, the type of material that can be placed in the LCID and a warning as to what is not allowed in the LCI D. This sign must be maintained for as long as the LCID is in operation.

2.2.3 NO trespassing

NO trespassing and No dumping signage are to be placed on the perimeter of the LCID. The signage shall be visible one to the next around the entire LCID.

2.2.4 Business related

Business related signage is at the discretion of the O/OR with prior approval of local governing agency.

2.2.5 Directional

Directional, informational and no dumping signs shall be used to direct the truckers to the active face of the LCID. Material dumped in the wrong area is to be removed within 30 days of its discovery.

Yellow barrier tape may be used to cordon off areas and identify active areas of the LCID.

2.3 Training

2.3.1 Training session

The O/OR will conduct a training session to familiarize all employees of the basic safety issues associated with working in the vicinity of heavy equipment used in LCID.

2.3.2 All employees

All employees working on the site or that may visit the LCID are to be instructed as to what materials are acceptable to be placed in the LCI D and what materials are not acceptable. And to know where the active areas of LCID are.

2.3.3 Reporting protocol

A reporting protocol is to be established. Employees are to be trained as to how and who it is to contacted in the event of an issue requiring

management oversight is encountered. Each employee shall carry a copy of this protocol at all times when working the LCI D. The protocol is to be updated as resources change over time.

2.3.4 New regulations
As new regulations are imposed by any governmental agency the information will be given to the employees in timely manner.

2.3.5 Attended the training sessions
A form indicating each employee has attended the training sessions outlining the operation of the LCI D will be retained on site. This information is to be made available if requested by any governmental agency or insurance company.

2.3.6 New employees
As new employees are hired they are to be given instructions as to the operation of the LCID.

2.4 General Operation

2.4.1 Construction of chambers.
The LCID must be built of chambers the maximum size of a chamber is one acre or the amount of fill that has dumped in 30 calendar days regardless of the fact the area is not an acre. Soil cover cap is compacted to be as dense as possible. Erosion control measures must be in place at times and as specified on the Erosion Control Plan after each Cell is capped off.

2.4.2 Landfill Cell system.
The drawing C2 is the plan as to how the landfill is to be filled by using a Cell system. As each zone is brought up to its final elevation the area is to be caped and seeded with the final cover seed mix.

2.4.3 Permitted waste.
The facility is to be operated for the disposal of land clearing waste, inert debris, untreated wood, and yard trash.

2.4.4 Security.
The facility shall be adequately secured by means gates, chains, berms, senses etc. to prevent unauthorized access except when the operator is on duty. The attendant shall be on duty at all times while the landfill is open for public use to

assure compliance with the operational requirements and to prevent acceptance of unauthorized waste.

2.4.5 Chamber density.
chamber must be compacted to their maximum density, as each lift in the chamber is prepared. All measures of compaction and body reduction are acceptable in building the chambers.

2.4.6 Old mine slopes.
All slopes of the old mine to be reclaimed shall be graded to a maximum 3:1 slope and seeded with the final cover seed mix

2.4.7 Working face slopes.
The slopes that are created on the working face of an active chamber are to be maintained at a 3:1 slope. Final chamber finish grades that extend away from the landfill shall be maintained at 3:1 slopes.

2.4.8 Surface water.
Surface water approaching the landfill is to be diverted from the working face and shall not flow over the waste. Water that is percolating through the chamber shall be diverted to a detention basin located at the low point on the site. Periodic sampling of these leachates should be conducted annually to determine that the detention basin is effectively removing all controlled materials. Surface water is not allowed to be impounded above the waist.

2.4.9 Explosive gas.
Explosive gas is methane (CH4). An annual inspection for explosive gases shall be conducted to sure insure that the areas around the landfill is not producing explosive gases that exceed:

(a). 25 percent of the lower explosive limit for the gases in the facility structures.

(b). The lower limits for gases at the property boundary.

2.4.10 Haul roads.
All weather haul roads leading to and within the LCID must be maintained throughout the operation of the LCID. New haul roads may be established above closed Cells. Directional signs as to active face of the landfill are to be placed along the haul roads to assist truckers. The finished grades on all haul roads shall not exceed 10 percent.

2.4.11 Open burning.

Open burning of waste is prohibited.

2.4.12 Disposed waste in water.

Solid waste shall not be disposed of in any standing or flowing water.

2.4.13 Illegal dumping.

In the event that the illegal dumping or permitted waste dump in the wrong location the encountered waste should be O/OR is to arrange for the waste to be probably disposed of or removed from the LCID as soon as possible. Any environmental remediation should be conducted at as soon as practical.

2.4.14 Not permitted.

This facility is not permitted as a recycling center or a composting facility although; both types of activities are permitted to occur at the site with proper applications to the Department.

2.4.15 Paperwork requirements.

The O/OR is to comply with the paperwork requirements to operate the LCID on an annual basis. To make reports as necessary to the department.

2.4.16 Emergency contingency plan.

An emergency contingency plan is to be established for the site. This plan should include:

(a). Contact numbers for police, sheriff, and N.C. Highway Patrol.

(b). Contact numbers for area fire districts and ambulance services.

(c). A source for backup equipment to be made available on short notice in the event the landfill must be capped for administrative purposes.

(d). On-hand supply of materials used to repair the erosion control system in the event of heavy rain. A source contact for, additional materials if they become needed.

(e). Standing orders as who to contact in the company in the event of an emergency. And under which conditions outside help is to be contacted.

(f). The emergency contingency plan shall be documented and placed in a conspicuous location in the office and workshop associated with the maintenance of equipment.

2.5 Harnett County - Erosion Control Temporary Cover

2.5.1 Winter and Early Spring

Seeding Mixture
Species Rate (lb/acre)
Rye (grain) 120
Annual Lespedeza (Kobe) 50
Omit annual lespedeza when duration of temporary cover is not extended beyond June.

2.5.2 Seeding Dates Jan. 1 - May 1

Soil amendments

Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

2.5.3 Maintenance

Re-fertilize if growth is not fully adequate. Reseed, re-fertilize and mulch immediately following erosion or other damage.

2.5.4 Summer Seeding Mixture

Species Rate (lb/acre)
German millet 40 or
small stemmed Sudangrass 50

2.5.5 Seeding Dates May 1 - Aug. 15

Soil amendments
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

2.5.6 Mulch

Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

2.5.7 Maintenance

Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

2.5.8 Fall Seeding Mixture

Species Rate (lb/acre)

Rye (grain) 120

2.5.9 Seeding Dates Aug. 15 - Dec. 30

2.5.10 Soil amendments

Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 1000 lb/acre 10-10-10 fertilizer.

2.5.11 Mulch

Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

2.5.12 Maintenance

Repair and re-fertilize 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.

2.6 Finish Cover for Harnett County

2.6.1 Start of planting

Initially the site needs to be finish graded and the soil amended to create a topsoil. To do this, provide a 2" layer of yard waste compost and till it into the soil to a depth of 6". Once the soil has been amended, apply seed by broadcasting over the entire disturbed area as prescribed and cover the seed with a clean grain straw at a depth of .25 - .5 inches deep. Provide an asphalt tack to the top of the straw. Due to the differing sizes of the tree seed, hydro-seeding is not recommended.

2.6.2 Seed mix is as follows:

Seed Mix: amounts per 1000 SF of area

Base seed mix:

Coronilla varia - .6 lb
Festuca arundinacea - .3 lb
Lolium multiflorum - .3 lb
Lotus corniculatus - .2 lb
Phleum pratense - .3 lb
Trifolium hybridum - .2 lb

Agrostis alba - .1 lb

Tree Seed Mix:

Acer rubrum - .01 lb
Cercis canadensis - .01 lb
Juniperus virginiana - .01 lb
Liquidambar styraciflua - .01 lb
Pinus taeda - .02 lb
Quercus phellos - .01 lb

2.6.3 The contractor will

The contractor will need to mix the Base seed mix with the seed from the tree species prior to broadcasting and spread the seed evenly over the area. Seed the total mix at a rate of 2.07 lbs per 1000 SF.

2.6.4 The intent of these mixes

The intent of these mixes to provide immediate cover with herbaceous growth and grasses. Over the course of several years, this cover will dwindle and eventually disappear and be replaced with the trees thus providing a low maintenance cover in the disturbed areas.

2.6.5 Mowing

To make this tree plan function, the owner **must not mow** those areas planted with these seed mixes.

2.6.6 Seed suppliers

Seed for Base seed mix:
Seed for Base seed mix:
Ernst Conservation Seeds - phone # 800-873-3321
email - ernstsales@ernstseed.com

Tree seed in individual species:

Sheffield's Seed Company - phone # 315-497-1059
email - seed@sheffields.com

APPENDIX A

Project Narrative:

The project consists of reclaiming approximately 25 acres of an existing sand mine and converting an approximate 18 acre area into a Land Clearing and Inert Debris (LCID) land fill. 2 Acres at southern end of the mine are currently being filled under an existing "2 acre" LCID permit and designated as Cell 7. The project will begin by installing diversion ditches and sediment basin in Borrow Area 1 (B1) and installing the west to east diversion and large basin at the north end of the LCID. Install Construction Entrance per plan. The project will then continue in phases, which are designated in the plan as Cells. Cell 7 will be filled and stabilized and the work will continue into Cell 1 and so forth:

Cell 1

Make sure all reclaimed mining slopes are at 3:1 as a maximum. Work the site east and north from the entrance filling to final grade first in the south and continuing north. Slopes from entrance should remain drivable. Extend an all weather access road into working face of fill area. As cell gets close to final grade install swale and basin 1 and continue fill operation. During fill debris needs to be covered every 30 days or when it reaches 1 acre of area. All slopes left exposed are to be covered, with material from Borrow Area 1 as necessary, within 21 calendar days. Tie all slopes into existing grade at 3:1 slope at a maximum. As areas of Cell 1 reach final grade, permanently seed per erosion control plan and remove sediment control devices after plant material has been established.

Cell 2

Work in cell 2 should progress from Cell 1 and to east side of landfill making sure all reclamation slopes are 3:1 prior to placement of debris fill. As soon as practical, install the swale and sediment basin. Bring remaining surface to final grade including tie in with Cell 1. All slopes should be tied in at a 3:1 maximum particularly on the west (mine side of Cells) face of the landfill. Access road should extend to Cells 1 and 2 should be maintained at a maximum grade of 10%. Once final grade has been reached and covered stabilize per erosion control plan. Continue to cover debris after 30 days or if 1 acre of debris is exposed, which ever is less. All slopes left exposed are to be covered within 21 calendar days. As areas of Cell 2 reach final grade, permanently seed

per erosion control plan and remove sediment control devices after plant material has been established.

As Needed:

Install diversion ditches and sediment basin in Borrow Area 2 (B2) and final grade B1. Permanently seed per erosion control plan and remove sediment control devices after plant material has been established and seed.

Cell 3

Work into cell 3 from access road from Cells 1 and 2. First reclaim all mine slopes back to 3:1 maximum and continue filling as specified above. West slope should be graded and covered with dirt at 3:1 maximum slope back into mine floor. Extend the all weather access road into working face of fill area. All slopes left exposed are to be covered within 21 calendar days. Install swale and sediment basin at east edge of Cell as soon as practical. The north slope should be graded and covered with dirt at 3:1 slope. Install slope drain to floor of existing mine and grade the diversion ditch east along the top of slope to divert stormwater to slope drain. As areas of Cell 3 reach final grade and permanently seed per erosion control plan and remove sediment control devices after plant material has been established.

Cell 4

Make sure all reclaimed mining slopes are at 3:1 as a maximum. Work the site north and west from the entrance filling to final grade first in the south and continuing north. Slopes from entrance should remain drivable. Extend an all weather access road into working face of fill area. As cell gets close to final grade install swale and basin 4 and continue fill operation. Grade to meet final elevations with Cell 1 on east side. During fill debris needs to be covered every 30 days or when it reaches 1 acre of area. All slopes left exposed are to be covered, with material from B1 as necessary, within 21 calendar days. Tie all slopes into existing grade at 3:1 slope at a maximum. As areas of Cell 4 reach final grade and permanently seed per erosion control plan and remove sediment control devices after plant material has been established.

Cell 5

Work in Cell 5 should progress from Cell 4 and to west side of landfill making sure all reclamation slopes are 3:1 prior to placement of debris fill. As soon as practical, install the swale and sediment basin. Bring remaining surface to final grade including tie in with Cell 2. All slopes should be tied in at a 3:1 maximum particularly on the west (mine side of Cells) face of the landfill. Access road should extend through Cells 4 and into 5 should be maintained at a maximum grade of 10%. Once final grade has been reached and covered stabilize per erosion control plan. Continue to cover debris after 30 days or if 1 acre of debris is exposed, which ever is less. All slopes left exposed are to be covered within 21 calendar days. As areas of Cell 5 reach final grade, permanently seed per erosion control plan and remove sediment control devices after plant material has been established.

Cell 6

Work into cell 6 from access road through Cells 4 and 5. First reclaim all mine slopes back to 3:1 maximum and continue filling as specified above. North slope should be graded and covered with dirt at 3:1 maximum slope back into mine floor. Extend the all weather access road into working face of fill area. All slopes left exposed are to be covered within 21 calendar days. Install swale and sediment basin at east edge of Cell as soon as practical. The north slope should be graded and covered with dirt at 3:1 slope. Install slope drain to floor of existing mine and grade the diversion ditch west along the top of slope to divert stormwater to slope drain. As areas of Cell 6 reach final grade, permanently seed per erosion control plan and remove sediment control devices after plant material has been established.

Sediment Basin 6

When all grading is complete permanently seed per erosion control plan after plant material has been established remove sediment control devices in Basin 6 and Borrow Area 2.

Exhibit 5

2003020491

FOR REGISTRATION REGISTER OF DEEDS
KIMBERLY S. HARGROVE
HARNETT COUNTY, NC
2003 OCT 02 01:34:28 PM
BK:1837 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 DMT

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.

JS Weeks Sand Co. Inc. (Entity Name)

By: Joseph S. Weeks
Title: President

By: _____
Title: _____

By: _____

Joseph S. Weeks (SEAL)

_____ (SEAL)

_____ (SEAL)

_____ (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 or seal, this 2nd day of OCT., 2003.

My Commission Expires: Sept. 29, 2004

Elizabeth W. Smith
Notary Public

ELIZABETH W. SMITH NOTARY PUBLIC LEE COUNTY NC

State of North Carolina - County of Lee

I, the undersigned Notary Public of the County and State aforesaid, certify that Joseph S. Weeks personally came before me this day and acknowledged that he is the President of J.S. Weeks Sand Co Inc., a North Carolina corporation/~~limited liability company/general partnership/limited partnership~~ (strike through the inapplicable), and that by 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., 2003.

My Commission Expires: Sept. 29, 2004

Elizabeth W. Smith
Notary Public

ELIZABETH W. SMITH NOTARY PUBLIC LEE COUNTY NC

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.

_____ Register of Deeds for _____ County

By: _____ 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, Harnett County Registry. Reference to said map is hereby made for a more particular description.

Back Deed Reference: See Book 1052, Page 35, Harnett 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, Harnett County Registry), in the northwest corner of Joseph S. Weeks, et ux (Book 1052, page 35, Harnett 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 148.66 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, Harnett 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 Harnett 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, Harnett 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, Harnett 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, Harnett 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, Harnett 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, Harnett 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, Harnett 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, Harnett County Registry.

Pam\Weeks.description.wpd

Exhibit 6

NCDENR

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

Dexter R. Matthews, Director | Division of Waste Management | Michael F. Easley, Governor
William G. Ross Jr., Secretary

February 28, 2008

Joseph S. Weeks
J S Weeks Sand Company
PO Box 540
Cameron, NC 28326

Re: Land Clearing & Inert Debris Notification for Site Less than 2 Acres in Size
J S Weeks Sand Company, Inc.
20710 NC Hwy 24/27
Cameron, Harnett County
Recordation: Book 2465 Pages 833-835
File ID No. N0724

Dear Mr. Weeks:

The Solid Waste Section reviewed your Land Clearing and Inert Debris (LCID) landfill notification for the above referenced address received on February 12, 2008. Based on the information submitted in the notification, approval for operation of a LCID landfill is hereby granted for disposal activities at the referenced property as long as the facility does not exceed 2 acres in size.

Please be aware that you will be in violation of the North Carolina Solid Waste Management Rule .0563(1) and subject to enforcement action should your LCID disposal facility exceed 2 acres in size. Facilities larger than 2 acres must comply with more stringent requirements for an individual permit. The Notification process does not satisfy the conditions for an individual LCID permit greater than 2 acres in size.

The authorization for a LCID disposal facility less than 2 acres in size is issued under the conditions summarized below and specifically contained in North Carolina Solid Waste Management Rules 15A NCAC 13B Sections .0563, .0564 and .0566.

1) When the property is sold, leased, conveyed or transferred, the deed or other instrument of transfer shall contain in the description section a statement that clearly states the property was used as a Land Clearing and Inert Debris landfill. The statement shall be in type that is no smaller than the size used in the body of the deed or instrument.

2) Amendments or revisions to the Solid Waste Management Rules or the violation of groundwater standards may necessitate modification of the construction, operation or closure of this facility.

3) This authorization is not transferable.

4) A land clearing and inert debris landfill as defined in Rule .0101(54) means a facility for the land disposal of land clearing waste, concrete, brick, concrete block, uncontaminated soil, gravel and rock, untreated and unpainted wood and yard trash.

   a) Land Clearing Waste as defined in Rule .0101(53) as solid waste which is generated solely from land-clearing activities, limited to stumps, trees, limbs, brush, grass, and other naturally occurring vegetative material.

   b) Yard Trash, as defined in Rule .0101(55) means solid waste resulting from landscaping and yard maintenance such as brush, grass, tree limbs and similar vegetative materials

   c) As provided under North Carolina General Statute 130A-309.09B (a)(1), used asphalt or used asphalt mixed with dirt, sand, gravel, rock, and concrete may also be accepted for disposal.

5) Site preparation and construction shall be in accordance with 15A NCAC 13B .0564, Siting Criteria for Land Clearing and Inert Debris (LCID) Landfills.

6) The facility must be operated in accordance with 15A NCAC 13B .0566, Operational Requirements for Land Clearing and Inert Debris (LCID) Landfills.

7) The approved facility must comply with the sedimentation and erosion control requirements contained in 15A NCAC 4, Sedimentation Control. Construction and operations involving sedimentation and erosion control activities greater than 1 acre typically require approval from the Land Quality Section. You should contact the Land Quality Section at (919) 733-4574 to determine whether your disposal activities require approval.

8) Ground water quality at this facility is subject to the classification and remedial action provisions of 15A NCAC 2L, Classifications and Water Quality Standards. Please contact the Water Quality Section (1-877-623-6748) for additional information.

9) Closure of the facility shall be in accordance with 15A NCAC 13B .0566(5). The closure requirements stipulate that at least 1 feet of suitable soil cover be applied within 120 calendar days after completion of any phase of disposal operations or upon revocation of the authorization. The soil cover must be sloped to allow surface water runoff in a controlled manner. Please note that the regulations give the Solid Waste Section the authority to require further actions if needed to correct any adverse condition.

Should you have any questions or need additional assistance, please do not hesitate to contact either me at (919) 508-8524 or Drew Hammonds, Waste Management Specialist for the Harnett County region, at 910-433-3351.

Sincerely,

Geoffrey H. Little
NC-DENR Solid Waste Section
2008.02.29 09:25:06 -05'00'

Geoffrey H. Little
Environmental Engineer

c: Paul Crissman, DWM
Ed Mussler, DWM
Drew Hammonds, DWM
Dennis Shackelford, DWM
Amy Kadrie, DWM

Exhibit 7

CAROLINA GEOLOGICAL SERVICES, INC.

March 6, 2009

Mr. Floyd Williams
NCDENR, Land Quality Section
1612 Mail Service Center
Raleigh, NC 27699-1612

Subject: Modification of Permit #43-28, allowing LCID Landfill in Reclamation Plan

Dear Mr. Williams;

Please find attached an application and plans to allow Weeks Sand Co. to utilize a portion of their mining area under permit #43-28 (Weeks Sand Pit #2) as a LCID Landfill. As you may know, Weeks Sand recently converted 2 acres of this area under a limited permit with the Division of Waste Management. They now wish to increase this area to cover approximately 23 acres of their existing mining area. This area has already been mined, and they wish to use the LCID Landfill as the reclamation of this area. The attached plans and project narrative give complete details of this request.

The reclamation of the slopes of the existing excavation will be completed according to the existing reclamation requirements before the LCID is placed within these areas. The LCID will be constructed according to the attached plans, and under a permit from the Division of Waste Management. As these areas are reclaimed, it is expected that a request will be made to have them released from the Mining Permit, and then be placed under the sole jurisdiction of the Division of Waste Management.

If you have any questions, or if you need any additional information, please contact me.

Sincerely,

James C. Izzell, Jr., PG
Carolina Geological Services, Inc.

P.O. Box 429, Garner, NC 27529 (919)779-0017 FAX: (919)779-7227
Offices at 101 West Main Street, Garner, NC

APPLICATION FOR A MINING PERMIT

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

LAND QUALITY SECTION

APPLICATION FOR A MINING PERMIT

(PLEASE PRINT OR TYPE)

1. Name of Mine Weeks Sand Pit #2 **Permit #43-28** County Harnett

   River Basin Cape Fear

   Latitude (decimal degrees to four places) 35.2826

   Longitude (decimal degrees to four places) -79.1280

2. Name of Applicant* Joey S Weeks, Weeks Sand Company

3. Permanent address for receipt of official mail** PO Box 687, Broadway, NC 27505

   Telephone ( ) (919) 499-4272 Alternate No. ( )

4. Mine Office Address

   Telephone ( )

5. Mine Manager

We hereby certify that all details contained in this Permit Application are true and correct to the best of our knowledge. We fully understand that any willful misrepresentation of facts will be cause for permit revocation.

***Signature Joey S. Weeks Date 3/3/09

Print Name Joey S. Weeks

Title President/owner

* This will be the name that the mining permit will be issued to and the name that must be indicated on the reclamation bond (security) that corresponds to this site.

** The Land Quality Section must be notified of any changes in the permanent address or telephone number.

*** Signature of company officer required.

G.S. 74-51 provides that the Department shall grant or deny an application for a permit within 60 days of receipt

5. Has any area(s) at this site been mined in the past? Yes **X** No ☐
If yes, when and by whom was this activity conducted? applicant

6. Number of years for which the permit is requested (10 years maximum): 10

B. MAPS

1. Clearly mark and label the location of your mining operation on **six (6) copies** of a 7.5-minute quadrangle and a county highway map. These maps, in addition to **six (6) copies** of all mine maps and reclamation maps, must be submitted with each permit application.

   7.5-minute quadrangles may be obtained from the N.C. Geological Survey:

   Mailing Address:
   1612 Mail Service Center
   Raleigh, North Carolina 27699-1612
   (919) 733-2423
   www.geology.enr.state.nc.us/

   OR

   Physical Address:
   512 North Salisbury Street, 5th Floor
   Raleigh, North Carolina 27604

   County highway maps may be obtained from the N.C. Department of Transportation:

   North Carolina Department of Transportation – Geographic Information Systems (GIS)

   Mailing Address:
   NCDOT GIS Unit
   1587 Mail Service Center
   Raleigh, North Carolina 27699-1587

   Physical Address:
   NCDOT GIS Unit
   3401 Carl Sandburg Court
   Raleigh, North Carolina 27610
   (919) 212-6000
   www.ncdot.org/it/gisContact/default.html

2. Mine maps must be accurate and appropriately scaled drawings, aerial photographs or enlarged topographic maps of the entire mine site. **All aspects of the mine site must be clearly labeled on the maps along with their corresponding (approximate) acreage. As a reminder, mining permits can only be issued for up to 10 years; thus, all mine and reclamation maps must only denote those activities that are intended to be conducted during the life of the mining permit.** All maps must be of a scale sufficient (see minimum requirements listed below) to clearly illustrate the following, **at a minimum:**

   a. Property lines of the tract or tracts of land on which the proposed mining activity is to be located including easements and rights-of-way.
   b. Existing or proposed permit boundaries.
   c. Initial and ultimate limits of clearing and grading.
   d. Outline and width of all buffer zones (both undisturbed and unexcavated).
   e. Outline and acreage of all pits/excavations.
   f. Outline and acreage of all stockpile areas.
   g. Outline and acreage of all temporary and/or permanent overburden disposal areas.
   h. Location and acreage of all processing plants (processing plants may be described as to location and distance from mine if sufficiently far removed).
   i. Locations and names of all streams, rivers and lakes.
   j. Outline and acreage of all settling and/or processing wastewater ponds.
   k. Location and acreage of all planned and existing access roads and on-site haul roads.
   l. Location of planned and existing on-site buildings.
   m. Location and dimensions of all proposed sediment and erosion control measures.
   n. Location of 100-year floodplain limits and wetland boundaries.
   o. Names of owners of record, both public and private, of all tracts of land that are adjoining the mining permit boundary; if an adjoining tract is owned or leased by the applicant or is owned by the lessor of the mine tract, names of owners of record of tracts adjoining these tracts, that are within 1,000 feet of the mining permit boundary, must be provided on the mine map.

D. RECLAMATION PLAN

1. Describe your intended plan for the final reclamation and subsequent use of all affected lands and indicate the sequence and general methods to be used in reclaiming this land. This must include the method of reclamation of settling ponds and/or sediment control basins and the method of restoration or establishment of any permanent drainage channels to a condition minimizing erosion, siltation and other pollution. *This information must be illustrated on a reclamation map and must correspond directly with the information provided on the mine map(s). In addition, design information, including typical cross-sections, of any permanent channels to be constructed as part of the reclamation plan and the location(s) of all permanent channels must be indicated on the reclamation map.*

   This modification will change the existing Reclamation Plan to convert approximately 23 acres of Mining Area into a permitted Land Clearing and Inert Debris Landfill. Two acres of this area has Already been permitted for this use. All runoff will remain within the mining area, however additional sediment and erosion control structures have been designed for the LCID.

   All existing slopes will be graded (or backfilled) to a 3:1 slope as required in the existing Mining Permit before the LCID is established in these areas.

   See attached plans and project narrative for additional details.

2. Is an excavated or impounded body of water to be left as a part of the reclamation? Yes **X** No ☐. *If yes, illustrate the location of the body(s) of water on the reclamation map and provide a scaled cross-section(s) through the proposed body(s) of water.* The minimum water depth must be at least 4 feet, measured from the normal low water table elevation, unless information is provided to indicate that a more shallow water body will be productive and beneficial at this site.

   Will the body(s) of water be stocked with fish? Yes ☐ No ☐.
   If yes, specify species.

   Note that this modification request only applies to 23 acres of the existing mining area. Much of the remaining Mining Area is planned to remain as a pond. The proposed 23 acre LCID is not within the pond area.

3. Describe provisions for safety to persons and to adjoining property in all completed excavations in rock including what kind of permanent barricade will be left. Acceptable permanent barricades are appropriate fencing, large boulders placed end-to-end, etc. *Construction details and locations of all permanent barricades must be shown on the reclamation map.*

   N/A

4. Indicate the method(s) of reclamation of overburden, refuse, spoil banks or other such on-site mine waste areas, including specifications for benching and sloping. *Final cross-sections and locations for such areas must be provided on the reclamation map.*

See attached LCID plans.

5. a. Describe reclamation of processing facilities, stockpile areas, and on-site roadways.

N/A

b. Will any on-site roadways be left as part of the reclamation? Yes **X** No ☐.
If yes, identify such roadways on the reclamation map and provide details on permanent road and ditch line stabilization.

See attached plans

6. Describe the method of control of contaminants and disposal of scrap metal, junk machinery, cables, or other such waste products of mining. (Note definition of refuse in The Mining Act of 1971.)

No off-site generated waste shall be disposed of on the mine site without prior written approval from the NC Department of Environment and Natural Resources, Land Quality Section and either the Division of Waste Management (DWM) or local governing body. If a disposal permit has been issued by DWM for the site, a copy of said permit must be attached to this application. *All temporary and permanent refuse disposal areas must be clearly delineated on the mine map(s) and reclamation map, along with a list of items to be disposed in said areas.*

Any such material will be collected and removed from site.

7. Describe your plan for revegetation or other surface treatment of the affected areas. This plan must include recommendations for year-round seeding, including the time of seeding and the amount and type of seed, fertilizer, lime and mulch per acre. The recommendations must include general seeding instructions for both permanent and temporary revegetation. Revegetation utilizing only tree plantings is not acceptable. Recommendations can be sought from:

   a. Authorized representatives of the local Soil and Water Conservation District;
   b. Authorized representatives of the Division of Forest Resources, Department of Environment and Natural Resources;
   c. Authorized county representatives of the North Carolina Cooperative Extension Service, specialists and research faculty with the Colleges of Agriculture and Life Sciences and Forest Resources at North Carolina State University;
   d. North Carolina licensed landscape architects;
   e. Private consulting foresters referred by the Division of Forest Resources, Department of Environment and Natural Resources;
   f. N.C. Erosion and Sedimentation Control Planning and Design Manual;
   g. N.C. Surface Mining Manual: A Guide for Permitting, Operation and Reclamation;
   h. Others as may be approved by the Department.

LIME - RATE OF APPLICATION (tons/acre):

FERTILIZER - ANALYSIS AND RATE OF APPLICATION (pounds/acre):

SEED - TYPE(S) AND RATE(S) OF APPLICATION INCLUDING **YEAR-ROUND** SEEDING SCHEDULE (pounds/acre): [NOTE: Include Legumes]

Seed Types:	**Seeding Dates:**	**Seeding Rates:**

See existing permit requirements and plans.

MULCH - TYPE AND RATE OF APPLICATION (pounds/acre) AND METHOD OF ANCHORING:

OTHER VEGETATIVE COVERS – TYPE (S) AND RATE (S) OF APPLICATION INCLUDING SEEDING SCHEDULE (pounds/acre, trees/acre, spacing of trees/shrubs, etc):

Revegetation and/or reforestation plan approved by:

Signature _____ Date_____

Print Name _____

Title _____

Agency _____

Chuck Piratzky

Exhibit 8

From: Harry LeGrand, Jr. [harry.legrand@ncmail.net]
Sent: Monday, September 22, 2008 8:51 AM
To: cpiratzky@nc.rr.com
Subject: Harnett County LCID site

Mr. Piratzky:

Here is our response for this Harnett County site.

Harry LeGrand

September 22, 2008

Mr. Chuck Piratzky
RWK, PA
101 West Main Street
Garner, NC 27545

Subject: Proposed Conversion of a Surface Mine Operation into a Landfill for Land Clearing Material and Inert Debris (LCID); NC 24/27, Big Ridge, Harnett County; PIN Number: 9565-38-1737.000

Dear Mr. Piratzky:

The Natural Heritage Program has no record of rare species, significant natural communities, significant natural heritage areas, or conservation/managed areas at the site nor within 1/2-mile of the project area. Although our maps do not show records of such natural heritage elements in the project area, it does not necessarily mean that they are not present. It may simply mean that the area has not been surveyed. The use of Natural Heritage Program data should not be substituted for actual field surveys, particularly if the project area contains suitable habitat for rare species, significant natural communities, or priority natural areas.

You may wish to check the Natural Heritage Program database website at www.ncnhp.org for a listing of rare plants and animals and significant natural communities in the county and on the quad map. Our Program also has a new website that allows users to obtain information on element occurrences and significant natural heritage areas within two miles of a given location: <http://nhpweb.enr.state.nc.us/nhis/public/gmap75_main.phtml>. The user name is "public" and the password is "heritage". You may want to click "Help" for more information.

NC OneMap now provides digital Natural Heritage data online for free. This service provides site specific information on GIS layers with Natural Heritage Program rare species occurrences and Significant Natural Heritage Areas. The NC OneMap website provides Element Occurrence (EO) ID numbers (instead of species name), and the data user is then encouraged to contact the Natural Heritage Program for detailed information. This service allows the user to quickly and efficiently get site specific NHP data without visiting the NHP workroom or waiting for the Information Request to be answered by NHP staff. For more information about data formats and access, visit <www.nconemap.com>, then click on "FTP Data Download", and then "nheo.zip" [to the right of "Natural Heritage Element Occurrences"]. You may also e-mail NC OneMap at <dataq@ncmail.net> for more information.

Please do not hesitate to contact me at 919-715-8697 if you have

questions or need further information.

Sincerely,

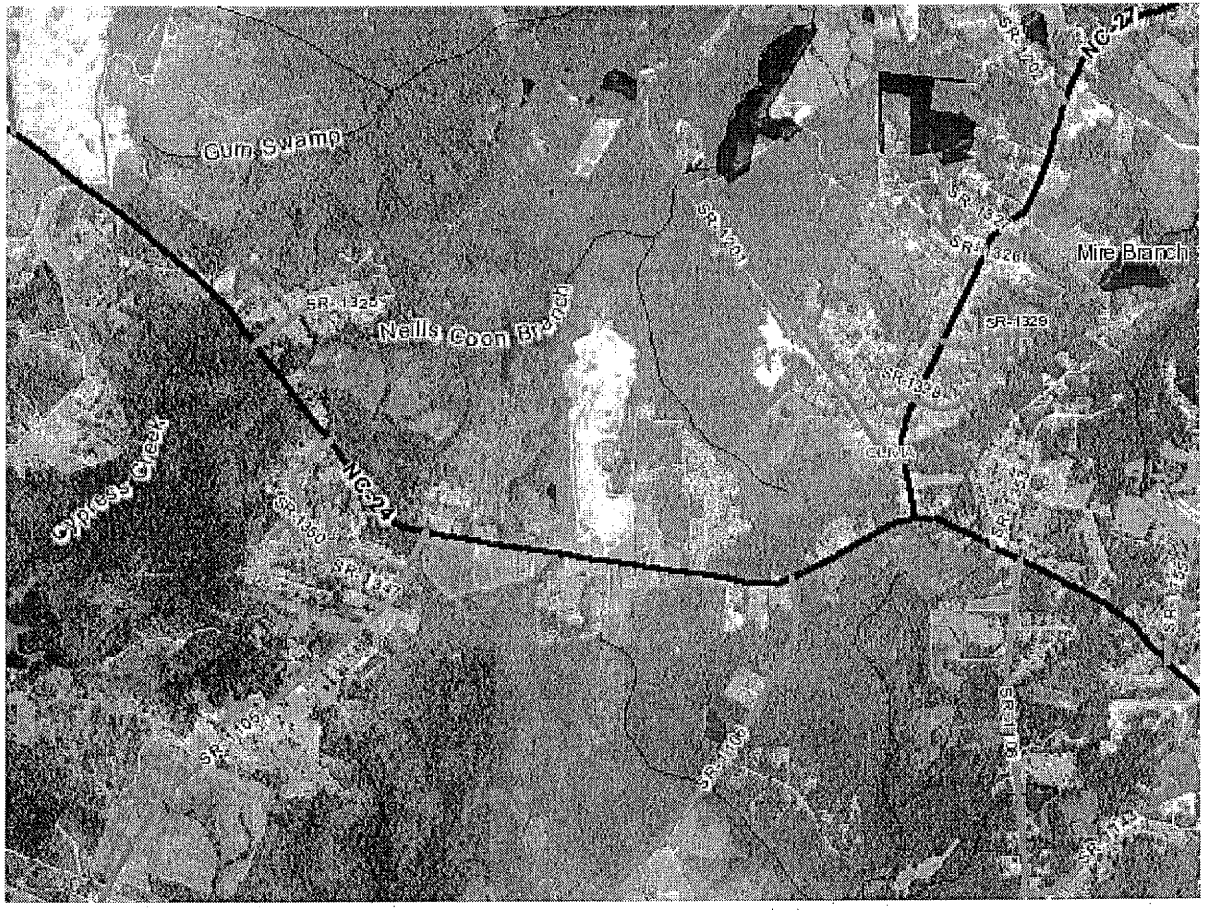
Harry E. LeGrand, Jr., Zoologist
Natural Heritage Program

■ Home ■ Help

Legend

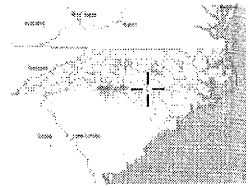
- ☑ Element Occurrences
- ☑ Significant Natural Heritage Areas
- ☑ Managed Areas
- ☑ Primary Roads
- ☑ Secondary Roads
- ☑ Municipalities
- ☑ Rivers and Lakes (Lines)
- ☑ Rivers and Lakes (Polygons)
- ☐ Topo Maps
- ☑ Aerial Photos
- ☑ Topo Boundaries
- ☑ County Boundaries
- Redraw Map

NC Natural Heritage Program Virtual Workroom



GIS Data Sources: NCNHP, CGIA, NCDOT, USGS. NCNHP data updated on: 2009-Mar-10

Locator Map



Map Size: 600 x 450

Functions

- ○ Zoom In
- ◉ Zoom Out
- ○ Pan
- ○ Identify
- Clear Selection

Quick View

--Select Region--

Problems or Questions?

Powered By: ■ WebGD ■ DM Solutions ■ MapServer ■ PHP ■ PostgreSQL ■ PostGIS

6.32

TSD

TEMPORARY SLOPE DRAINS

Definition

A flexible tubing or conduit extending temporarily from the top to the bottom of a cut or fill slope.

Purpose

To convey concentrated runoff down the face of a cut or fill slope without causing erosion.

Conditions Where Practice Applies

This practice applies to construction areas where stormwater runoff above a cut or fill slope will cause erosion if allowed to flow over the slope. Temporary slope drains are generally used in conjunction with diversions to convey runoff down a slope until permanent water disposal measures can be installed.

Planning Considerations

There is often a significant lag between the time a cut or fill slope is graded and the time it is permanently stabilized. During this period, the slope is very vulnerable to erosion, and temporary slope drains together with temporary diversions can provide valuable protection (Practice 6.20, *Temporary Diversions*).

It is very important that these temporary structures be sized, installed, and maintained properly because their failure will usually result in severe erosion of the slope. The entrance section to the drain should be well entrenched and stable so that surface water can enter freely. The drain should extend downslope beyond the toe of the slope to a stable area or appropriately stabilized outlet.

Other points of concern are failure from overtopping from inadequate pipe inlet capacity and lack of maintenance of diversion channel capacity and ridge height.

Design Criteria

Capacity—Peak runoff from the 10-year storm.

Pipe size—Unless they are individually designed, size drains according to Table 6.32a.

Table 6.32a
Size of Slope Drain

Maximum Drainage Area per Pipe (acres)	Pipe Diameter (inches)
0.50	12
0.75	15
1.00	18
>1.00*	as designed

*Inlet design becomes more complex beyond this size.

Conduit—Construct the slope drain from heavy-duty, flexible materials such as nonperforated, corrugated plastic pipe or specially designed flexible tubing (Figure 6.32a). Install reinforced, hold-down grommets or stakes to anchor the conduit at intervals not to exceed 10 ft with the outlet end securely fastened in place. The conduit must extend beyond the toe of the slope.

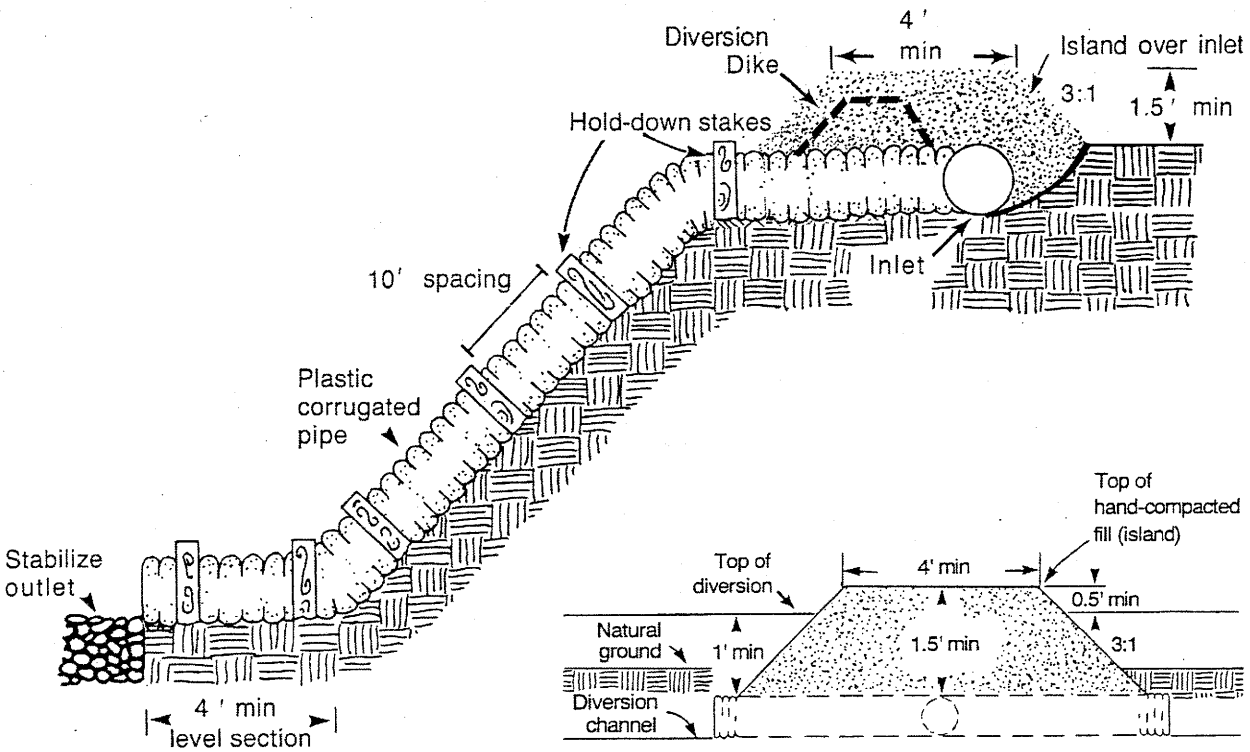


Figure 6.32a Cross section of temporary slope drain.

Entrance—Construct the entrance to the slope drain of a standard flared-end section of pipe with a minimum 6-inch metal toe plate (Figure 6.32a). Make all fittings watertight. A standard T-section fitting may also be used at the inlet.

Temporary diversion—Generally, use an earthen diversion with a dike ridge to direct surface runoff into the temporary slope drain. Make the height of the ridge over the drain conduit a minimum of 1.5 feet and at least 6 inches higher than the adjoining ridge on either side. The lowest point of the diversion ridge should be a minimum of 1 foot above the top of the drain so that design flow can freely enter the pipe.

Outlet protection—Protect the outlet of the slope drain from erosion (Practice 6.41, *Outlet Stabilization Structure*).

Construction 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.

1. Place slope drains on undisturbed soil or well compacted fill at locations and elevations shown on the plan.

2. Slightly slope the section of pipe under the dike toward its outlet.

3. Hand tamp the soil under and around the entrance section in lifts not to exceed 6 inches.

4. Ensure that fill over the drain at the top of the slope has minimum dimensions of 1.5 feet depth, 4 feet top width, and 3:1 side slopes.

5. Ensure that all slope drain connections are watertight.

6. Ensure that all fill material is well-compacted. Securely fasten the exposed section of the drain with grommets or stakes spaced no more than 10 feet apart.

7. Extend the drain beyond the toe of the slope, and adequately protect the outlet from erosion.

8. Make the settled, compacted dike ridge no less than 1 feet above the top of the pipe at every point.

9. 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.

References

Runoff Control Measures
6.20, Temporary Diversions

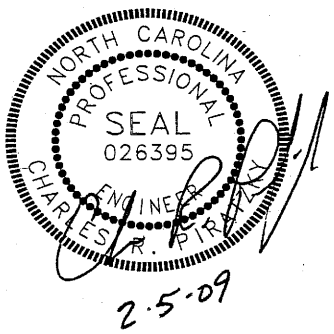
Outlet Protection
6.41, Outlet Stabilization Structure

Exhibit 10

CONTENTS

RWK, PA
ENGINEERING ~ SURVEYING
101 W. MAIN ST., SUITE 202
P.O.BOX 444
GARNER, NC 27529
PHONE (919) 779-4854
FAX (919) 779-4056

WEEKS SAND PIT # 2
EROSION CONTROL CALCULATIONS



2-5-09

Sheet1

RWK, PA
ENGINEERING ~ SURVEYING
101 W. MAIN ST., SUITE 202
P.O.BOX 444
GARNER, NC 27529
PHONE (919) 779-4854
FAX (919) 779-4056

EROSION CONTROL WEEKS SAND PIT # 2

USE FAYETTEVILLE IDF CURVE FOR 10 YEAR 5 MINUTE STORM

C=.3 BARE EARTH
I= 7.96 (IN/HR)
A= AREA

CELL NUMBER	DISTURBED AREA SQ. FT	DISTURBED AREA ACRES	Q_{10}(CFS)	REQUIRED BASIN SURFACE AREA	REQUIRED BASIN VOLUME	BASIN SIZE (L xWx D)
			Q=C*I*A	Q*435	Area*1800	Q*300SEC
1	201877	4.634	11.07	4814	8342	100x50x2.5
2	124275	2.853	6.81	2964	5135	100x30x2.5
3	140323	3.221	7.69	3346	5798	140x25x2.5
4	133749	3.070	7.33	3190	5527	100x32x2.5
5	118204	2.714	6.48	2819	4884	100x50x2.5
6	198629	4.560	10.89			
BASIN 6	917058	21.053	50.27	21869	37895	200x100x2.5
B1	164691	3.781	9.03	3927	6805	100x40x2.5
B2	131442	3.017	7.21	3135	5431	100x30x2.5
TOTAL BORROW	296133	6.798	16.23			
ADDITIONAL AREA	134246	3.082				
TOTAL	1347437	30.933	73.87	32132		

Reservoir Report

Hydraflow Hydrographs by Intelisolve

Reservoir No. 1 - Basin for Cell 1

Pond Data

Bottom LxW = 100.0 x 50.0 ft Side slope = 2.0:1 Bottom elev. = 370.00 ft Depth = 4.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	370.00	5,000	0	0
0.20	370.20	5,616	1,012	1,012
0.40	370.40	6,264	1,036	2,048
0.60	370.60	6,944	1,061	3,109
0.80	370.80	7,656	1,086	4,195
1.00	371.00	8,400	1,111	5,305
1.20	371.20	9,176	1,136	6,441
1.40	371.40	9,984	1,161	7,603
1.60	371.60	10,824	1,187	8,790
1.80	371.80	11,696	1,213	10,003
2.00	372.00	12,600	1,240	11,243
2.20	372.20	13,536	1,266	12,509
2.40	372.40	14,504	1,293	13,802
2.60	372.60	15,504	1,320	15,122
2.80	372.80	16,536	1,347	16,469
3.00	373.00	17,600	1,375	17,844
3.20	373.20	18,696	1,403	19,247
3.40	373.40	19,824	1,431	20,678
3.60	373.60	20,984	1,459	22,137
3.80	373.80	22,176	1,488	23,625
4.00	374.00	23,400	1,517	25,141

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise in	= 15.0	0.0	0.0	0.0
Span in	= 15.0	0.0	0.0	0.0
No. Barrels	= 1	0	0	0
Invert El. ft	= 370.00	0.00	0.00	0.00
Length ft	= 85.0	0.0	0.0	0.0
Slope %	= 6.50	0.00	0.00	0.00
N-Value	= .013	.000	.000	.000
Orif. Coeff.	= 0.60	0.00	0.00	0.00
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len ft	= 9.42	0.00	0.00	0.00
Crest El. ft	= 372.50	0.00	0.00	0.00
Weir Coeff.	= 3.33	0.00	0.00	0.00
Weir Type	= Riser	---	---	---
Multi-Stage	= Yes	No	No	No

Exfiltration Rate = 0.00 in/hr/sqft Tailwater Elev. = 0.00 ft

Note: All outflows have been analyzed under inlet and outlet control.

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
0.00	0	370.00	0.00	---	---	---	0.00	---	---	---	---	0.00
0.20	1,012	370.20	0.00	---	---	---	0.00	---	---	---	---	0.00
0.40	2,048	370.40	0.00	---	---	---	0.00	---	---	---	---	0.00
0.60	3,109	370.60	0.00	---	---	---	0.00	---	---	---	---	0.00
0.80	4,195	370.80	0.00	---	---	---	0.00	---	---	---	---	0.00
1.00	5,305	371.00	0.00	---	---	---	0.00	---	---	---	---	0.00
1.20	6,441	371.20	0.00	---	---	---	0.00	---	---	---	---	0.00
1.40	7,603	371.40	0.00	---	---	---	0.00	---	---	---	---	0.00
1.60	8,790	371.60	0.00	---	---	---	0.00	---	---	---	---	0.00
1.80	10,003	371.80	0.00	---	---	---	0.00	---	---	---	---	0.00
2.00	11,243	372.00	0.00	---	---	---	0.00	---	---	---	---	0.00
2.20	12,509	372.20	0.00	---	---	---	0.00	---	---	---	---	0.00
2.40	13,802	372.40	0.00	---	---	---	0.00	---	---	---	---	0.00
2.60	15,122	372.60	0.99	---	---	---	0.99	---	---	---	---	0.99
2.80	16,469	372.80	5.15	---	---	---	5.15	---	---	---	---	5.15
3.00	17,844	373.00	8.71	---	---	---	8.71	---	---	---	---	8.71
3.20	19,247	373.20	9.33	---	---	---	9.32	---	---	---	---	9.32
3.40	20,678	373.40	9.76	---	---	---	9.76	---	---	---	---	9.76
3.60	22,137	373.60	10.14	---	---	---	10.13	---	---	---	---	10.13
3.80	23,625	373.80	10.50	---	---	---	10.50	---	---	---	---	10.50
4.00	25,141	374.00	10.83	---	---	---	10.82	---	---	---	---	10.82

Reservoir Report

Hydraflow Hydrographs by Intelisolve

Reservoir No. 2 - Basin for Cell 6

Pond Data

Bottom LxW = 100.0 x 200.0 ft Side slope = 2.0:1 Bottom elev. = 339.50 ft Depth = 4.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	339.50	20,000	0	0
0.20	339.70	21,216	4,024	4,024
0.40	339.90	22,464	4,072	8,096
0.60	340.10	23,744	4,121	12,217
0.80	340.30	25,056	4,170	16,387
1.00	340.50	26,400	4,219	20,605
1.20	340.70	27,776	4,268	24,873
1.40	340.90	29,184	4,317	29,191
1.60	341.10	30,624	4,367	33,558
1.80	341.30	32,096	4,417	37,975
2.00	341.50	33,600	4,468	42,443
2.20	341.70	35,136	4,518	46,961
2.40	341.90	36,704	4,569	51,530
2.60	342.10	38,304	4,620	56,150
2.80	342.30	39,936	4,671	60,821
3.00	342.50	41,600	4,723	65,544
3.20	342.70	43,296	4,775	70,319
3.40	342.90	45,024	4,827	75,146
3.60	343.10	46,784	4,879	80,025
3.80	343.30	48,576	4,932	84,957
4.00	343.50	50,400	4,985	89,941

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise in	= 24.0	0.0	0.0	0.0
Span in	= 24.0	0.0	0.0	0.0
No. Barrels	= 1	0	0	0
Invert El. ft	= 339.50	0.00	0.00	0.00
Length ft	= 130.0	0.0	0.0	0.0
Slope %	= 0.80	0.00	0.00	0.00
N-Value	= .013	.013	.000	.000
Orif. Coeff.	= 0.60	0.60	0.00	0.00
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len ft	= 12.56	0.00	0.00	0.00
Crest El. ft	= 342.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	0.00	0.00	0.00
Weir Type	= Riser	---	---	---
Multi-Stage	= Yes	No	No	No

Exfiltration Rate = 0.00 in/hr/sqft Tailwater Elev. = 0.00 ft

Note: All outflows have been analyzed under inlet and outlet control.

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
0.00	0	339.50	0.00	---	---	---	0.00	---	---	---	---	0.00
0.20	4,024	339.70	0.00	---	---	---	0.00	---	---	---	---	0.00
0.40	8,096	339.90	0.00	---	---	---	0.00	---	---	---	---	0.00
0.60	12,217	340.10	0.00	---	---	---	0.00	---	---	---	---	0.00
0.80	16,387	340.30	0.00	---	---	---	0.00	---	---	---	---	0.00
1.00	20,605	340.50	0.00	---	---	---	0.00	---	---	---	---	0.00
1.20	24,873	340.70	0.00	---	---	---	0.00	---	---	---	---	0.00
1.40	29,191	340.90	0.00	---	---	---	0.00	---	---	---	---	0.00
1.60	33,558	341.10	0.00	---	---	---	0.00	---	---	---	---	0.00
1.80	37,975	341.30	0.00	---	---	---	0.00	---	---	---	---	0.00
2.00	42,443	341.50	0.00	---	---	---	0.00	---	---	---	---	0.00
2.20	46,961	341.70	0.00	---	---	---	0.00	---	---	---	---	0.00
2.40	51,530	341.90	0.00	---	---	---	0.00	---	---	---	---	0.00
2.60	56,150	342.10	1.32	---	---	---	1.32	---	---	---	---	1.32
2.80	60,821	342.30	6.87	---	---	---	6.87	---	---	---	---	6.87
3.00	65,544	342.50	14.80	---	---	---	14.79	---	---	---	---	14.79
3.20	70,319	342.70	19.89	---	---	---	19.89	---	---	---	---	19.89
3.40	75,146	342.90	21.56	---	---	---	21.56	---	---	---	---	21.56
3.60	80,025	343.10	22.78	---	---	---	22.77	---	---	---	---	22.77
3.80	84,957	343.30	23.81	---	---	---	23.80	---	---	---	---	23.80
4.00	89,941	343.50	24.74	---	---	---	24.73	---	---	---	---	24.73

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	Rational	8.48	1	5	3,181	----	------	------	CELL 1
2	Rational	5.22	1	5	1,958	----	------	------	CELL 2
3	Rational	5.90	1	5	2,212	----	------	------	CELL 3
4	Rational	5.63	1	5	2,109	----	------	------	CELL 4
5	Rational	4.97	1	5	1,862	----	------	------	CELL 5
6	Rational	8.36	1	5	3,133	----	------	------	CELL 6
7	Rational	6.93	1	5	2,598	----	------	------	BORROW 1
8	Rational	5.53	1	5	2,073	----	------	------	BORROW 2
9	Combine	30.20	1	5	10,871	1, 2, 3, 4, 5,	------	------	LCID AREA
10	Reservoir	0.00	1	0	0	1	370.59	3,054	Route Thru Basin 1
11	Reservoir	0.00	1	0	0	9	340.18	13,878	Route LCID Thru Basn 6

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	Rational	11.04	1	5	4,142	----	------	------	CELL 1
2	Rational	6.80	1	5	2,550	----	------	------	CELL 2
3	Rational	7.68	1	5	2,881	----	------	------	CELL 3
4	Rational	7.32	1	5	2,746	----	------	------	CELL 4
5	Rational	6.46	1	5	2,424	----	------	------	CELL 5
6	Rational	10.88	1	5	4,079	----	------	------	CELL 6
7	Rational	9.02	1	5	3,382	----	------	------	BORROW 1
8	Rational	7.20	1	5	2,699	----	------	------	BORROW 2
9	Combine	39.31	1	5	14,153	1, 2, 3, 4, 5,	------	------	LCID AREA
10	Reservoir	0.00	1	0	0	1	370.76	3,976	Route Thru Basin 1
11	Reservoir	0.00	1	0	0	9	340.38	18,069	Route LCID Thru Basn 6

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	Rational	14.48	1	5	5,430	----	------	------	CELL 1
2	Rational	8.91	1	5	3,342	----	------	------	CELL 2
3	Rational	10.07	1	5	3,776	----	------	------	CELL 3
4	Rational	9.60	1	5	3,600	----	------	------	CELL 4
5	Rational	8.47	1	5	3,178	----	------	------	CELL 5
6	Rational	14.26	1	5	5,348	----	------	------	CELL 6
7	Rational	11.82	1	5	4,434	----	------	------	BORROW 1
8	Rational	9.43	1	5	3,538	----	------	------	BORROW 2
9	Combine	51.54	1	5	18,553	1, 2, 3, 4, 5,	------	------	LCID AREA
10	Reservoir	0.00	1	0	0	1	370.98	5,213	Route Thru Basin 1
11	Reservoir	0.00	1	0	0	9	340.64	23,687	Route LCID Thru Basn 6

Proj. file: Erosion.gpw | Return Period: 100 yr | Run date: 02-06-2009

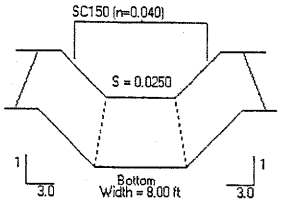
North American Green - ECMDS Version 4.3 | 2/5/2009 | 03:57 PM | COMPUTED BY:

PROJECT NAME: WEEKS SAND PIT | PROJECT NO.:

FROM STATION/REACH: DRAINAGE | TO STATION/REACH: | DRAINAGE AREA: | DESIGN FREQUENCY: Q10

HYDRAULIC RESULTS

Discharge (cfs)	Peak Flow Period (hrs)	Velocity (fps)	Area (sq.ft)	Hydraulic Radius(ft)	Normal Depth (ft)
51.0	0.1	4.83	10.55	0.75	0.97



Not to Scale

BEND RESULTS

Bend Radius (ft)	Length Protection (ft)	Super Elevation Depth (ft)
80.0	10.7	1.1

LINER RESULTS

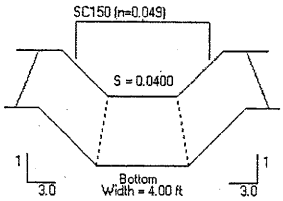
Reach	Matting Type / Staple Pattern	Stability Analysis	Vegetation Characteristics: Phase	Class	Type	Density	Permissible Shear Stress (psf)	Calculated Shear Stress (psf)	Safety Factor	Remarks
Straight	SC150	Unvegetated					2.00	1.51	1.32	STABLE
	Staple D									
Bend	SC150	Unvegetated					2.00	1.55	1.29	STABLE
	Staple D									

Back to Input Screen

North American Green - ECMDS Version 4.3				2/5/2009	03:50 PM	COMPUTED BY:
PROJECT NAME: WEEKS SAND PIT				PROJECT NO.:		
FROM STATION/REACH: DRAINAGE	TO STATION/REACH:			DRAINAGE AREA:		DESIGN FREQUENCY: Q10

HYDRAULIC RESULTS

Discharge (cfs)	Peak Flow Period (hrs)	Velocity (fps)	Area (sq.ft)	Hydraulic Radius(ft)	Normal Depth (ft)
11.0	0.1	3.44	3.20	0.42	0.56



Not to Scale

BEND RESULTS

Bend Radius (ft)	Length Protection (ft)	Super Elevation Depth (ft)
40.0	4.5	0.6

LINER RESULTS

Reach	Matting Type / Staple Pattern	Stability Analysis	Vegetation Characteristics: Phase	Class	Type	Density	Permissible Shear Stress (psf)	Calculated Shear Stress (psf)	Safety Factor	Remarks
Straight	SC150	Unvegetated					2.00	1.40	1.43	STABLE
	Staple D									
Bend	SC150	Unvegetated					2.00	1.44	1.39	STABLE
	Staple D									

Back to Input Screen

SKIMMER

SIZING FAIRCLOTH SIZE AND ORIFICE

V= VOLUME OF TO BE DEWATERED (CU FT)
Q=VOLUME OF DEWATERED PER DAY (CU FT)
H=DRIVING HEAD (FEET)
O=ORIFICE OPENING (INCHES)
T=TIME (DAYS) MUST BE MORE THAN 1 DAY AND LESS THAN 3 DAYS

$Q=2310D^2H^{0.5}$

$T=V/Q$

		5 MINUTE Q_{10} VOLUME (FT^3)	SKIMMER SIZE	DRIVING HEAD (FT)	ORIFICE SIZE	DEWATERING VOLUME PER DAY	DEWATERING TIME IN DAYS 1 < > 3
		V		H	O	Q	T
BASIN 1		4142	2"	0.167	1.5	2124	2.0
BASIN 2		2550	2"	0.167	1	944	2.7
BASIN 3		2881	2"	0.167	1.5	2124	1.4
BASIN 4		2746	2"	0.167	1	944	2.9
BASIN 5		2424	2"	0.167	1.5	2124	1.1
BASIN 6		18069	4"	0.333	2.5	8331	2.2
B1		3382	2"	0.167	1.5	2124	1.6
B2		2699	2"	0.167	1.5	2124	1.3

RWK, PA
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FAX (919) 779-4056

PROJECT: WEEKS SAND PIT # 2
LOCATION: HARNET COUNTY, NC

SIZE DISSIPATORS

BASINS 1 - 5 AND BORROW AREAS 1 &2

s= 0.05 ft/ft
D= 15 "
n= 0.013
Tailwater Conditions Unknown

Velocity and for pipes flowing just full:

$V_{MAX}=(1.486/n)*R^{2/3}*s^{1/2}$
V= 12.1 fps

$Q_{MAX}=1.486/n*A*R^{2/3}*s^{1/2}$
Q_{MAX}= 14.87 cfs

From SCS 1975 Minimum Tailwater Conditions:

For D=15 & V=12 >>> **d50=8" : Use Class B Rip Rap**

For D=15 & Q=15 **La=14' W=16'**

Use 8" Rip Rap & Build 14'x16' Dissipator

BASINS 6

V=
s 0.01 ft/ft
D= 24 "
n= 0.013
Tailwater Conditions Unknown

Velocity for pipes flowing just full:

$V_{MAX}=(1.486/n)*R^{2/3}*s^{1/2}$
V= 6.3 fps

For D=24 & V=7 >>> **d50=6" : Use Class B Rip Rap**

$Q_{MAX}=1.486/n*A*R^{2/3}*s^{1/2}$
Q_{MAX}= 19.85 cfs

For D=24 & Q=20
La=13' W=15'

Use Class B Rip Rap & Build 14'x16' Dissipator

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EROSION CONTROL WEEKS SAND PIT # 2

USE FAYETTEVILLE IDF CURVE FOR 10 YEAR 5 MINUTE STORM

C=.3 BARE EARTH
I= 7.96 (IN/HR)
A= AREA

CELL NUMBER	DISTURBED AREA SQ. FT	DISTURBED AREA ACRES	Q_{10}(CFS)	REQUIRED BASIN SURFACE AREA	REQUIRED BASIN VOLUME
			Q=C*I*A	Q*435	Area*1800
1	201877	4.634	11.07	4814	8342
2	124275	2.853	6.81	2964	5135
3	140323	3.221	7.69	3346	5798
4	133749	3.070	7.33	3190	5527
5	118204	2.714	6.48	2819	4884
6	198629	4.560	10.89		
BASIN 6	917058	21.053	50.27	21869	37895
B1	164691	3.781	9.03	3927	6805
B2	131442	3.017	7.21	3135	5431
TOTAL BORROW	296133	6.798	16.23		
ADDITIONAL AREA	134246	3.082			
TOTAL	1347437	30.933	73.87	32132	