



file
30195.00.HI

APPROVED DOCUMENT
Division of Waste Management
Solid Waste Section
Date **September 4, 2008** By **AW Gaither**
Document ID No. **5500**

June 6, 2006

John Murray, Environmental Engineer II
Mooresville Regional Office
NC Department of Environment
and Natural Resources
Division of Waste Management
610 East Center Avenue Suite 301
Mooresville, North Carolina 28115

**RE: New LCID Landfill
City of Newton NC
WKD No. 30195.00.HI**

Dear Mr. Murray:

As you are no doubt aware, the city's original LCID Landfill (Permit #18-B) was officially closed on July 11, 2001. The City of Newton remains in dire need of a permit for construction and use of their proposed new Land Clearing and Inert Debris Landfill. The landfill site consists of approximately five acres and will be constructed within the existing 180 acres of city property (made up of eleven adjoining tracts) located off NC Highway 10 at the end of Boston Road (SR-1152).

I have enclosed for background information a copy of my December 21, 2005 letter to you, which itemizes and describes each of the documents provided at that time needed to support the project feasibility and to aid in your review process. Also attached herewith are the following additional documents which may be of further help - including the information you requested in the most recent of our phone conversations.

- A portion of the City of Newton's Zoning Ordinance, showing LCID Landfill as an approved Special Use in Zones R-20 and R-20A (one page);
- A copy a letter from City Planner Alex Fulbright, AICP, certifying that the said property is zoned R-20 Single Family Residential; that LCID Landfills are permitted as a Special Use; and that the Newton City Council approved such Special Use at their April 6, 2004 meeting (one page);
- A copy of the Agenda for the Newton City Council meeting of April 6, 2004 (two pages);
- Excerpts from minutes of that meeting, containing the Public Hearing and the Council Order providing LCID Landfill Special Use permission (four pages);

401 4th Street, SW
Suite 201
Hickory, NC 28602
Tel. 828.327.6911
Fax 828.327.9164
www.wkdickson.com

- A copy of the original LCID permit, which contains a meets-and-bounds description and deed reference of the approximately 62-acre portion of the overall 180-acre property on which the new LCID Landfill is to be constructed (two pages);
- A general area map showing the location of the city property, with LCID Landfill position highlighted (one page);
- A Catawba County Parcel Report of the city property (one page);
- A Catawba County Deed History Report of the city property (one page);
- City of Newton Operational Plan for LCID Landfill submitted by Mark A. Herman, city Public Works Superintendent (two pages).

Please note that the proposed LCID Landfill is intended for use only by the City of Newton and, with prior permission by the city, by contractors who are performing work for the city.

Hopefully this additional information will suffice to complete your review and approval process, and result in issuance of the permit for construction and operation of this needed resource. Please do not hesitate to call or e-mail me regarding any questions or concerns that may remain.

Respectfully,

W. K. DICKSON COMPANY



William "Al" Stewart

Enclosures 9

pc: Martin Wilson, Director, City of Newton Public Works (letter only)
Mark A. Herman, Superintendent, Newton Public Works Department



☒ North Carolina Wildlife Resources Commission ☒

Charles R. Fullwood, Executive Director

July 8, 2004

Mr. William "Al" Stewart
WK Dickson – Hickory Office
231 16th Avenue
Hickory, North Carolina 28601

RE: Proposed City of Newton, Proposed LCID Landfill Project, Catawba County

Dear Mr. Stewart:

This correspondence is in response to your letter of July 1, 2004 concerning the referenced project. The North Carolina Wildlife Resources Commission (NCWRC) is authorized to comment and make recommendations which relate to the impacts of this project on fish and wildlife through the Federal License of Water Resource Project Act (Federal Power Act-16 U.S.C. 791a et seq.), the Clean Water Act of 1977, and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

The purpose of the project is to develop and maintain an LCID (construction debris) landfill to serve the City of Newton. The site is presently primarily wooded with undergrowth. Portions of the area are used as weapons training/firing range and a city water reservoir.

Based on our review, we have found no reason to object to the project other than the anticipated loss of habitats associated with construction and operation of the LCID Landfill. These impacts may be offset through site reclamation activities. No known federal or state listed species are known for the LCID Landfill site; however, we are concerned about secondary and cumulative impacts (SCI) to aquatic and terrestrial habitats. Information on SCI issues may be found at http://www.ncwildlife.org/pg07_WildlifeSpeciesCon/pg7c3_impacts.pdf should you need to further evaluate indirect impacts.

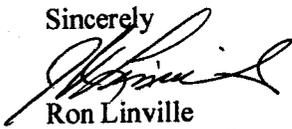
The following (non-prioritized) recommendations should be considered and used to facilitate construction and operation of the facility:

1. Secondary and cumulative impacts to waters, wetlands and floodplains from stormwater discharges and sedimentation should be avoided. A National Pollutant Discharge Elimination System (NPDES) stormwater permit from the ND Division of Water Quality may be needed.
2. Project proponents should contact the NC Division of Land Quality to determine if a mining permit will be needed for the LCID Landfill.
3. Any onsite Clean Water Act jurisdictional waters and wetlands should be professionally identified. Impacts to these waters or wetlands (including culverts) will require permits from the US Army Corps of Engineers. Previous site impacts to

- jurisdictional waters, if any, should be documented. Also, mitigation for previous impacts should be provided pursuant to the Clean Water Act, Sections 404 and 401.
4. One hundred (100) foot undisturbed natural stream buffers should be provided for perennial waters and wetlands to the maximum extent practicable. Fifty (50) foot undisturbed natural stream buffers should be provided for all other jurisdictional waters, including intermittent streams to the maximum extent practicable. Relocating streams may be acceptable if proper permits are acquired.
 5. The US Fish and Wildlife Service (828-258-3939) and the Natural Heritage Program (919-715-8703) should be contacted to discuss potential impacts to listed species.
 6. Topsoil from the project area should be stockpiled. Fill areas that are compacted clayey materials should be disked and augmented with stockpiled topsoil in order to provide improved biomass activity, vegetative cover and ground surface infiltration.
 7. If any leaching or untreated discharges occur, they should be properly permitted (National Pollutant Discharge Elimination System) and adequately treated to avoid downstream water quality violations and aquatic habitat deterioration.
 8. During any new land clearing activities, woody debris (slash or large trees) removed during development of the site should be placed along the outer stockpile/compost area construction limits in the form of brush piles and downed logs to provide cover and nesting habitat for wildlife (if feasible for this operation).
 9. Stringent erosion control measures should be installed where soil is disturbed and maintained until project completion. If appropriate to protect listed species or to meet watershed protection requirements, sediment and erosion control measures may need to meet design standards for sensitive watersheds (15A NCAC 4B .0024).
 10. Native plants are preferred for revegetation and reclamation. Revegetation and reclamation of disturbed soils should include seed and plant mixtures for both soil stabilization and wildlife benefits (see attached). We recommend that project proponents consult with a professional North Carolina Wildlife Resources Commission biologist to discuss mine planting schedules and reclamation activities. Wildlife biologist, Jack Mason can be reached at 828-396-5363. Additional planting suggestions and plant supply sources may be obtained from Stewardship biologist, Elizabeth Hughes at 828-651-8380.
 11. All activities should follow applicable 404 Permits, 401 Certifications, and any other special conditions specified by the NC Department of Environment and Natural Resources. If public funds are used, project proponents should contact the NC Office of Legislative and Intergovernmental Affairs at 919-715-4194 to see if further environmental reviews are required.
 12. Low Impact Development (LID) techniques are encouraged for impervious areas that may be developed on the site. Information on LID techniques can be found at www.lowimpactdevelopment.org.

Thank you for the opportunity to comment on this project. If you have any questions or need further information, please contact me at 336-769-9453.

Sincerely



Ron Linville
Regional Coordinator
Habitat Conservation Program

Attachment: Piedmont Stormwater Pond and Mine Planting Recommendations

Piedmont Stormwater Pond and Mine Planting Recommendations

Instead of using the typical fescue grasses or exotic plant species, the following mixtures should be considered for lower elevation stormwater ponds and mine sites:

Spring/Summer Mixture, May 1 - Sept. 15 Fall/Winter Mixture, Sept. 15 - April 30

Browntop millet	20 lbs/a	Winter Wheat	120 lbs/a
Kobe lespedeza	20 lbs/a	Kobe lespedeza	20 lbs/a
Shrub lespedeza	1 lb/a	Shrub lespedeza	1 lb/a
Switchgrass*	5 lb/a	Switchgrass*	5 lb/ac

Add to fall or spring plantings: 'Tioga' Deertongue (*Panicum clandestinum*) at a rate of 7 lbs. Pure Live Seeds (PLS) per acre.

* When possible on slopes less than 3:1 use Switchgrass instead of lespedezas and on slopes greater than 3:1 use Orchard Grass or Creeping Red Fescue. Other native species may be appropriate depending on soil, slope, and region. Korean lespedeza may be appropriate in colder geophysical areas. We do not recommend *Sericea lespedeza*. Native plants and warm season grasses are preferred over exotic plants.

Add one of the following to the above mixture:

Creeping Red Fescue	5 lbs/acre
Ladino Clover**	5 lbs/acre
Atlantic Coastal Panic Grass	5 lbs/acre (PLS)
Alfalfa**	5 lbs/acre (requires fertilizer containing Boron)

** Lime & fertilize disturbed areas according to NRCS soil test results and follow planting guidelines as appropriate and necessary. Depending on elevation and region, other native species may be appropriate. Note that mowing should be limited to late winter or early spring. Mowing should only occur as needed to prevent unwanted tree growth on a 2-3 year schedule.

The provision of shade around impounded waters can significantly reduce thermal impacts. Trees and shrubs (1 year bare root seedlings) should be planted randomly at a minimal rate of 100 trees per acre on the top and upper portions of the structure and at a minimal rate of 150 per acre around the normal water elevation and littoral shelf area. The following list of tree species may assist in providing habitat benefits:

Loblolly Pine*	Red Cedar	Black Gum	American Holly	Dogwood
Hickory	Sumac	White Oak	Willow Oak	Red Maple**
Viburnum	Green Ash	Ironwood	Black Cherry	Persimmon
Water Oak	Spice Bush	Willow (sp)	Serviceberry	Red Oak
Swamp Chestnut		Silky Dogwood		

Other species may be utilized depending on site requirements and native plant availability. Pines* should not exceed 15% of the reforestation. No more than 20% of the tree species will be of a single species. An 80% success rate is acceptable over five years. Large or fast growing trees like Sycamore and Maple** may not be appropriate near detention facility dams. Note: Non-native plants included in this list are routinely considered beneficial and/or agriculturally established non-natives. They have been included as they are readily available commercially and they do not exhibit many of the negative attributes of other non-natives that tend to spread or inhibit native plant propagation and survival.

U.S. ARMY CORPS OF ENGINEERS

Wilmington District

Action ID: 200431210 County: Catawba

NO DEPARTMENT OF THE ARMY AUTHORIZATION REQUIRED

Applicant

Applicant: WK Dickson
Attn: William Stewart
Address: 231 16th Avenue, NE
Hickory, NC 28601
Telephone Number: 828-327-6911

Size and Location of Property (waterbody, Highway name/number, town, etc.): The existing LCID Landfill is located on the north side of NC Hwy 10, in Newton, Catawba County, North Carolina.

Description of Activity: Proposed expansion of existing facility.

Your work as proposed does not require Department of the Army authorization for the following reason(s):

- There are no jurisdictional waters or wetlands within the boundaries of the property.
The proposed project does not impact jurisdictional waters or wetlands.
[X] The proposed project is exempt from Department of the Army regulation.
(Specify) Does not require a Department of the Army permit provided there is no dredged/fill material placed into waters or wetlands.

This Department of the Army determination does not relieve the permittee of the responsibility to obtain any other required Federal, State, or local approvals/permits. The permittee may need to contact appropriate State and local agencies before beginning work.

Any changes in the above described work must be coordinated with the Corps of Engineers prior to commencement. If you have any questions regarding the Corps of Engineers regulatory program, please contact Amanda Jones at telephone number (828) 271-7980 x.231.

Regulatory Project Manager Signature: [Handwritten Signature]

Date: October 26, 2004 Expiration Date: October 26, 2008

SURVEY PLATS, FIELD SKETCH, WETLAND DELINEATION FORM, ETC., MUST BE ATTACHED TO THE YELLOW (FILE) COPY OF THIS FORM, IF REQUIRED OR AVAILABLE.

RECEIVED OCT 28 2004

TECHNICAL SPECIFICATIONS
for

LCID Landfill

for the

CITY OF NEWTON
Newton, North Carolina

WKD No. 30195.00.HI

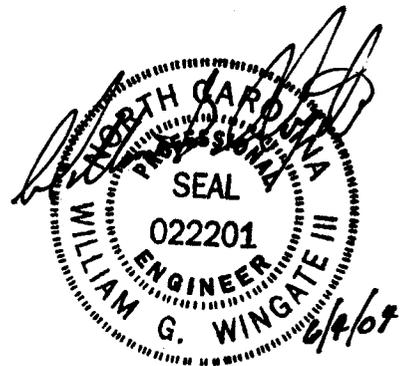
June 4, 2004

prepared for

City of Newton
Post Office Box 550
Newton, North Carolina 28603

Plans & Specifications
Prepared by

W. K. Dickson & Co., Inc.
231 16th Avenue, N.E.
Hickory, North Carolina
(828) 327-6911



**Newton
LCID
WKD# 30195.00.HI**

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SECTION 02110 CLEARING AND GRUBBING

1. DESCRIPTION

1.1 The clearing work covered by this section consists of cutting, removing and properly disposing of vegetation and debris. Trees specifically identified on the plans to be preserved shall be adequately delineated and flagged by the CONTRACTOR, such that the balance of the work may be performed in a safe and harmless manner in the vicinity of preserved trees. Such tree preservation will be considered part of the work and shall be in conformance with applicable local codes and regulations. Clearing and grubbing shall be performed in areas as called for on the plans, the limits of which shall coincide with the construction limits and in general shall extend five (5) feet beyond top of cut and toe of fill, not to exceed the limits of the OWNER's property.

1.2 Related Work

Any reference to standard specifications refers to the most current published date of the following specification unless otherwise noted.

1.2.1 Reference the following specifications for related work:
02210 Unclassified Excavation and Grading

1.2.2 Clearing and grubbing activities shall conform to Section 200 of the "Standard Specifications for Roads and Structures" Division 2 dated January, 2002, published by the North Carolina Department of Transportation, except that grubbing shall be performed on all cleared excavation and embankment areas and shall include the complete removal of all stumps, roots and embedded debris.

1.3 The grubbing work covered by this section consists of removing and properly disposing of all surface vegetation and debris. Where the material being removed is high in organic matter content, such as root mat and other vegetative matter, it shall be considered vegetation and removed as part of the work of grubbing. Where material being removed consists predominantly of soils, such removal will be considered part of the work covered by Section 02210 of these specifications, entitled Unclassified Excavation and Grading.

1.4 The work of clearing and grubbing shall also include the removal and satisfactory disposal of crops, weeds and other annual growth, fences, steps, walls, chimneys, column footings, other footings, foundation slabs, basements, other foundation components, signs, junked vehicles, and other rubble and debris, and the filling of holes and depressions. This work shall also be performed in all non-wooded areas within the construction limits, shown on the project plans upon which seeding and mulching, sprigging or sodding is to be performed.

As a part of the work of clearing and grubbing, the CONTRACTOR will be required to cut off and plug at the right of way or construction limits, as directed by the ENGINEER, any private water or sewer line intercepted during the construction of the project, as well as cut off and remove from the construction area any septic tank or portion thereof during the construction of the project.

1.5 Clearing and grubbing operations shall be completed sufficiently in advance of grading operations as may be necessary to prevent any of the debris from the clearing and grubbing operations from interfering with the excavation or embankment operations.

1.6 The CONTRACTOR shall obtain, at his own expense, all necessary permits pertaining to clearing and grubbing work not already secured by the ENGINEER. The CONTRACTOR shall then provide a copy of any and all required permits to the ENGINEER.

2. MATERIALS

Topsoil shall be considered to mean original surface soil, typical of the area, which is capable of supporting native plant growth, and shall be free of large stones, roots, brush, waste construction debris and other undesirable material.

3. INSTALLATION

3.1 Clearing and grubbing shall be performed in areas as called for on the plans, the limits of which shall coincide with the construction limits and in general shall extend 5 feet beyond top of cut or toe of fill, not to exceed the limits of the OWNER's property. Clearing and grubbing activities shall conform to Section 200 of the "Standard Specifications for Roads and Structures" dated January, 2002, published by the North Carolina Department of Transportation, except that grubbing shall be performed on all cleared excavation and embankment areas and shall include the complete removal of all stumps, roots and embedded debris.

3.2 The CONTRACTOR shall perform all clearing and grubbing operations before construction operations begin.

3.2.1 Where adjacent areas within the site but outside the limits of construction are disturbed as a result of clearing and grubbing activities, the CONTRACTOR shall remove all debris and restore to the original grades and equal or better condition.

3.2.2 The CONTRACTOR shall exercise caution to protect and maintain all existing utilities and underground works which are to remain. Any existing utilities or underground works which are to remain that are disturbed during construction shall be repaired or replaced at the CONTRACTOR's expense.

3.2.3 The CONTRACTOR must comply with all local, state and federal laws, ordinances and regulations in the removal and disposal of clearing and grubbing of all vegetation, timber, waste and all surface debris that must be hauled from the Project Site. No burning of materials will be allowed on site. The CONTRACTOR shall properly dispose of all cleared materials at his expense, in conformance with all applicable local and state laws and ordinances with the exception of any materials to be reused or recycled as directed elsewhere in this contract.

3.3 Stripping and Storage of Topsoil

All topsoil suitable for reuse, in the opinion of the ENGINEER, shall be stripped to its full depth, all topsoil to be moved shall be free of large stone, roots, brush, waste construction materials and other undesirable matter.

3.3.1 Topsoil stripping shall be accomplished from all topsoiled areas to be disturbed.

3.3.2 Existing lawn sods may be left to decompose with the topsoil. Heavier stands of weeds and grasses shall be removed as directed by the ENGINEER prior to the stripping operations.

3.3.3 The topsoil shall be kept separate from other excavated materials and stored in stockpiles, the location of which shall be as directed by the ENGINEER. Topsoil shall be stockpiled so that it shall not be subject to abnormal erosion and loss, and so that it does not impede the flow of drainage runoff. The directed locations of topsoil stockpiles will, when construction sequence permits, be located in areas that have previously been graded to design rough grade.

3.3.4 Any excess topsoil shall be hauled off the OWNER's property by the CONTRACTOR at his expense.

END OF SECTION

02110-2

MS/7-01

**SECTION 02210
UNCLASSIFIED EXCAVATION AND GRADING**

1. DESCRIPTION

This portion of the project includes the excavation, undercut excavating, grading, earthwork and compaction required as shown on the plans and all other associated miscellaneous items of earthwork construction, as shown on the plans. The CONTRACTOR shall furnish all materials, labor, equipment and incidental items necessary to complete this portion of the work as detailed on the plans and as called for in these Specifications.

1.1. Any reference to standard specifications refers to the most current published date published of the following specification unless otherwise noted.

All unclassified excavation shall be in accordance with Section 225 and in the event "Barrow Fill" is required, Section 230 of the "Standard Specifications for Roads and Structures" dated January 1, 1990, published by the North Carolina Department of Transportation, unless otherwise directed herein.

1.2. Related Work

Any reference to standard specifications refers to the most current published date of the following specification unless otherwise noted:

Reference the following specifications for related work:

- 02110 Clearing and Grubbing
- 02222 Excavating, Backfilling, and Compacting for Utilities
- 02231 Subgrade
- 02933 Seeding and Mulching
- ASTM D698C
- State Highway Specifications referred to in Section 1.2.1

1.3. Definitions

Trench Rock: That rock within the trenching limits that must be removed for utility construction.

Mass Rock: That rock which must be removed by blasting to permit reaching one foot below the design finish grade.

Geotechnical Engineer, also known as the "Project Geotechnical Engineer": Professional soils engineer hired by the CONTRACTOR and approved by the ENGINEER for this project.

Surveyor: Licensed surveyor hired by the CONTRACTOR and approved by the ENGINEER for this project.

2. MATERIALS

2.1. Topsoil shall be considered to mean original surface soil, typical of the area, which is capable of supporting native plant growth, and shall be free of large stones, roots, brush, waste, construction debris and other undesirable material or contamination.

2.2. All fill used for site grading operations should consist of a clean (free of organics and debris) low plasticity soil (plasticity index less than 30).

3. INSTALLATION

3.1. General Requirements

3.1.1. In the event a subsurface investigation report has been prepared for this project, all excavation, filling and grading shall be performed in accordance with the recommendations of the subsurface report, and under the direction of the project geotechnical ENGINEER.

- 3.1.2. Construction stakeout will be by a licensed survey firm provided by the CONTRACTOR. Exact locations and grade points are to be staked or fixed by the surveying firm before construction. The CONTRACTOR shall not disturb any benchmarks, reference stakes or property line monuments. In the event it becomes necessary to remove any benchmark, reference stake or property line monument in the performance of the work, the CONTRACTOR shall reference such points in preparation for replacement. If any such points are disturbed or damaged, they shall be replaced by a Registered Land Surveyor in the state where the work is located at the expense of the CONTRACTOR.
- 3.1.3. Existing utility lines (either overhead or underground), sidewalks, fencing, pavement or other structures shown on the drawings, shown to the CONTRACTOR or mentioned in the plans and specifications shall be kept free of damage by the CONTRACTOR's operations. It shall be the responsibility of the CONTRACTOR to verify the existence and location of all underground utilities within the Project Site. The omission from or the inclusion of utility locations on the plans is not to be considered as the non-existence of or a definite location of existing underground utilities. Any existing construction damaged by the CONTRACTOR shall be restored to an equal condition as that existing at the time prior to damage, at the CONTRACTOR's expense. If any existing utility is inadvertently damaged during construction, the CONTRACTOR shall notify the utility, the ENGINEER and the OWNER of said damaged utility at once so that emergency repairs may be made at the CONTRACTOR's expense and to the satisfaction of the party having jurisdiction of the utility.
- 3.2. Unclassified Excavation
- 3.2.1. Upon completion of the stripping operations, and after all excavation of the site has been completed to the lines and grades shown on the drawings, the exposed subgrade in cut areas should be proofrolled as specified herein for areas to receive fill. Any areas which deflect, rut or pump excessively during the proofrolling or fail to "tighten up" after successive passes should be undercut to suitable soils and replaced with compacted fill.
- 3.2.2. All site excavation shall be unclassified regardless of the nature of the materials encountered with the exception of rock excavation. Only that material which in the opinion of the ENGINEER cannot be removed with a caterpillar D-9 or equal, equipped with a properly fitted single tooth ripper, or removed by a caterpillar 225 backhoe or equal, equipped with rock teeth, will be regarded as rock. The ENGINEER should be notified immediately if rock is encountered. All excavation materials which are not required for fills shall be considered as waste and shall be disposed of off the OWNER's property unless directed otherwise by the OWNER in writing.
- 3.2.3. All site excavation of previously stockpiled or buried construction, clearing or demolition debris or any other refuse shall be properly disposed of offsite at the CONTRACTOR's expense. The CONTRACTOR shall obtain all necessary Federal, State or Local permits for transporting and disposing of such material, at his expense.
- 3.2.4. Rock in the bottom of roadway cuts shall be excavated to a depth of 1 foot below the roadbed and ditches. Rock in building pad areas shall be excavated to a depth of 1 foot below finished grade or as indicated on the grading plans.
- 3.2.5. The CONTRACTOR shall provide all sheeting, shoring, underpinning and bracing required to hold the sides of the excavation and for the protection of all adjacent structures. The CONTRACTOR shall be held responsible for any damage to any part of the work by failure of excavated sides or bottoms.

3.3. Blasting

- 3.3.1. Any and all blasting operations shall be conducted in strict accordance with existing ordinances and regulations relative to storage and use of explosives. Blasting shall be done only by experienced men and extreme caution and care shall be exercised to prevent injury to persons or damage to any pipe, mains, wires, drains, buildings, railroad tracks or other property above or below the surface of the ground. The CONTRACTOR shall use safety nets or other equivalent measures as approved by the ENGINEER to reduce the possibility of flying rock as a result of blasting operations. The CONTRACTOR shall be held strictly responsible for any injury to persons or damage to public or private property.
- 3.3.2. The CONTRACTOR shall submit blasting plans to the ENGINEER for review and shall not proceed with blasting operations until approval has been granted. As directed by the ENGINEER, blasting operations shall be monitored to insure that vibration levels produced by blasting are within tolerable limits.
- 3.3.3. The CONTRACTOR shall obtain at his expense, all Federal, State and Local permits required to perform blasting operations.

3.4. Dewatering

- 3.4.1. The CONTRACTOR shall control the grading in all areas so that the surface of the ground will be properly sloped, diked or ditched to prevent water from entering into excavated areas. The CONTRACTOR shall maintain sufficient personnel and equipment to promptly and continuously remove all water, from any source, entering or accumulating in the excavation or other parts of the work. All water pumped or drained from these areas shall be disposed of in a suitable manner without damaging adjacent property or other work under construction.

3.5. Embankments, Fills and Backfills

- 3.5.1. Upon completion of the stripping operations, the exposed subgrade in areas to receive fill should be proofrolled with a loaded dumptruck or similar pneumatic-tired vehicle with a minimum loaded weight of 20 tons, under the supervision of the geotechnical engineer. The proofrolling procedure should consist of four complete passes of the exposed areas with two of the passes being in a direction perpendicular to the preceding ones. Any areas that deflect, rut or pump excessively during the proofrolling or fail to "tighten up" after successive passes should be undercut to suitable soils and replaced with compacted fill.
- 3.5.2. Embankments and fills shall be constructed at the locations and to the lines and grades indicated on the drawings. Material shall be placed in horizontal layers not to exceed 8 inches in loose depth and thoroughly compacted prior to placing each following layer. All fill material shall be free from roots or other organic material, trash, and from all stones having any one dimension greater than 6 inches. Stones larger than 4 inches, maximum dimension, shall not be permitted in the upper 6 inches of fill or embankment. Fill areas shall be kept level with graders or other approved devices.
- 3.5.3. Embankment and fill compaction shall be accomplished by thoroughly compacting each layer with sheep foot rollers, pneumatic rollers, and mechanical tampers in places inaccessible to rollers, or other equipment. When material has too much moisture, grading operations shall be limited to drying soil by spreading and turning for drying by the sun and aeration. When material is dry, moisture shall be added by sprinkling by approved means.
- 3.5.4. All embankments and fills shall be compacted to the following percentages of the maximum dry density as determined by the Standard Proctor Density Test, ASTM D-698, Method C.

3.5.5. The following table shall be used unless otherwise specified:

<u>TABLE OF COMPACTION</u>		
Type Fill or Embankment	Zone	Minimum Density %
Structure	All Depths	100
Roadway and	Top 12 Inches	100
Parking	Remainder	95

Embankment types are defined as follows:

Structure - beneath concrete slabs of buildings, floors, foundations, etc.

Roadway and Parking - beneath all roads, streets, truck operations, and automobile parking lots

3.5.6. Where backfilling is required after the completion of drainage structures, all forms, trash, and construction debris shall be removed from excavation before backfilling begins. Backfill shall be placed in horizontal layers of 6 inches in loose depth. Compaction shall conform to requirements in the above table. Heavy rollers, crawler equipment, trucks or other heavy equipment shall not be used for compacting backfill within 5 feet of structure walls or other facilities which may be damaged by their weight or operation. No backfilling shall begin until concrete and masonry walls are properly cured.

3.5.7. The CONTRACTOR shall carry the top of embankments, fills, or backfills to the surrounding grade so that upon compaction and subsequent settlement, the grade will be at proper elevation. Should settlement occur during the guarantee period of the contract, the CONTRACTOR shall provide sufficient fill to bring area up to finished grade and shall reseed as required.

3.6. Proofrolling Schedule

3.6.1. Proofrolling under the observation of the Soils ENGINEER will be performed using a loaded dumptruck or similar pneumatic-tired vehicle with a minimum loaded weight of 25 tons as specified herein and as follows.

3.6.2. Immediately following stripping, all areas to receive fill shall be proofrolled as specified herein.

3.6.3. Immediately following the completion of excavation to proposed grades in cut areas, proofrolling shall be performed as specified herein.

3.6.4. Immediately prior to stone base course placement in pavement areas and following final floor slab preparation, all subgrade areas will be proofrolled. Any local areas that deflect, rut or pump under the roller shall be undercut and replaced with compacted fill material as specified herein.

3.7. Soil Inspection and Tests

3.7.1. All excavated and fill material shall be removed, selected, placed and compacted under supervision of a representative of a commercial soils testing laboratory which will be selected by the OWNER. A commercial soil testing laboratory shall be any firm properly equipped to perform such compaction tests and who has in their employment a Professional ENGINEER experienced in testing and soil mechanics. The laboratory representative shall have the authority to approve or disapprove the condition of the subgrade on which fill is to be placed, filled material, placement methods, compaction methods, and shall make compaction density tests as necessary to determine that the specified density is obtained. The CONTRACTOR shall notify the laboratory at least three (3) days prior to starting fill operations in order that suitability of material for compaction may be checked and no material shall be used that has not been previously checked

and approved by the laboratory. The laboratory shall be notified before any cut is made or fill is placed in order that the laboratory representative may be present during all grading operations. The CONTRACTOR shall remove, replace, recompact and retest all fills failing to meet the density requirements at his own expense.

- 3.7.2. A soil testing laboratory shall be retained by the OWNER to supervise fill placement and compaction at no expense to the CONTRACTOR. However, extra time and trips caused by excessive delay, failure of the CONTRACTOR to properly coordinate with the laboratory, or failure of the CONTRACTOR to properly compact fill material shall be backcharged to the CONTRACTOR.
- 3.7.3. Field density tests shall be performed by the OWNER's testing agency for each one foot of fill material placed at the following frequency:
- 3.7.4. A minimum of one field density test shall be made for each 5,000 square feet of fill placement in building areas.
- 3.7.5. A minimum of one field density test shall be made for each 10,000 square feet of fill placement in all other areas where pavement is to be placed.
- 3.7.6. Prior to final acceptance, the Soils ENGINEER and Surveyor shall submit certification specifying that the project compaction criteria and subgrading elevations have been satisfactorily obtained. The CONTRACTOR is responsible for the certification statement from the Surveyor. This certification should be in the form of a letter accompanied by a stamped as-built drawing showing spot elevations.

3.8. Borrow and Waste Materials

3.8.1. Borrow

In the event borrow material is required, the borrow material shall be checked for suitability for compaction and approved by the soils testing laboratory. The CONTRACTOR shall notify the laboratory at least three (3) days in advance of beginning borrow operations. Borrow excavation shall be performed in accordance with referenced State Highway construction Specification in which state the project is located except where modified herein.

3.8.2. Waste

Excavated materials not suited for backfill and excavated material in excess of that needed to complete the work shall be wasted on the project site where directed by the ENGINEER or hauled off the OWNER's property at the CONTRACTOR's expense. Waste areas shall be left in a graded and sloped condition to allow natural drainage of surrounding area.

3.9. Residual Soil Areas

If proofrolling indicates that on-site virgin soils supporting any roadway, parking, building or other structural areas are not adequate as determined by the Soils ENGINEER, then these unsuitable areas shall be repaired by the CONTRACTOR. The necessary repair procedure shall be determined by the Soils ENGINEER and may include scarifying, drying and recompaction procedures or undercutting and replacement procedures.

3.10. Final Grading

- 3.10.1. On completion of all grading, all graded areas (except building pads and pavement areas in rough grading contracts and all cut slopes steeper than 4:1 slope) shall be provided with 4 inches of topsoil and brought to the finished grades shown on the drawings. Areas disturbed by operations of the CONTRACTOR shall be properly returned to their original condition with a topsoil covering of 4 inches.

- 3.10.2. After the entire graded area has been brought to the finished grades shown on drawings, all areas shall be left smooth and free from erosion, ridges, ditches and evidence of ponding. Final grades shall be free from all roots, debris, rock and soil lumps and left in readiness for seeding.
- 3.10.3. Prior to acceptance of the entire project, the CONTRACTOR shall correct all embankments and graded areas of all damages due to washes, settlement, erosion, equipment ruts or any other cause at his expense.
- 3.10.4. Prior to final acceptance, the CONTRACTOR shall provide certification as specified in paragraph 3.7.6 that all grades are + .1 foot of the finished grades shown on project drawings.
- 3.10.5. The CONTRACTOR shall stabilize all disturbed areas, unless otherwise directed, by seeding and mulching per section 02933 of these specifications or other means of stabilization called for by the contract drawings.
- 3.11. Clean-Up
Upon completion or termination of the work, and before final payment is made, the CONTRACTOR shall remove from site all equipment, waste materials and rubbish resulting from his operations. In the event of his failure to do so, the same may be done by the OWNER at the expense of the CONTRACTOR.

END OF SECTION

**STABILIZER AGGREGATE
GRADATION ACCEPTANCE CRITERIA**

Column A Sieve Size	Column B % Passing
1½"	98 - 100
1"	60 - 100
½"	36 - 84
No. 4	21 - 61
No. 10	10 - 50
No. 40	0 - 34
No. 200	0 - 13
Material Passing No. 40 Sieve	
L.L.	0 - 30
P.I.	0 - 6

3. INSTALLATION

3.1 General Requirements

All subgrade preparation shall be in conformance with local and state Department of Transportation requirements.

3.1.1 The subgrade for roadways and structures shall be shaped to conform to the lines, grades and typical sections shown on the plans or established by the ENGINEER. All vegetation, organic matter or other deleterious material shall be removed and properly disposed of by the CONTRACTOR. Nor shall the soil contain stone or gravel larger than 2 inches for the full depth of the specified subgrade thickness. In areas where the subgrade is to be stabilized with aggregate, the subgrade surface may be left uniformly below grade to provide for the addition of the stabilizer aggregate.

3.1.2 All material to a depth of 12 inches below the finished surface of the subgrade shall be compacted to a density equal to at least 100 percent maximum density per AASHTO T99.

3.1.3 A tolerance of plus or minus 0.1+ foot from the established grade will be permitted after the subgrade has been graded and compacted to a uniform surface.

3.2 Proof Rolling

The subgrade for roads, parking areas and other locations designated on the plans or by the ENGINEER shall be proofrolled in accordance with local and state Department of Transportation requirements, to test for stability and uniformity of compaction. The subgrade shall be proof rolled in the presence of the ENGINEER or his designee using a loaded dumptruck or similar pneumatic-tired vehicle with a minimum loaded weight of 25 tons. Any area of the subgrade which pumps or ruts excessively shall be considered unsatisfactory and shall be windrowed and dried or shall receive lime or aggregate stabilization as directed by the ENGINEER. The subgrade shall then be recompacted and proof rolled at no additional cost to the OWNER, repeating the above-outlined process until a stable, unyielding and uniformly compacted subgrade is provided.

3.3 Lime Stabilized Subgrade

Where the existing soil is incapable of providing adequate foundation for roadways or structures or where called for on the plans, the subgrade may be stabilized using lime. The treatment of subgrade soils with lime shall be in conformance with local and state Department of Transportation requirements.

3.4 Aggregate Stabilized Subgrade

Where the existing soil is incapable of providing adequate foundation for roadways or structures or where called for on the plans, the subgrade may be stabilized using aggregate. The treatment of subgrade soils with aggregate shall be in conformance with local and state Department of Transportation requirements.

END OF SECTION

SECTION 02270
EROSION AND SEDIMENT CONTROL

1. DESCRIPTION

1.1. Erosion and sedimentation control shall be provided by the CONTRACTOR for all areas of the site denuded or otherwise disturbed during construction. The CONTRACTOR shall be responsible for all installation, materials, labor, and maintenance of erosion and sediment control devices, as well as removal of temporary erosion and sediment control devices shown on the plans or required to protect all downstream properties, natural waterways, streams, lakes, ponds, catch basins, drainage ditches, roads, gutters, natural buffer zones, and man made structures.

1.2. Erosion and sediment control procedures and facilities shall conform to all legally regulated procedures for the control of erosion and sedimentation.

1.3. Related Work

See the following sections for related work.

02274 Plain Rip Rap

02275 Stone for Erosion Control

02933 Seeding and Mulching

02277 Silt Fence

02271 Engineering Fabrics

1.3.1 Erosion and sediment control procedures and facilities shall conform to Section 107, 225, and 1000 of the "Standard Specifications for Roads and Structures" Division 16 dated January, 2002, published by the North Carolina Department of Transportation and the "Erosion and Sedimentation Control Planning and Design Manual" as published by the North Carolina Sedimentation Control Commission.

2. MATERIALS

2.1. Washed stone to be used in temporary sediment basins shall be of strong, durable nature, resistant to weathering and shall be graded to conform to local and state Department of Transportation requirements.

2.2. Refer to other sections within these specifications as listed in Item 1.3 above for other material specification required in the installation of erosion and sediment control facilities.

3. INSTALLATION

3.1 General Requirements

3.1.1 The CONTRACTOR shall follow the erosion control construction sequence schedule as shown on the contract drawings, except that should circumstances dictate that extra precaution be taken to prohibit erosion and sedimentation on the project, the CONTRACTOR will, at his own expense, take preventative measures as needed.

3.1.2 The CONTRACTOR is required to maintain all erosion and sediment control facilities to insure proper performance throughout the construction phase and until such time all disturbed areas are permanently stabilized.

3.1.3 Upon completion of construction or successful permanent stabilization of all areas which were disturbed before or during construction operations or as indicated on the construction drawings, whichever occurs last, the CONTRACTOR shall remove all temporary erosion and sediment control devices and facilities from the project site. The CONTRACTOR shall retain these items for future use or properly dispose of these items offsite.

3.1.4 The CONTRACTOR shall provide temporary or permanent ground cover as called for on the construction plans within thirty (30) working days after disturbance of any areas on the site.

END OF SECTION

SECTION 02271 ENGINEERING FABRICS

1. DESCRIPTION

The work covered by this Section consists of the installation of an acceptable engineering fabric (filter fabric) appropriate for the application(s) called for on the plans or as required by field conditions. Placement of the fabric shall be an integral function of the construction of shoulder drains, subsurface drainage systems, temporary silt fences and placement of erosion control stone or rip rap facilities. The CONTRACTOR shall furnish all equipment, tools, labor and materials necessary to complete the work in accordance with the plans and specifications.

1.1. Related Work

Any reference to standard specifications refers to the most current published date of the following specification unless otherwise noted.

1.1.1 Reference the following specifications for related work:

02270	Erosion and Sediment Control
02274	Plain Rip Rap
02275	Stone for Erosion Control
02277	Temporary Silt Fence

1.1.2. The filter fabric shall conform to Section 1056 of the "Standard Specifications for Roads and Structures" Division 2, Division 10 and/or Section 1605 (2B) dated January, 2002, published by the North Carolina Department of Transportation and the "Erosion and Sedimentation Control Planning and Design Manual" as published by the North Carolina Sedimentation Control Commission.

2. MATERIALS

Engineering fabric shall have material properties strictly conforming to those specified in Sections of the standard State Department of Transportation specifications. The CONTRACTOR shall provide engineering fabric(s) for various applications which meet or exceed the corresponding criteria for each different fabric utilized per the subject specification.

3. INSTALLATION

3.1 General Requirements

3.1.1 Engineering fabric installed under erosion control stone or rip rap shall be placed at locations, to the dimensions as shown on the plans or as directed by the ENGINEER.

3.1.2 Surfaces to receive filter fabric shall be graded to the lines and grades as shown on the plans, unless otherwise directed by the ENGINEER. The surface shall be free of obstructions, debris and pockets of soft or low-density material.

3.1.3 At the time of installation, the fabric shall be free of defects, rips, holes, flaws, deterioration or damage incurred during manufacture, transportation or storage.

3.1.4 The filter fabric shall be laid smooth and free from tension, stress, folds, wrinkles, or creases. Horizontal overlaps shall be a minimum of 12 inches with the upper fabric overlapping the lower fabric. Vertical overlaps shall be a minimum of 18 inches with the upstream fabric overlapping the downstream fabric. In the event that the fabric is displaced or damaged during stone placement, the stone shall be removed and the fabric repositioned or replaced prior to replacement of the stone, all at no additional cost to the OWNER.

3.1.5 The placement of the filter fabric and stone shall be performed in a continuous manner as directed by the ENGINEER. The filter fabric shall be protected from damage due to the placement of stone or other materials by limiting the height of drop of the material or by placing a cushioning layer of sand on top of the fabric before dumping the material.

3.1.6 No more than 72 hours shall elapse from the time the fabric is unwrapped to the time the fabric is covered with stone or sand.

3.1.7 Filter fabric installed in association with shoulder drains or other subsurface drainage systems shall be installed in such a manner that all splice joints are provided with a minimum overlap of 2 feet. The overlap of the closure at the top of the trench shall be at least 6 inches and secured with mechanical ties. Where outlet pipe passes through the fabric, a separate piece of fabric shall be wrapped around the outlet pipe, flared against the side of the filled drain, and secured with anchor pins.

3.1.8 Field splices of filter fabric shall be anchored with anchor pins to insure that required overlap is maintained.

3.1.9 At the time of installation, the fabric will be rejected if it has defects, rips, holes, flaws, deterioration, or damage incurred during manufacture, transportation, or storage.

3.1.10 Aggregate placement operations and the pipe installation shall be done so as to prevent damage to the filter fabric. Damaged sections of filter fabric shall be replaced at no cost to the OWNER.

3.1.11 The aggregate shall be compacted to a degree acceptable to the ENGINEER by the use of a vibratory compactor before making the filter fabric closure at the top of the trench.

3.1.12 Filter fabric installed in association with temporary silt fences shall be a water permeable filter type for the purpose of removing suspended particles from the water passing through it. Silt fences shall be constructed in accordance with local and state Department of Transportation requirements in the locations and to the configurations as shown in the plans and as directed by the ENGINEER. Should the requirements of local, regional or state authorities having jurisdiction over the project exceed the requirements of this section or other sections in this specification regarding temporary silt fences, the more stringent shall govern.

3.2 Physical Properties of Engineering Fabrics

PHYSICAL PROPERTIES OF ENGINEERING FABRICS					
Physical Property	Test Method (Article 1056-2)	Type 1	Type 2	Type 3	
				Class A	Class B
Min. Roll Width	---	---	---	36"	36"
Min. Fabric Weight	1	4.0 oz/yd ²	---	---	---
Min. Tensile Strength	2	90 lb.	200 lb.	50 lb.	100 lb.
Elongation	2	80% Max.	15% Min.	30% Max.	25% Max.
Min. Burst Strength	3	150 psi	400 psi	100 psi	180 psi
Min. Puncture Strength	4	45 lb.	80 lb.	30 lb.	60 lb.
Apparent Opening Opening Size - Max/Min (U.S. Std. Sieve)	5	60/100	30/130	20/50	20/50
Min. Ultra-Violet Exposure Strength Retention	6	80 lb.	140 lb.	40 lb.	80 lb.
Fungus Resistance	7	No Growth	No Growth	No Growth	No Growth

Min. Permeability (Thickness x Permittivity)	8	0.2 cm/sec.	---	---	---
Min. Flow Rate	8	---	---	10 gal/min/ft ²	10 gal/min/ft ²
Typical Application	--	Shoulder Drain	Under Riprap	Temporary Silt Fence	

END OF SECTION

SECTION 02274 PLAIN RIP RAP

1. DESCRIPTION

The work covered by this section consists of the construction of plain rip rap at the locations designated on the plans or directed by the ENGINEER. The CONTRACTOR shall furnish all equipment, tools, labor and materials necessary to complete the work in accordance with the plans and specifications.

1.1. Related Work

Any reference to standard specifications refers to the most current published date published of the following specification unless otherwise noted.

1.1.1. Reference 02270 Erosion Control for related work.

The plain rip rap shall conform to Section 868 of the "Standard Specifications for Roads and Structures" Division 8 dated January, 2002, published by the North Carolina Department of Transportation and the "Erosion and Sedimentation Control Planning and Design Manual" as published by the North Carolina Sedimentation Control Commission.

2. MATERIALS

2.1 Plain rip rap shall conform to the applicable State Department of Highway specifications.

2.2 Plain rip rap shall consist of quarry run stone or field stone and shall be classified by size into either Class 1 or Class 2. The class and thickness to be used shall be as called for on the plans.

2.3 Where broken concrete from demolished structures or pavement is available, it may be used in place of stone provided the CONTRACTOR obtains in advance, written authorization from the ENGINEER. Broken concrete containing reinforcing steel or wire mesh will not be permitted.

3. INSTALLATION

3.1 Unless otherwise directed by the ENGINEER, the stone shall be placed on slopes less than the angle of repose of the material and to the line, grade and slope as indicated on the plans. The stone shall be graded so that the smaller stones are uniformly distributed throughout the mass.

3.2 At locations where rip rap is required for channel changes and drainage ditches, the rip rap shall be placed prior to diverting the water into the channel changes and drainage ditches.

3.3 At locations where rip rap is required at the outlets of pipe culverts, the rip rap shall be placed immediately after completion of the pipe culvert installation.

END OF SECTION

SECTION 02277 TEMPORARY SILT FENCE

1. DESCRIPTION

The work covered by this Section consists of the furnishing, installing, maintaining, replacing as needed, and removing of temporary silt fence. The CONTRACTOR shall furnish all equipment, tools, labor and materials necessary to complete the work in accordance with the plans and specifications. All materials and procedures shall conform to the latest version of local and state Department of Transportation requirements.

1.1. Related Work

Any reference to standard specifications refers to the most current published date published of the following specifications unless otherwise noted.

1.1.1. Reference the following specifications for related work:

02270 Erosion Control

02275 Stone for Erosion Control

All applicable local design manuals, codes and/or ordinances for Erosion and Sedimentation Control. (Were these design manuals, local codes and ordinances are more stringent then the State Department of Transportation, these codes and/or ordinances will control the erosion and sedimentation control procedures to be followed.)

The temporary silt fence shall conform to Section 1605 of the "Standard Specifications for Roads and Structures" dated January, 2002, published by the North Carolina Department of Transportation and Section 6.62.1 of the "Erosion and Sedimentation Control Planning and Design Manual" as published by the North Carolina Sedimentation Control Commission.

2. MATERIALS

2.1. General Requirements

Temporary silt fence shall be a water permeable filter type fence for the purposes of removing suspended particles from the water passing through it.

2.2. Posts

Either wood posts or steel posts may be used. Wood posts shall be a minimum of 6 feet long, at least 3 inches in diameter, and straight enough to provide a fence without noticeable misalignment. Steel posts shall be at least 5 feet in length, approximately 1-3/8 inches wide measured parallel to the fence, and have a minimum weight of 1.25 lb/ft of length. The post shall be equipped with an anchor plate having a minimum area of 14.0 square inches, and shall have a means of retaining wire and fabric in the desired position without displacement.

2.3. Woven Wire Fence

Wire fence fabric shall be at least 32 inches high, and shall have at least 6 horizontal wires. Vertical wires shall be spaced 12 inches apart. The top and bottom wires shall be at least 10 gage. All other wires shall be at least 12-1/2 gage.

2.4. Silt Fence Filter Fabric

The filter fabric shall meet the requirements of "Type 3 Engineering Fabric, Class A or B, per Section 1605 of the "Standard Specifications of Roads and Structures" dated January, 2002 published by the North Carolina Department of Transportation."

Silt fence which incorporates filter fabric meeting the requirements of these State Specifications but which fail to perform in an acceptable manner shall be replaced with silt fences which are capable of acceptable performance. All silt fences shall meet the local governmental requirements as well as the State's requirements.

2.5. Wire Staples

Wire staples shall be a No. 9 staple and shall be at least 1½ inches long.

3. INSTALLATION

3.1. General Requirements

3.1.1. The CONTRACTOR shall install temporary silt fence as shown on the plans or as required by field conditions. The silt fence shall be constructed at the locations shown on the plans and at all other locations necessary to prevent sediment transport, as directed by the ENGINEER.

3.1.2. Class A synthetic filter fabric may be used only in conjunction with woven wire fence fabric backing. Filter fabric shall be attached to the wire fence fabric by wire or other acceptable means.

3.1.3. Class B synthetic filter fabric may be used without the woven wire fence fabric backing, subject to the following conditions:

- Post spacing is reduced to a maximum of 6 feet.
- The proposed fabric has been approved by the ENGINEER as being suitable for use without the woven wire fence fabric backing.
- Fence posts shall be inclined toward the runoff source at an angle of not more than 20° from vertical.
- Posts shall be installed so that no more than 3 feet of the post shall protrude above the ground. Where possible, the filter fabric from a continuous roll cut to the length of the barrier shall be used to avoid joints. When joints are necessary, securely fasten the filter cloth only at a support post with overlap to the next post. At the time of installation, the fabric will be rejected if it has defects, rips, holes, flaws, deterioration, or damage incurred during manufacture, transportation, or storage.

3.2. Maintenance and Removal

3.2.1. The CONTRACTOR shall inspect temporary silt fences at least once a week and after each rainfall and shall make any required repairs and remove and dispose of silt accumulation immediately. Should the fabric of the silt fence collapse, tear, decompose or become ineffective, the CONTRACTOR will replace it promptly at his own expense. The CONTRACTOR shall remove sediment deposits as necessary to provide adequate storage volume for the next rain and to reduce pressure on the fence.

3.2.2 The CONTRACTOR shall remove all temporary silt fence and associated appurtenances once all disturbed areas upland of the fence are properly and satisfactorily stabilized as called for on the plans.

END OF SECTION

SECTION 02722 DRAINAGE PIPE AND CULVERTS

1. DESCRIPTION

The work covered by this section consists of all excavation, bedding, laying pipe, jointing and coupling pipe sections, and backfilling necessary to install the various types of pipes, pipe culverts and fittings required to complete the project. The CONTRACTOR shall furnish all equipment, tools, labor and materials necessary to complete the work in accordance with the plans and specifications.

1.1 Related Work

Any reference to standard specifications refers to the most current published date of the following specification unless otherwise noted.

1.2. Reference the following specifications for related work:

027721	Drainage Structures and Inlets
ASTM C76	Concrete Pipe
ASTM C507	Reinforced concrete Elliptical Pipe

1.2.1. All drainage structures and inlets shall conform to Section 1032 of the "Standard Specifications for Roads and Structures" dated January, 2002, published by the North Carolina Department of Transportation.

1.3. The CONTRACTOR shall furnish all equipment, tools, labor, and materials necessary to complete the work in accordance with the plans and specifications.

2. MATERIALS

2.1. Drainage pipe and culverts shall conform to local and state Department of Transportation requirements.

2.2. Shop drawings consisting of catalog cuts and related data shall be submitted by the CONTRACTOR to the ENGINEER for approval.

2.3. All reinforced concrete pipe, flared end sections, tees and elbows shall be clearly marked showing the pipe class, type of wall and date of manufacture.

2.4. Reinforced concrete drainage pipe shall conform to ASTM C76, Class III, wall thickness B. Joints shall be tongue and groove.

2.5. Concrete flared end sections shall be reinforced. Concrete used in flared end sections shall attain a compressive strength of 3500 psi at 28 days.

2.6. Reinforced concrete elliptical drainage pipe shall conform to ASTM C507, Class HE-II. Joints shall be tongue and groove.

3. INSTALLATION

3.1. General Requirements

3.1.1. Drainage pipes and culverts of the type and quantity and in the locations as called for on the plans or as directed by the ENGINEER shall be installed in conformance with local and state Department of Transportation requirements.

3.1.2. Where proposed culverts are to be installed under existing roadways, the construction shall be performed in such a way that half the roadway will be maintained and available to traffic or as directed by the governing agency.

3.2. Unloading and Handling

All pipes shall be unloaded and handled with reasonable care. When any joint or section of pipe is damaged during unloading or handling, the undamaged portions of the joint or section may be used where partial lengths are needed or, if damaged sufficiently, the ENGINEER will reject the joint or section as being unfit for installation and the CONTRACTOR shall remove such rejected pipe from the project, at no cost to the OWNER.

3.3. Preparation of Pipe Foundation

3.3.1. The pipe foundation shall be prepared in accordance with the applicable method shown on the plans and shall be true to line and grade and uniformly firm. Bedding material shall be placed and shaped beneath the pipe. The pipe foundation shall be shaped to fit the outside of the pipe for at least 10% of its outside diameter under all pipe culverts. Where bell and spigot type pipe is used, recesses shall be excavated to receive the pipe bells.

3.3.2. Where the foundation material is found to be of poor supporting value or of rock, the ENGINEER may make minor adjustment in the location of the pipe to provide a more suitable foundation. Where this is not practical, the foundation shall be conditioned by removing the existing foundation material by undercutting to the depth as directed by the ENGINEER, within the limits established on the plans, and backfilling with either a suitable local material secured from unclassified excavation or borrow excavation at the nearest accessible location within the project, or foundation conditioning material consisting of crushed stone or gravel or a combination of sand and crushed stone or gravel approved by the ENGINEER as being suitable for the purpose intended. The selection of the type of backfill material to be used for foundation conditioning will be made by the ENGINEER.

3.3.3. When necessary, the CONTRACTOR shall provide for the temporary diversion of water or dewatering in order to maintain the pipe foundation in a dry condition, and shall continue to maintain the trench in a dry condition until backfill and compaction activities are complete.

3.4. Laying Pipe

3.4.1. Rigid pipe shall be carefully laid on the prepared foundation, bell or groove end upgrade, with the spigot or tongue fully inserted and each joint checked for alignment and grade as the work proceeds. Flexible plastic joint material shall be used. Joint material of other type or design may be used when designated on the plans, by special provisions, or when permitted in writing by the ENGINEER.

3.4.2. Flexible pipe (except structural plate pipe) shall be carefully placed on the prepared foundation starting at the downstream end with the inside circumferential laps pointing downstream and with the longitudinal laps at the side or quarter points.

3.5. Backfilling

3.5.1. The fill around the pipe shall be placed in accordance with the applicable method shown on the plans, and shall be placed in layers not to exceed 6 inches loose unless otherwise approved by the ENGINEER and compacted to the density required. Select backfill material shall be used when called for on the plans.

3.5.2. Care shall be taken during backfill and compaction operations to maintain alignment and prevent damage to the joints. The backfill shall be kept free from stones, frozen lumps, chunks of highly plastic clay, or other objectionable material.

3.5.3. All pipe backfill areas shall be graded and maintained in such a condition that erosion or saturation will not damage the pipe bed or backfill.

3.5.4. Heavy equipment shall not be operated over any pipe until it has been properly backfilled and has a minimum cover as required by the plans. Where any part of the required cover is above the proposed finish grade, the CONTRACTOR shall place, maintain, and finally remove such material at no cost to the OWNER. Pipe which becomes misaligned, shows excessive settlement, or has been otherwise damaged by the CONTRACTOR's operations shall be removed and replaced by the CONTRACTOR at no cost to the OWNER.

3.6. Maintenance

3.6.1. The CONTRACTOR shall maintain all pipe installations in a condition such that they will function continuously from the time the pipe is installed until the project is accepted.

3.6.2. The ENGINEER may require the CONTRACTOR to thoroughly clean out and maintain all existing pipe and drainage structures at his own expense when necessary erosion control measures not taken by the CONTRACTOR resulted in fouling existing drainage systems.

3.7. Reinforced Concrete Pipe

3.7.1. Reinforced concrete drainage pipe shall be installed so as to prevent damage to the pipe. Joints shall be mortar or packing type, and shall be close fitting and generally watertight. Elliptical pipe shall be installed with the major axis horizontal.

3.8. Corrugated Steel Pipe

3.8.1. Bituminous coated corrugated steel pipe and paved invert pipe shall be handled with special care to avoid damage to coatings. Paved invert pipe shall be installed with the paved invert centered on the bottom.

3.8.2. The pipe sections shall be joined with coupling bands, fully bolted and properly sealed. Coupling bands for annular and helical corrugated metal pipe shall provide circumferential and longitudinal strength sufficient to preserve the alignment, prevent separation of the sections, and prevent infiltration of backfill material.

3.8.3. All pipe 72 inches or larger in diameter shall be wire braced at the place of fabrication to retain its shape while being handled, installed, and backfilled. Wire bracing shall be removed by the CONTRACTOR when no longer needed.

3.9. Corrugated Aluminum Pipe

3.9.1. The pipe sections shall be joined with coupling aluminum bands, fully bolted and properly sealed. Coupling bands for annular and helical corrugated aluminum pipe shall provide circumferential and longitudinal strength sufficient to preserve the alignment, prevent separation of the sections, and prevent infiltration of backfill material.

3.9.2. All pipe 72 inches or larger in diameter shall be wire braced at the place of fabrication to retain its shape while being handled, installed, and backfilled. Wire bracing shall be removed by the CONTRACTOR when no longer needed.

3.10. Corrugated Steel and Corrugated Aluminum Alloy, Structural Plate Pipe and Pipe Arch

3.10.1. Erection shall be in accordance with the manufacturer's assembly diagrams and instruction sheets. All erection procedures and methods shall meet with the approval of the ENGINEER. All structural plate shall be handled with reasonable care. The plate shall not be dragged or skidded. If the

spelter coating has been broken during handling or backfilling operations, the plate or the assembled pipe or pipe arch will be rejected, or shall be repaired as directed by the ENGINEER.

3.10.2. The entire pipe line shall be completely assembled before any backfill is placed, unless otherwise permitted by the ENGINEER. Elongated pipe shall be erected with the long diameter in a vertical position. Should spiraling occur during erection, the bolts shall be loosened and the pipe assembly adjusted to the correct position.

3.10.3. All bolting shall be done in a careful and workmanlike manner in accordance with the procedure specified by the manufacturer and approved by the ENGINEER before backfill is placed. All nuts shall be tightened to a minimum of 100 foot-pounds and a maximum of 200 foot-pounds of torque. Nut tightness shall be checked with a properly calibrated torque wrench before, during, and after backfill is placed.

3.10.4. Where necessary, the invert grade shall be cambered by an amount sufficient to prevent the development of sag or back slope in the flow line. The amount of camber used will be determined by the ENGINEER.

3.10.5. First class workmanship shall be used in installing the pipe and pipe arch. Evidence of defective workmanship shall include but not be limited to the following.

- Uneven laps
- Improper shaping
- Variation from a straight center line
- Ragged edges
- Loose, unevenly lined or spaced bolts
- Illegible identification stamp on any plate
- Bruised, scaled or broken spelter coating
- Dents or bends in the metal itself

3.10.6. Defective workmanship may constitute sufficient cause for rejection of the completed or partially completed work, or of any materials proposed for use in the work.

END OF SECTION

SECTION 02933 SEEDING AND MULCHING

1. DESCRIPTION

The work covered by this section consists of furnishing all labor, materials, and equipment to perform all necessary operations to topsoil, fine grade, fertilize, mulch and maintain temporary and permanent seeding of all graded, cleared, or disturbed areas during construction. The work covered by this section shall be in conformance with the latest version of local and state Department of Transportation requirements.

1.1. Related Work

See following sections for related work.

02110	Clearing and Grubbing
02210	Unclassified Excavation and Grading
02270	Erosion and Sediment Control
SS-A617A	FS Liquid Mulch Binder

The work covered by this section shall be in conformance with Section 1615, 1620 and 1660 of the "Standard Specifications for Roads and Structures" dated January, 2002, published by the North Carolina Department of Transportation and with Section 6.11 of the "Erosion and Sediment Control Planning and Design Manual" published by the Land Quality Section of the North Carolina Department of Natural Resources and Community Development unless otherwise stated herein. All seed shall be certified by the N.C. Crop Improvement Association.

2. MATERIALS

2.1. Topsoil

Topsoil shall be from stockpiles created from stripping and required excavation. Should additional topsoil be required in excess of that obtained from stripping and excavation, the contractor shall obtain material from other sources on the site where authorized by the OWNER, or from approved sources off the site. The topsoil shall be natural, friable soil, possessing characteristics of representative soils in the vicinity which produce heavy growths of crops of grass. It shall be obtained from naturally well-drained areas, shall be reasonably free from subsoil, brush, objectionable weeds, and other litter and shall be free from toxic substances, clay lumps, stones, roots and other objects larger than 1 inch in diameter, or any other material which might be harmful to plant growth or be a hindrance to grading, planting, and maintenance operations.

2.2. Fertilizer

Fertilizer shall be the product of an approved commercial fertilizer manufacturer and shall be 5-10-5 grade, uniform in composition, free-flowing material suitable for application with approved standard equipment. The fertilizer shall conform to the applicable State fertilizer laws and shall be delivered to the site in bags or other convenient containers each fully labeled and bearing the name, trademark, and warranty of the producer.

2.3. Lime

Lime shall be ground limestone containing not less than 85% of total carbonates and shall be ground to such fineness that at least 50% will pass through a 100-mesh sieve and at least 90% will pass through a 20-mesh sieve. Coarser materials will be acceptable provided the specified rates of application are increased proportionately on the basis of quantities passing the 100-mesh sieve, but no additional payment will be made for the increased quantity.

2.4. Mulch

Mulch shall be straw from wheat or oats. Materials for securing mulch may be one of the following.

- Mulch Netting: Lightweight plastic, cotton, jute, wire or paper nets shall be used.
- Peg and Twine: Baling twine and soft wood pegs 1/2" x 1" x 12".
- Liquid Mulch Binder: RC-2 cut back asphalt conforming to the requirements of Federal Specifications SS-A671A, and asphalt emulsion shall conform to the requirements of Federal Specification SS-A-674, Type V.
- Seed: Seed used shall bear the official "certified seed" label inspected by North Carolina Crop Improvement Association. Seed that has become wet, moldy, or otherwise damaged in transit or storage will not be acceptable. The seed used shall be that shown in seeding schedule specified herein or on the plans.

3. INSTALLATION

3.1. Seedbed Preparation

3.1.1. Clearing

Prior to or during grading and tillage operations, the ground surface shall be well drained, cleared of all brush, roots, stones larger than 2 inches in diameter, or any other material which may hinder proper grading, tillage, or subsequent maintenance operations.

3.1.2. Fine Grading

Areas to be seeded shall be graded as shown on the drawings or as directed and all surfaces shall be left in an even and properly compacted condition so as to prevent the formation of depressions where water will stand. Areas to be topsoiled shall be graded to a smooth surface and to a grade that will allow topsoiling to finished grade.

3.1.3. Topsoiling

Immediately prior to placing topsoil, the subgrade, where excessively compacted by traffic or other causes, shall be loosened by scarifying to a depth of at least 2 inches to permit bonding of the topsoil to the subgrade. Topsoil shall be uniformly spread by approved equipment in sufficient quantity to provide a compacted layer of 4 inches in thickness over the designated areas and in such manner that planting can proceed with little additional soil preparation or tillage. Topsoil shall not be placed when the subgrade is frozen, excessively wet, extremely dry, or in a condition otherwise detrimental to the proposed planting or to proper grading. Topsoil shall be graded to the lines indicated or as directed and any irregularities in the surface resulting from topsoiling or other operations shall be corrected to prevent formations of depressions where water will stand.

3.1.4. Tillage

After topsoiled areas required to be seeded have been brought to the grades shown on the plans and as specified, they shall be thoroughly tilled to a depth of 3 inches by approved methods, until the condition of the soil is acceptable to the ENGINEER. Any objectionable undulations or irregularities in the surface resulting from tillage or other operations shall be removed before planting operations are begun. The work shall be performed only during periods when satisfactory results are likely to be obtained. When conditions are such, by reason of drought, excessive moisture or other factors, that results are not likely to be satisfactory, the ENGINEER will stop the work and it shall be resumed only when, in his opinion, the desired results are likely to be obtained.

3.2. Limestone, Fertilizer and Seed

3.2.1. General

Seasonal limitations for seeding operations, the kinds and grades of fertilizers, the kinds of seed, and the rates of application of limestone, fertilizer, and seed shall be as shown in the seeding schedule.

3.2.2. Equipment to be used for the application, covering, or compaction of limestone, fertilizer, and seed shall have been approved by the ENGINEER before being used on the project. Approval may be revoked at any time if equipment is not maintained in satisfactory working condition, or if the equipment operation damages the seed.

3.2.3. Limestone, fertilizer, and seed shall be applied within 24 hours after completion of seedbed preparation unless otherwise permitted by the ENGINEER, but no limestone or fertilizer shall be distributed and no seed shall be sown when the ENGINEER determines that weather and soil conditions are unfavorable for such operations.

3.2.4. During the application of fertilizer, adequate precautions shall be taken to prevent damage to structures or any other appurtenances. The CONTRACTOR shall either provide adequate covering or change methods of application as required to avoid such damage. When such damage occurs, the CONTRACTOR shall repair it, including any cleaning that may be necessary.

3.3. Limestone and Fertilizer

Limestone may be applied as a part of the seedbed preparation, provided it is immediately worked into the soil. If not so applied, limestone and fertilizer shall be distributed uniformly over the prepared seedbed at a specified rate of application and then harrowed, raked, or otherwise thoroughly worked or mixed into the seedbed.

3.3.1. If liquid fertilizer is used, storage containers for the liquid fertilizer shall be located on the project and shall be equipped for agitation of the liquid prior to its use. The storage containers shall be equipped with approved measuring or metering devices which will enable the ENGINEER to record at any time the amount of liquid that has been removed from the container. Application equipment for liquid fertilizer, other than a hydraulic seeder, shall be calibrated to insure that the required rate of fertilizer is applied uniformly.

3.4. Seeding

Seed shall be distributed uniformly over the seedbed at the rate indicated in the seeding schedule, and immediately harrowed, dragged, raked, or otherwise worked so as to cover the seed with a layer of soil. The depth of covering shall be as directed by the ENGINEER. If two kinds of seed are to be used which require different depths of covering, they shall be sown separately.

3.4.1. When a combination seed and fertilizer drill is used, fertilizer may be drilled in with the seed after limestone has been applied and worked into the soil. If two kinds of seed are being used which require different depths of covering, the seed requiring the lighter covering may be sown broadcast or with a special attachment to the drill, or drilled lightly following the initial drilling operation.

3.4.2. When a hydraulic seeder is used for application of seed and fertilizer, the seed shall not remain in water containing fertilizer for more than 30 minutes prior to application unless otherwise permitted by the ENGINEER.

3.4.3. Immediately after seed has been properly covered, the seedbed shall be compacted in the manner and degree approved by the ENGINEER.

3.5. Modifications

When adverse seeding conditions are encountered due to steepness of slope, height of slope, or soil conditions, the ENGINEER may direct or permit that modifications be made in the above requirements which pertain to incorporating limestone into the seedbed; covering limestone, seed, and fertilizer; and compaction of the seedbed.

3.5.1. Such modifications may include but not be limited to the following.

3.5.1.1. The incorporation of limestone into the seedbed may be omitted on (a) cut slopes steeper than 2:1 (b) on 2:1 cut slopes when a seedbed has been prepared during the excavation of the cut and is still in an acceptable condition; or (c) on areas of slopes where the surface of the area is too rocky to permit the incorporation of the limestone.

3.5.1.2. The rates of application of limestone, fertilizer, and seed on slopes 2:1 or steeper or on rocky surfaces may be reduced or eliminated.

3.5.1.3. Compaction after seeding may be reduced or eliminated on slopes 2:1 or steeper, on rocky surfaces, or on other areas where soil conditions would make compaction undesirable.

3.6. Mulch

3.6.1. General

All seeded areas shall be mulched unless otherwise indicated on the plans or directed by the ENGINEER. Application rate of mulch shall be indicated in seeding schedule.

3.6.2. Mulching

Mulch shall be applied within 36 hours after the completion of seeding unless otherwise permitted by the ENGINEER. Care shall be exercised to prevent displacement of soil or seed or other damage to the seeded area during the mulching operations.

3.6.3. Mulch shall be uniformly spread by hand or by approved mechanical spreaders or blowers that will provide an acceptable application. An acceptable application will be that which will allow some sunlight to penetrate and air to circulate but also partially shade the ground, reduce erosion, and conserve soil moisture.

3.6.4. Mulch Binding

Mulch shall be held in place using devices approved by the ENGINEER as per manufacturers recommendations. During application, the CONTRACTOR shall take adequate precautions to prevent damage to structures or appurtenances.

3.7. Maintenance

3.7.1. General

The CONTRACTOR shall be responsible for the proper care and maintenance of the seeded areas until the work under the entire contract has been completed and accepted by the ENGINEER. Maintenance shall consist of repair and replacement of eroded areas, watering, refertilizing, reliming, reseeding, and remulching as necessary to provide an even, fixed growth of grass. In addition, the CONTRACTOR shall provide protection against traffic and shall erect the necessary barricades and warning signs immediately after planting is completed.

3.7.2. Mowing

The seeded areas shall be mowed with approved mowing equipment as per seeding schedule. If weeds or other undesirable vegetation threaten to smother the planted species, such vegetation shall be removed at no cost to the OWNER.

3.8. Inspection and Testing

3.8.1. Fertilizer and Lime

The ENGINEER shall be furnished with duplicate copies of invoices for all fertilizer and lime used on the project. Invoices for fertilizer shall show the grade furnished. Invoices for lime shall show total minimum carbonates and minimum percentages of the material furnished that pass 100-mesh and 20-mesh sieve. Upon completion of the project, a final check of the total quantities of fertilizer and lime used will be made against the total area topsoiled and seeded, and if the minimum rates of application have not been met, the ENGINEER may require the distribution of additional quantities of these materials to make up the minimum application specified at no additional cost to the OWNER.

3.8.2 Seed

The ENGINEER shall be furnished duplicate signed copies of a statement from the Vendor, certifying that each container of seed delivered is fully labeled and in full accordance with the specifications in this section and the seeding schedule.

END OF SECTION

City of Newton Operational Plan for LCID Landfill Located on Boston Road

Owner: City of Newton
Purpose: Use facility as a LCID landfill for city departments
Contact: Mark A. Herman, Public Works Superintendent
Number: 828-695-4295

The city maintains a LCID landfill for use during the year. The purpose of the landfill is to have a place to dispose of the following:

- Concrete and asphalt for the Water / Sewer and Street Departments during repair of water / sewer lines, sidewalk, and street repairs.
- Sanitation Department for the disposal of yard waste material and ground up mulch.
- Street Department during seasonal leaf season.

Contractors are allowed only if previously ok'd through the Public Works Department and they are performing work for the city. The landfill is locked at all times except during regular operational hours. No one is allowed to dump any material in the landfill outside of the normal working hours.

Operations, use, maintenance activities and proactive measures applicable to this LCID shall be planned and conducted in strict accordance with requirements set forth in Section .0566 of the North Carolina Administrative Code, entitled "Operational Requirements for Land Clearing / Inert Debris (LCID) Landfills", to which specific reference is made herein and a copy to hereto attached.

Mark A. Herman

**City of Newton
Public Works Superintendent**

.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 cells.
- (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.*



North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

DIVISION OF LAND RESOURCES
LAND QUALITY SECTION

June 30, 2004

Mr. Martin D. Wilson, Director of Public Works
City of Newton
Post Office Box 550
Newton, North Carolina 28658

RE: LETTER OF APPROVAL

Project Name: City of Newton LCID Landfill
Project ID: CATAW-2004-054
Location: Highway 10 - Catawba County
Submitted By: City of Newton
Date Received: June 8, 2004
New Submittal: X Revision
River Basin: Catawba

Dear Mr. Wilson:

This office has reviewed the subject erosion and sedimentation control plan. We find the plan to be acceptable and hereby issue this Letter of Approval. The Certificate of Approval must be posted at the job site. This plan approval shall expire three (3) years following the date of approval, if no land-disturbing activity has been undertaken, as is required by Title 15A NCAC 4B .0029.

Title 15 NCAC 4B .0018(a) requires that a copy of the approved erosion control plan be on file at the job site. Also, this letter gives the notice required by G.S. 113A-61.1(a) of our right of periodic inspection to insure compliance with the approved plan.

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

Page Two

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

Please be aware that if one (1) acres or more is to be disturbed by this project, you will be covered by the enclosed general stormwater permit NCGO1000 (Construction Activities). You should first become familiar with all of the requirements for compliance with the enclosed general permit.

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

Your cooperation is appreciated.

Sincerely,

A handwritten signature in black ink, appearing to read "Steve Allred".

Steve Allred, CPESC
Asst. Regional Engineer

cc: W.K. Dickson
Inspections Dept.

SEA/ae

**REPORT OF
GROUNDWATER EXPLORATION
For the
City of Newton Proposed LCID Landfill -
NEWTON, NORTH CAROLINA**

Prepared For:

Mr. William G. Wingate
W.K. Dickson & Co., Inc.
231 16th Avenue NE
Hickory, North Carolina 28601

~

Prepared By:

BARRIER ENGINEERING AND TESTING LABORATORIES, P.C.
PO Box 2067
Hickory, North Carolina 28603
Barrier Job Number: 2-1056

~

June 10, 2004


Chad W. Andersen, EI
Branch Manager/Engineering Intern



R. David Mursch, PE
Senior Engineer

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FIGURES

Figure 1: Site Location Sketch

Figure 2: Site Plan

TEST BORING RECORDS

1.0 INTRODUCTION

BARRIER ENGINEERING TESTING LABORATORIES, P.C. (Barrier) has completed a groundwater exploration for a proposed new LCID Landfill for the City of Newton in Newton, North Carolina. The site investigated is on the same property as the current landfill, whose operating permit has expired. As part of the permitting process, the groundwater elevation in the new landfill area along with estimated seasonal high groundwater elevation needs to be determined. The approximate site location is shown on Figure 1. Our services were authorized by Mr. William G. Wingate of W.K. Dickson & Co., Inc. by contract dated May 26, 2004. This report summarizes our understanding of the project, the scope of our services, the data obtained in our explorations and laboratory testing and our evaluation and recommendations.

From information provided by W.K. Dickson & Co., Inc., it is our understanding that the new landfill will have approximate dimensions of 575 feet by 400 feet, with cuts from existing grade up to 20 feet. Based on conditions at an existing earth-fill borrow pit adjacent to the proposed new landfill location, neither rock nor groundwater are expected to be encountered within this depth.

All findings and recommendations presented within this report are based on facts, conditions, and circumstances existing at the time of the exploration and on the project information summarized above. If this information is incorrect or is changed significantly, Barrier should be contacted immediately to review our conclusions and recommendations.

2.0 SCOPE OF SERVICES

The purpose of the geotechnical exploration was to obtain data on the site's groundwater elevation. The scope of services included drilling soil test borings, installing piezometers, and collecting and evaluating the groundwater elevation data.

Barrier installed two temporary piezometers designated as B-1 and B-3 at the locations indicated on Figure 2. The piezometers were constructed of 2-inch diameter PVC piping, with 10-foot long slotted well screens. Sand packs were placed around the screens and up to 2 feet above the top of the screen. The remainder of the annular space within the boring was backfilled with soil cuttings. The piezometers were completed with 2 to 3 feet of riser above the ground surface and were fitted with locking watertight caps. Approximate ground elevations at each piezometer were estimated based on topographic information in the preliminary site grading plans. The piezometer placed at B-1 was set at a depth of

35 feet below existing grade, while B-3 was set to a depth of 40 feet below existing grade. The depth to water was measured three times in each piezometer; at installation, two days after installation and one week after installation. The piezometer data is as follows:

	Piezometer B-1	Piezometer B-3
Estimated ground elevation	945 feet msl	945 feet msl
Bottom of screen depth	35 feet	40 feet
Estimated bottom elevation	910 feet msl	905 feet msl
Water level at completion	Dry	Dry
Water level after two days	Dry	Dry
Water level after one week	Dry	Dry

In addition to the piezometers, one soil test boring B-2 was drilled to a depth of 36.5 feet at the location indicated in the attached Site Plan (Figure 2). The boring was advanced into the ground using hollow stem augers. At regular depth intervals the soils were sampled and tested using the Standard Penetration Test procedure as described in ASTM Method D-1586. In this test a standard 2-inch diameter split barrel sampler is driven into the soil with blows of a 140-pound hammer falling 30 inches. The number of hammer blows required to drive the sample barrel 12 inches, after seating 6 inches, is designated the Standard Penetration Resistance, or 'N-value', in units of blows per foot (bpf); this value can be correlated to soil density and strength when properly evaluated.

The depth to groundwater in each boring was checked at the completion of the field exploration and at 24 hours subsequent to termination of drilling. The borehole was then backfilled with soil from the borehole.

Each soil sample recovered from the test was sealed in a glass jar and taken to Barrier's laboratory for determination of the soil moisture content. A geotechnical engineer examined the soil samples recovered from the split barrel sampler and an estimated Unified Soil Classification System (USCS) designation was assigned to each soil type encountered. The attached Logs of Test Borings shows the soil descriptions, estimated USCS designations, soil penetration test results, and other pertinent information recorded during the drilling.

This report includes a description of soil and groundwater conditions, a boring location sketch, logs of the test boring, piezometer completion records, and a narrative evaluation of the findings.

TEST BORING RECORDS

TEST BORING RECORD TERMINOLOGY

The subsurface conditions encountered during drilling are reported on a field test boring record by the driller. The record contains information concerning the boring method, samples attempted and recovered, indications of the presence of coarse gravel, cobbles, etc., and observations of groundwater. It also contains the driller's interpretation of the soil conditions between samples. Therefore, these boring records contain both factual and interpretive information. The field boring records are kept on file.

After the drilling is completed, the field and project personnel classify the soil and prepared the final boring records which are used for evaluations and recommendations. The following terms are used on the records:

RELATIVE DENSITY OF COHESIONLESS SOILS FROM STANDARD PENETRATION TEST

Very Loose	0 - 4 BPF
Loose	5 - 10 BPF
Firm	11- 20 BPF
Very Firm	21-30 BPF
Dense	31- 50 BPF
Very Dense	50+ BPF

(BPF = blows per foot, ASTM D-1586)

CONSISTENCY OF COHESIVE SOILS FROM STANDARD PENETRATION TEST

Very Soft	0 - 1 BPF
Soft	2 - 4 BPF
Firm	5 - 8 BPF
Stiff	9 - 15 BPF
Very Stiff	16 - 30 BPF
Hard	31+ BPF

ESTIMATED RELATIVE MOISTURE CONDITION

Dry	- Under 5% Moisture
Moist	- Under optimum compaction moisture content
Wet	- Over optimum compaction moisture content
Very Wet	- Saturated or Nearly Saturated

RELATIVE PROPORTIONS

A trace	0 - 5%
Little	6 - 15%
With	16 - 30%
And	31 - 50%

RELATIVE HARDNESS OF ROCK

Very Soft	Pieces 1 inch or more in thickness can be broken by finger pressure; can be scratched readily by a fingernail.
Soft	May be broken with fingers and gouged with pick.
Moderately Hard	Moderate blow of hammer required to break sample.
Hard	Hard blow of hammer required to break sample.
Very Hard	Several hard blows of hammer required to break sample.

PARTICLE SIZE IDENTIFICATION

Boulders	Over 6"
Gravel	
Coarse	6" - 1/2"
Fine	1/2" - 2mm
Sand	
Coarse	2mm - 0.6mm
Medium	0.6mm - 0.2mm
Fine	0.2mm - 0.06mm
Silt	0.06mm - 0.005mm
Clay	Less than 0.005mm

RELATIVE QUALITY OF ROCK CORES

Very Poor	RQD* = 0 - 25%
Poor	25- 50%
Fair	50- 75%
Good	75- 90%
Excellent	90-100%

$$\text{Recovery} = \frac{\text{Total length of core recovered}}{\text{Length of core run}}$$

$$*\text{RQD} = \frac{\text{Total of core pieces over 4" long}}{\text{Length of core run}}$$



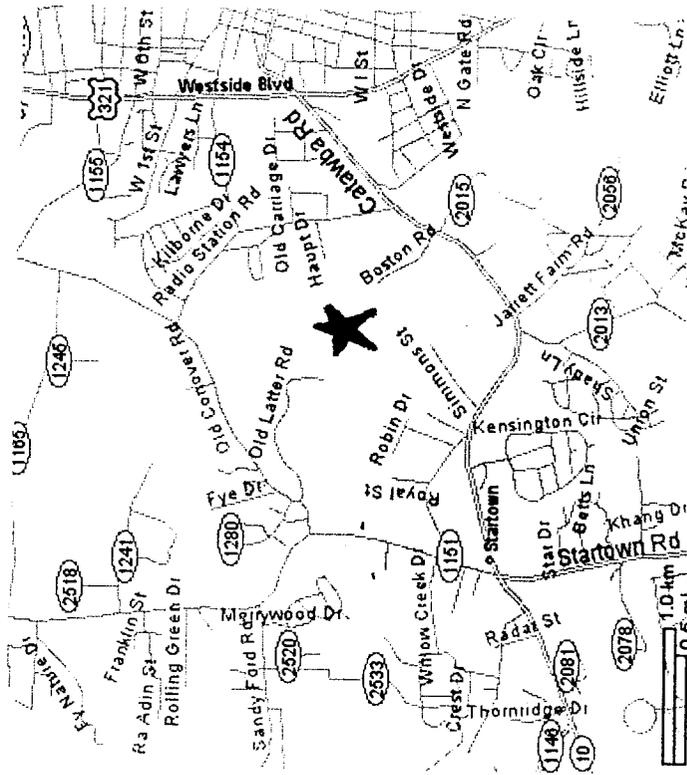
LOG OF SOIL TEST BORING

PROJECT NAME	LCID Landfill	PROJECT NO.	2-1056
LOCATION	Newton, North Carolina	BORING NUMBER	B-2
CLIENT	W.K. Dickson	DATE DRILLED	05/25/04
BORING LOCATION	See Boring Location Sketch	SHEET NO.	1 OF 1
REFERENCE EL.	945 ft. MSL	GROUNDWATER EL.	None encountered
DATUM	Site plan provided by WK Dickson	DATUM	NA
DRILLER	Richardson	ENGINEER	R. David Mursch, PE

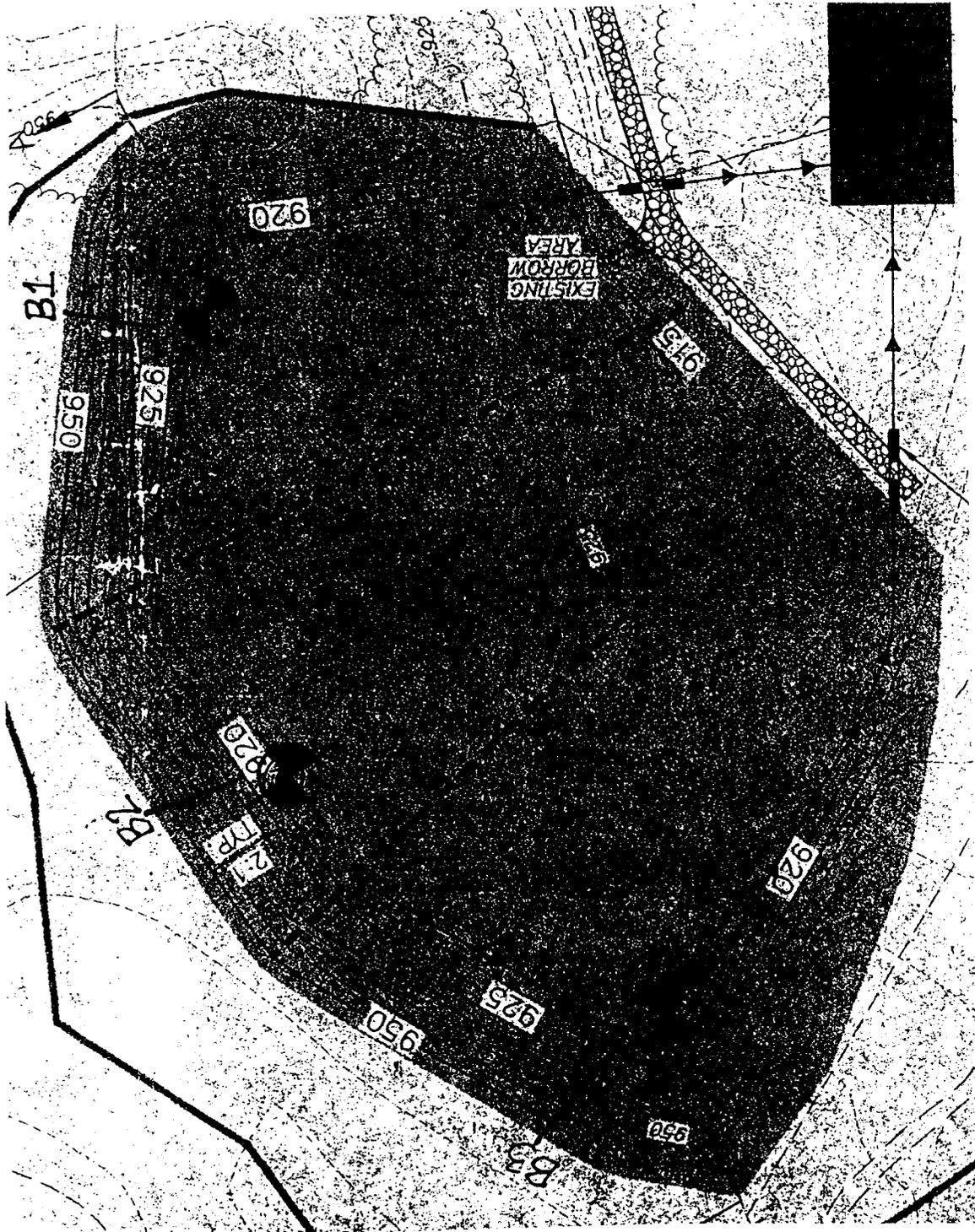
DEPTH	SAMPLE TYPE* / INTERVAL	SAMPLE DESCRIPTION	STANDARD PENETRATION RESISTANCE, BLOWS PER FOOT														
			N	0	10	20	30	40	50								
0-5		NO SAMPLES TAKEN	NA														
6																	
7																	
8																	
9																	
10	SS	RESIDUAL - Stiff reddish brown silty CLAY (CL)	15				●										
11																	
12																	
13																	
14																	
15	SS	Firm reddish brown, light red and black mottled micaceous SILT (ML)	17				●										
16																	
17																	
18																	
19																	
20	SS	Firm brown, olive brown and yellowish brown mottled micaceous SILT (ML)	14				●										
21																	
22																	
23																	
24																	
25	SS	Firm grayish brown micaceous sandy SILT (ML) to yellowish brown fine to medium SAND (SM)	20				●										
26																	
27																	
28																	
29																	
30	SS	Firm yellowish brown, gray, white and black mottled micaceous silty SAND (SM)	16				●										
31																	
32																	
33		Boring terminated at 15 feet															
34																	
35	SS	Dense brown and gray micaceous SILT (ML) to gray and white slightly micaceous silty SAND (SM)	45														●
36																	

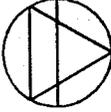
SS = Splitspoon Sample, ASTM D-1586 UD = 3-inch Diameter Undisturbed Sample WOH = Weight of Hammer NA = Not Available
 P = Pocket Penetrometer reading in tons per square foot (tsf) N = Standard Penetration Resistance, blows per foot (ASTM D-1586)

FIGURES



<p style="text-align: center;">SITE LOCATION PLAN</p> <p style="text-align: center;">CITY OF NEWTON PROPOSED LCID LANDFILL NEWTON, NORTH CAROLINA</p>	<p>CWA DRAWN BY RDM</p>	<p>2-1056 PROJECT NUMBER</p>
	<p>CHECKED BY 09JUNEO4</p>	<p>1 OF 2 SHEET</p>
<p>FOR: WK DICKSON</p>	<p>DATE 09JUNEO4</p>	<p>2-1056.S1.DWG DRAWING NUMBER</p>
<p>BARRIER the art of engineering BARRIER ENGINEERING TESTING LABORATORIES, P.C. P.O. BOX 2057 HICKORY, NC 28603 TEL: 828.236.3000</p>	<p>This drawing and the information it contains is the sole property of BARRIER ENGINEERING, PC for the exclusive use of WK DICKSON specific to this project only for scope indicated in this document.</p>	<p>NOT TO SCALE</p>



BORING LOCATION PLAN  BARRIER <i>the art of engineering</i> BARRIER ENGINEERING TESTING LABORATORIES, P.C. P.O. BOX 2057 HICKORY, NC 28603 TEL: 928.256.3000	CITY OF NEWTON PROPOSED LCID LANDFILL NEWTON, NORTH CAROLINA		CWA DRAWN BY RDM	2-1056 PROJECT NUMBER 2 OF 2 SHEET
	FOR: WK DICKSON		CHECKED BY 09JUNEO4 DATE	2-1056.BP.DWG DRAWING NUMBER NOT TO SCALE

The above plan was prepared from information provided by others. No scale or accuracy of information is implied. This plan is intended as approximate graphical representation of information contained in this analysis and report.

This drawing and the information it contains is the sole property of BARRIER ENGINEERING, PC for the exclusive use of WK DICKSON specific to this project only for scope indicated in this document.



North Carolina Department of Cultural Resources
State Historic Preservation Office

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary

Office of Archives and History
Division of Historical Resources
David Brook, Director

June 22, 2004

William G. Wingate, III, P.E.
WK Dickson
231 16th Avenue, NE
Hickory, NC 28601

Re: City of Newton LCID Landfill, WKD No. 30195.00.HI, Catawba County, ER04-1549

Dear Mr Wingate:

Thank you for your letter of May 26, 2004, concerning the above project.

We have conducted a review of the project and are aware of no historic resources which would be affected by the project. Therefore, we have no comment on the project as proposed.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763. In all future communication concerning this project, please cite the above-referenced tracking number.

Sincerely,

Renee Gledhill-Earley
David Brook

RECEIVED JUN 30 2004

ADMINISTRATION
RESTORATION
SURVEY & PLANNING

Location
507 N. Blount Street, Raleigh NC
515 N. Blount Street, Raleigh NC
515 N. Blount Street, Raleigh, NC

Mailing Address
4617 Mail Service Center, Raleigh NC 27699-4617
4617 Mail Service Center, Raleigh NC 27699-4613
4617 Mail Service Center, Raleigh NC 27699-4618

Telephone/Fax
(919)733-4763/733-8653
(919)733-6547/715-4801
(919)733-6545/715-4801

AGENDA
CITY OF NEWTON
CITY COUNCIL REGULAR MEETING
APRIL 6, 2004 - 7:00 PM

1. Call to Order.
2. Opening - Assistant City Manager Pattishall.

Presentation of Plaque of Appreciation to Al Mainess for 27 years of news coverage to the City of Newton.

Recognition of Tim Huffman for receiving Golden Web Award by the International Association of Webmasters and Designers for his work as Webmaster for the City of Newton.

Proclamation proclaiming the month of April as Child Abuse Prevention Month.
3. Approval of minutes of the March 17, 2004 regular meeting and March 18, 2004 joint meeting with the Catawba County Commissioners.
4. Consideration of approval of Consent Agenda items.
 - A. Sewer charge adjustments.
 - B. Consideration of Resolution declaring equipment as surplus.
5. Public Hearings:
 - A. Consideration of Special use permit #2004-1 - City of Newton cemetery.
 - B. Consideration of Special use permit #2003-4 - City of Newton landfill.
6. Old Business:
 - A. Consider of adoption of Resolutions for the formation of a Youth Council and Community Relations Council.
 - B. Consideration of budget amendments for previously approved projects:
 - B.1 Provide funding for E. Newton gym floor refurbishing.
 - B.2 Capital Projects Ordinance - Jacob Fork Park.
 - B.3 Capital Projects Ordinance - wash down facilities for Public Works.
 - C. Other.
7. New Business:
 - A. Consideration of bid award and adoption of budget ordinance for the cemetery project.
 - B. Other.
8. City Managers report.
9. Questions from Mayor and Council.
10. Recess meeting until 6:00 PM on April 21, 2004 for work session on ElectriCities - Art Hubert.
11. Closed session to discuss property acquisition (GS 143-318.11(a)(5)).

CITIZENS WANTING TO SPEAK ON AN AGENDA ITEM MUST SIGN IN WITH THE CITY CLERK PRIOR TO THE MEETING. IF YOU WANT TO ADDRESS THE COUNCIL ON OTHER ITEMS, YOU MUST MAKE ARRANGEMENTS PRIOR TO THE NEXT MEETING. IF YOU WANT TO BE PLACED ON THE AGENDA, YOU MUST CONTACT THE CITY MANAGER AT LEAST SEVEN WORKING DAYS BEFORE THE NEXT MEETING.

The City of Newton does not discriminate on the basis of disability in the provision of its services as charged by the

- **City Council of the City of Newton. All meetings are held in accessible facilities. Any person with a disability needing special accommodations should contact Glenn J. Pattishall, ADA Coordinator, at least 48 hours prior to the scheduled meeting.**

1. The perimeter of the cemetery be surrounded by a 10 foot screening to be installed or maintained as described in Section 26-7.12 of the Newton Zoning Ordinance.
2. That grave liner or burial vault be used when an interment takes place.
3. That the applicant obtains a driveway permit from NCDOT for the drive onto Southwest Blvd.
4. That the applicant use best management practices for the storage and disposal of excess soil as related to the interment of individuals to prevent soil from leaving the site.
5. That storm water run-off be managed to limit the impact to Southside Park.

Ordered this the 6th day of April, 2004.

Robert A. Mullinax, Mayor

ATTEST:
Rita K. Williams, City Clerk

PUBLIC HEARING

B. Consideration of Special Use Permit #2003-01 - City of Newton landfill.

Mayor Mullinax recessed the Council meeting and called to order a public hearing, as previously scheduled and advertised, to consider the request for a Special Use Permit filed by the City of Newton to construct and maintain a construction and demolition landfill.

Assistant City Manager Pattishall asked if there were any objections to the exhibits offered by the staff being admitted into the record and there were none. Mayor Mullinax then stated that the exhibits as submitted were admitted into the record.

Mr. Pattishall stated that all persons wanting to make a statement, either for or against the Special Use Permit, must be sworn. Mr. Trey Wingate, Mr. Pattishall and Alex Fulbright were sworn.

Mr. Pattishall stated the City was seeking a Special Use Permit to establish and operate a Construction and Demolition Debris Landfill in accordance with standards, established by the North Carolina Department of Environmental and Natural Resources. The landfill would be located at 1171 Boston Road and would accept only Construction and Demolition Debris generated by the City of Newton and contractors doing work on behalf of the City. The biggest part of the debris would be concrete and asphalt from street and sidewalk maintenance. There will not be any sanitary garbage deposited.

Mr. Pattishall stated that a special use is a use that would not be appropriate generally without special study throughout the zoning district, but which if controlled by the number, size, location or relationship to the neighborhood, would promote the public health, safety, and welfare. He said the City Lake Reservoir, the Police Department's Shooting Range, and the yard waste facility are located on the 180 acre site. The land would comply with the North Carolina Department of Environment and Natural Resource's regulation regarding such facilities. The City had previously used a portion of the site for Construction and Demolition Debris landfill, however the state permit expired and operation ceased.

Mr. Pattishall stated the landfill would be located on 23 acres of the 180 acres, on the east side of the Boston Road entrance. The landfill extent is at least 100 feet from all adjoining property owners and would be located outside of the drainage area for the City Lake. The site would be developed incrementally as additional space is warranted, not all at once. The size of the site would have the

ability to serve the City's needs for many years to come.

The facility would not generate a large amount of traffic. When the facility was in operation under the previous permit, the landfill generated about one load a day on average, the facility may go days without usage then again it may get five to seven loads a day depending on the work the city is involved in.

Mr. Pattishall stated that the Planning Commission recommended that the permit be granted approval of the Special Use Permit with the following conditions:

1. That the facility meets the regulations of the North Carolina Department of Environmental and Natural Resources Division of Waste Managements.
2. That the applicant paves the remaining gravel portion of Boston Road from the existing pavement to the gate leading into the City Lake property.

Mayor Mullinax asked if anyone who was sworn wanted to speak and no one requested to speak.

Mr. Pattishall reviewed the following findings for the Council's consideration:

1. The proposed Construction and Demolition Debris Landfill will promote the public health, safety and general welfare, if located where proposed and developed and operated according to the application. To support this conclusion, the Board determined that there is no evidence or testimony that this would not comply with this particular finding and the evidence and testimony presented would support this finding.
2. The proposed Construction and Demolition Debris Landfill is a use which is listed as a special use in the district in which it is proposed to be located, will comply with all required regulations and standards, including the provisions of article V, VI and VII of the Zoning Ordinance. To support this conclusion, the Board determined that there was no evidence or testimony that this would not comply with the findings and the evidence and testimony presented would support these findings.
3. The proposed Construction and Demolition Debris Landfill will maintain or enhance the value of contiguous property and that there is a need for a Construction and Demolition Debris Landfill in the community. To support this conclusion, the Board determined that there were no comments or evidence that there would be detrimental impacts due to the use or that the use would devalue property, and there was no evidence or testimony that it will not enhance or maintain the value.
4. The proposed Construction and Demolition Debris Landfill is in compliance with the general plans for the physical development of the City as specified in the regulations. To support this conclusion, the Board determined that the Planning Commission made no findings or statements that this use would be contrary to the plan and with that factor in mind, the evidence and testimony presented would support these findings. The Planning Commission recommended unanimously that the special use permit be granted for the proposed Construction and Demolition Debris Landfill.

A motion was made by Council Member Gaither, seconded by Council Member Rowe and unanimously adopted to approve Finding # 1.

A motion was made by Council Member Johnson, seconded by Council Member Dixon, and unanimously adopted to approve Finding #2.

A motion was made by Council Member Dixon, seconded by Council Member Johnson,

and unanimously adopted to approve Finding #3.

A motion was made by Council Member Johnson, seconded by Council Member Rowe, and unanimously adopted to approve Finding #4.

After determining that all findings of fact had been made, a motion was made by Council Member Johnson, seconded by Council Member Dixon, and unanimously adopted to approve Special Use Permit Application #2003-01 to construct and maintain a construction and demolition landfill with the conditions as recommended by the Newton Planning Commission.

COUNCIL ORDER

CITY OF NEWTON
STATE OF NORTH CAROLINA
ORDER GRANTING A SPECIAL USE PERMIT

The Newton City Council, has held a public hearing on April 6, 2004 to consider Application Number 2003-01 as submitted by the City of Newton, a request for a SPECIAL USE PERMIT to use the property located at 1171 Boston Road, also known as Catawba County PIN 3730-17-00-9271 in accordance with Section 26.5.12 of the Newton Zoning Ordinance, and having heard all of the evidence and arguments presented at the hearing, makes the following FINDINGS OF FACT and draws the following conclusions:

It is the Council's conclusion that the proposed Construction and Demolition Debris Landfill will promote the public health, safety and general welfare, if located where proposed and developed and operated according to the application. To support this conclusion, the Council determined that there is no evidence or testimony that this would not comply with this particular finding and the evidence and testimony presented would support this finding.

1. It is the Council's conclusion that the proposed Construction and Demolition Debris Landfill is a use which is listed as a special use in the district in which it is proposed to be located, will comply with all required regulations and standards, including the provisions of article V, VI and VII of the Zoning Ordinance. To support this conclusion, the Council determined that there was no evidence or testimony that this would not comply with the findings and the evidence and testimony presented would support these findings.
2. It is the Council's conclusion that the proposed Construction and Demolition Debris Landfill will maintain or enhance the value of contiguous property and that there is a need for a Construction and Demolition Debris Landfill in the community. To support this conclusion, the Council determined that there were no comments or evidence that there would be detrimental impacts due to the use or that the use would devalue property, and there was no evidence or testimony hat it will not enhance or maintain the value.
3. It is the Council's conclusion that the proposed Construction and Demolition Debris Landfill is in compliance with the general plans for the physical development of the City as specified in the regulations. To support this conclusion, the Council determined that the Planning Commission made no findings or statements that this use would be contrary to the plan and with that factor in mind, the evidence and testimony presented would support these findings. The Planning Commission recommended unanimously that the special use permit be granted for the proposed Construction and Demolition Debris Landfill.

THEREFORE, based upon all of the foregoing, IT IS ORDERED that the Application for a Special Use Permit be granted subject to the following conditions:

- That the facility meets the regulations of the North Carolina Department of Environment and Natural Resources Division of Waste Management.
- That the applicant paves the remaining gravel portion of Boston Road from the existing pavement to the gate leading into the City Lake property.

Ordered this the 6th day of April, 2004.

Robert A. Mullinax, Mayor

ATTEST:

Rita K. Williams, City Clerk

END

ITEM 6 - OLD BUSINESS:

- a. Consideration of adoption of Resolutions for the formation of a Youth Council and Community Relations Council.

Mayor Mullinax stated that at the last meeting, information was given to the Council on formation of a Youth Council and Community Relations Council. He requested the Council adopt resolutions authorizing the initiation of the two Councils.

A motion was made by Council Member Johnson, seconded by Council Member Rowe, and unanimously adopted that to approve the following two resolutions:

Resolution #5-2004

RESOLUTION OF THE YOUTH COUNCIL
OF THE CITY OF NEWTON

WHEREAS, the City of Newton values its youth and supports the asset-building concept of positive youth development; and

WHEREAS, one way to build assets is to empower youth and give them an opportunity to be a resource; and

WHEREAS, both youth and the City would benefit by having a forum where young people could discuss and act upon issues important to them; and

WHEREAS, a Youth Council would provide a means for youth to connect with city government, have a voice in decision-making, and engage in a hands-on learning experience; and

WHEREAS, such a council is a unique partnership opportunity between the Newton-Conover City School System, youth and city government;

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF NEWTON: that it affirms and supports establishing a Youth Council.

Adopted this the 6th day of April 2004.

Robert A. Mullinax, Mayor

ATTEST:

Rita K. Williams, City Clerk

RESOLUTION #6-2004

May 25, 2004

NC Department of Environment & Natural Resources
Land Quality Section
919 North Main Street
Mooresville, NC 28115

Dear Sirs:

This is to advise you that the property located at 1171 Boston Road is zoned R-20 Single Family Residential and Land Clearing and Inert Debris Landfills are permitted as a special use. The Newton City Council at its April 6, 2004 meeting approved the permit to allow the City of Newton to operate a Land Clearing and Inert Debris Landfill at that location. Attached to this letter is a copy of the order granting the special use permit.

If you have any questions or I can be of further assistance concerning this, do not hesitate to contact me.

Sincerely,

Alex Fulbright, AICP
Planner

ds

#854

COMMISSIONER'S DEED

NORTH CAROLINA
CATAWBA COUNTY

THIS DEED, made this the 5th day of March, 1936, by J. C. Rudisill, Commissioner, under a judgment of the Superior Court of said County in the Special Proceeding entitled D. P. Rowe and wife Cora L. Rowe, Ola R. Shinn and husband et al, vs. Edgar Sigmon, et al, party of the first part, to C. C. Propst, D. H. Propst, L. E. Weaver, D. B. Weaver, and F. A. Propst partners, trading as Propst-Weaver Gin Company of Catawba County, North Carolina, parties of the second part, witnesses:

That Whereas, the said J. C. Rudisill, Commissioner, being thereto license by a judgment in said proceedings did on the 3rd day of February, 1936, after advertisement, expose the land hereinafter described to public sale at the Court House Door in Newton, Catawba County, N. C., and then and there the said C. C. Propst, D. H. Propst, L. E. Weaver, D. B. Weaver, and F. A. Propst, partners, trading as Propst-Weaver Gin Company, became the last and highest bidder for said land at the sum of Three Thousand One Hundred Two and No/100 (\$3,102.00) Dollars, and with the definite understanding that no timber should be, or would be, cut therefrom until the purchase price thereof has been paid in full, and the said purchasers have complied with the terms of the sale; and whereas, upon report of said sales of this court the same was confirmed and the said J. C. Rudisill, Commissioner as aforesaid, was ordered by the judgment of said court to execute a deed in fee simple, with the provision that no timber be cut on said premises until the purchase price is paid in full, to said purchaser upon payment of said purchase money; said payment to be made one third cash, one third in six months and the balance in twelve months; and whereas the said purchase money has been paid one third in cash, the remaining 2/3 secured by deed of trust on said premises payable one half in six months the remainder in twelve months:

Now, in consideration of the premises, and in execution of the power and authority aforesaid the said J. C. Rudisill, Commissioner, as aforesaid, doth hereby bargain, sell and convey to the said C. C. Propst, D. H. Propst, L. E. Weaver, D. B. Weaver, and F. A. Propst, partners, trading as Propst-Weaver Gin Company, and their heirs and assigns, that certain parcel or lot of land, situate in Newton Township, Catawba County, North Carolina, adjoining the lands of Rader, Sigmon and others and more particularly described as follows:

BEGINNING at a stone, corner of lot No. 6, in the division of the Joseph East lands; thence N. 23 W. 67 1/2 poles to a stone, formerly a post oak; thence N. 64-3/4 E. 98-2/3 poles to a stone, Rader's corner; thence with Rader's line S. 40 E. 28 poles to a stone on the North branch of a branch; thence down the branch N. 49 E. 24 poles to a stake, (persimmon); thence down the branch N. 52 E. 19 poles to a myrtle (gone), now M. D. Miller's corner; thence with Miller's line (2 lines) 1st, S. 75 E. 3-2/5 poles to a stake, 2nd, S. 81 1/2 E. 2-5/4 poles to a stake in the branch, Miller's corner; in the old line; thence S. 16 E. 21-3/4 poles to a stone, Sigmon's corner; thence with Sigmon's line S. 55 W. 19 1/2 poles to the beginning corner, containing 51-3/4 acres, more or less. For prior title see book 20 at page 316 in the office of the Register of Deeds, Catawba County, North Carolina.

\$3.50 Revenue

This Deed is delivered by the said Commissioner and accepted by the purchaser of said property, the grantees herein with the distinct and definite understanding that no timber now on said premises shall either be cut or removed therefrom, until the balance of the purchase price hereof the same being secured by deed of trust of even date herewith, has been paid in full and said deed of trust cancelled of record.

TO HAVE AND TO HOLD said land, with its appurtenances, to them the said C. C. Propst, D. H. Propst, L. E. Weaver, D. B. Weaver, F. A. Propst partners, trading as Propst-Weaver Gin Company, their heirs and assigns forever, in as full and ample manner as said J. C. Rudisill, Commissioner, as aforesaid, is authorized and empowered to convey the same, with the one reservation as to the cutting and removal of the timber on and from said premises, until the purchase price is paid in full, and when said purchase price is paid in full and said deed of trust securing the same has been duly cancelled of record, then and in that event said reservation shall be void and of no effect.

IN WITNESS WHEREOF, the said J. C. Rudisill, Commissioner hath hereto set his hand and seal, the day and year first above written.

J. C. Rudisill
------(SEAL)
Commissioner

NORTH CAROLINA
CATAWBA COUNTY

I, Wade H. Lefler, Clerk Superior Court, do hereby certify that J. C.

Rudisill, Commissioner, personally appeared before me this day and acknowledged the due execution of the annexed deed of conveyance, for purposes therein expressed.

Let the instrument with this certificate be re gistered.

Witness my hand this the 7th day of March, 1936.

Wade H. Lefler

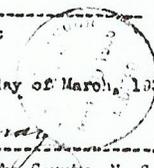
Clerk Superior Court

Filed for registration at 3:30 o'clock P. M. on the 9th day of March, 1936, and registered.

Carla W. Murray

Register of Deeds of Catawba County, N. C.

COPIED AND VERIFIED





June 25, 2008

Allen Gaither
NCDENR-Asheville Regional Office
Division of Waste Management - Solid Waste Section
2090 U.S. 70 Highway
Swannanoa, NC 28778

Dear Mr. Gaither,

This letter is follow up to our conversation on May 22nd, 2008 in reference to the requirement that the waste be four feet above the water table. The lowest elevation on the site is 895' which is 5 feet lower than the bottom of the landfill which is 900' and there are no visible springs or surface waters within the area of the 895' contour.

Sincerely,


Alex Fulbright
Assistant Planning Director

Legal Description for the LCID Landfill and Buffer

BEGINNING at an ½ inch rebar located 560 feet North 43 degrees 7 minutes, 6 seconds east of a ¾ inch iron rod located within the right of way of Boston Road, said point also being a common corner of the City of Newton and Linda F. Lail; running thence South 65 degrees, 11 minutes, 04 seconds, West 550 feet to an ½ inch rebar; running thence North 28 degrees, 59 minutes, 12 seconds, West 760 feet to an ½ inch rebar; running thence North 65 degrees, 53 minutes, 33 seconds, East 411.10 feet to an ½ inch rebar; running thence South 85 degrees, 10 minutes, 52 seconds, East 274.59 feet to an ½ inch rebar; running thence South 20 degrees, 41 minutes, 42 seconds, East 618.73 feet back to an ½ inch rebar; said point being the **POINT OF BEGINNING** containing 10.09 acres according to a survey entitled “A Boundary Survey for: City of Newton” by J. Mike Honeycutt dated June 28th, 2007 and revised November 29th, 2007.

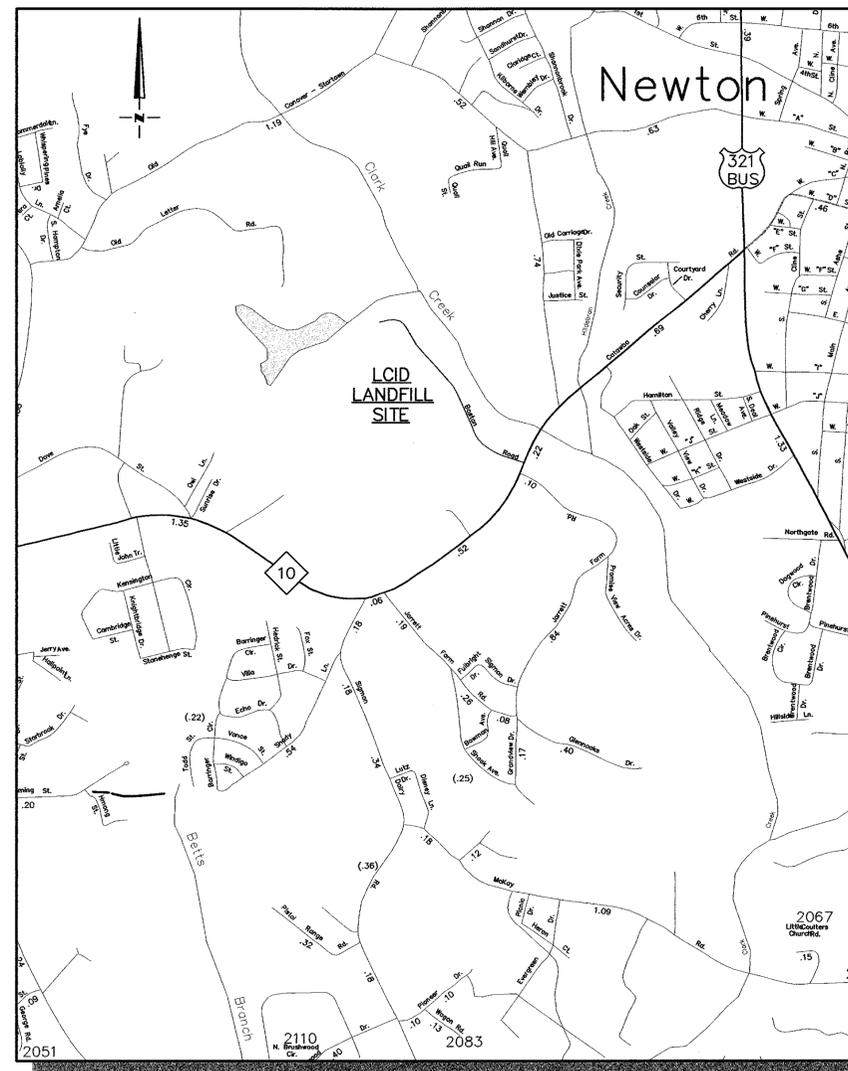
LCID LANDFILL

FOR THE

CITY OF NEWTON

NEWTON, NORTH CAROLINA

APRIL, 2008



PROJECT VICINITY MAP
NO SCALE

DRAWING LIST

SHEET #	SHEET DESCRIPTION
1	COVER SHEET & VICINITY MAP
2	OVERALL SITE PLAN
3	CLEARING, GRADING PLAN AND EROSION/SEDIMENTATION CONTROL
4	FINAL GRADES AT BUILDOUT
5	CONSTRUCTION DETAILS
6	CONSTRUCTION DETAILS



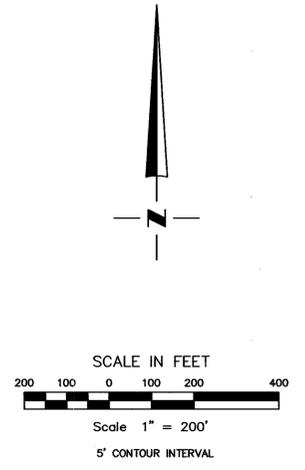
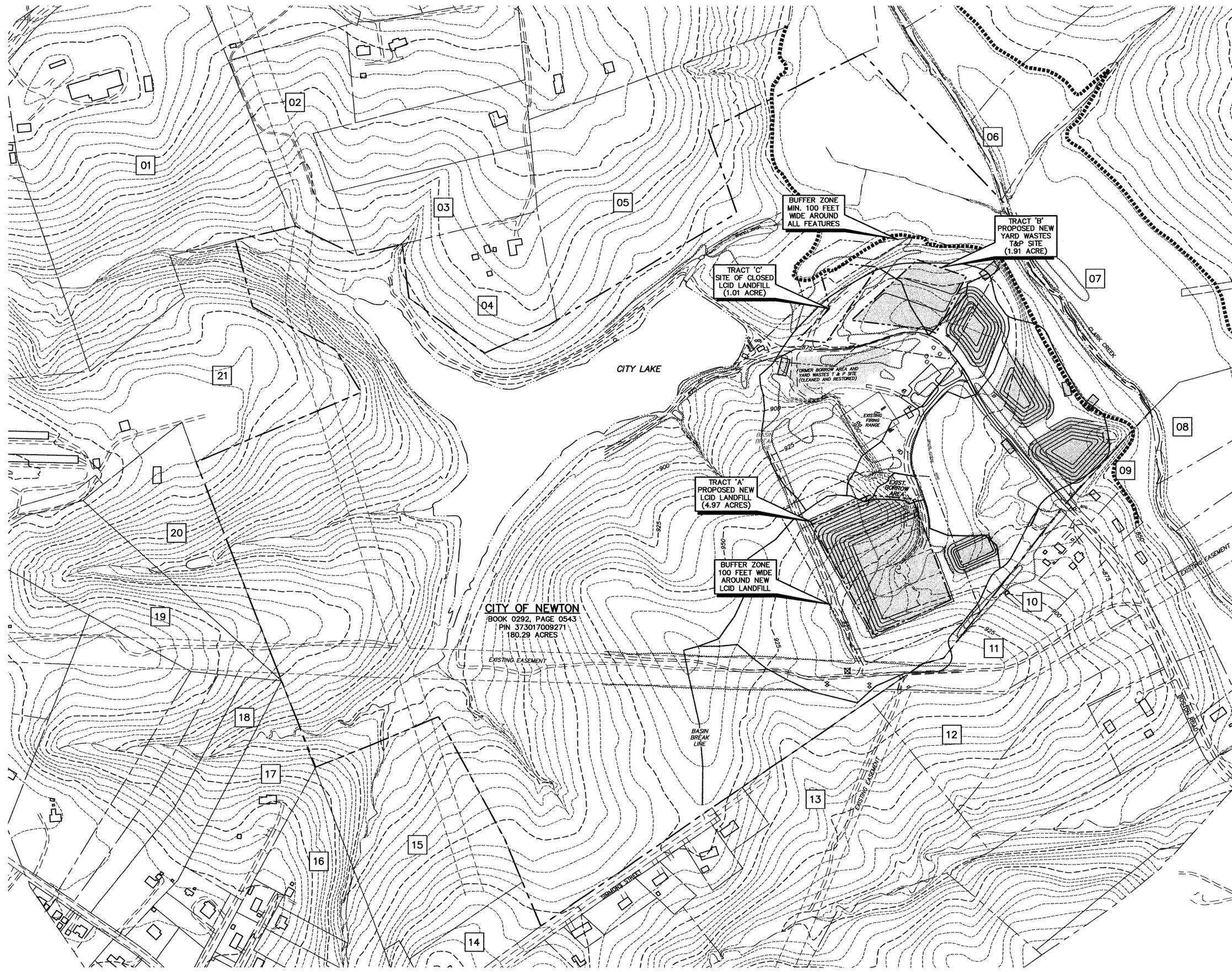
WK DICKSON
community infrastructure consultants

401 4th STREET SW, SUITE 201
HICKORY, NC 28602
(828) 327-6911

Office Locations:
North Carolina
South Carolina
Georgia
Florida

WKD NO. 30195.00.HI

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- AREAS OF DISTURBANCE
- WATERSHED BOUNDARY
- 100 YEAR FLOOD BOUNDARY
- HYDROLOGIC FEATURE

CITY OF NEWTON
 (BOOK 0292, PAGE 0543)
 (PIN 373017009271)
 180.29 ACRES

SUBJECT PROPERTY:
 373017009271
 THE CITY OF NEWTON
 DEED BOOK 0292 PAGE 0543
 PLAT BOOK PAGE

ADJOINING PROPERTY DATA

LOT NO.	PIN NUMBER	OWNER(S)	DEED BOOK	PAGE NO.	PLAT BOOK	PAGE NO.	LOT NO.
01	372020919973	JILL M. GRAY	2137	1480			03
02	372020919937	CLINTON RANDAL PROPST	2312	1992			05
03	373017012624	RONALD B. RADER	0869	0202			06
04	373017014259	HARRY DALE FRANKS	2202	0071			07
		CAROL S. FRANKS					
05	373017123078	DOROTHY LOU M. SWAIN	0796	0012			02
06	373018321432	JOHN FRANKLIN SINNETT	0897	0519			01
		FRANCES P. SINNETT					
07	37301836582	CHARLES EDWARD HAUPT	2250	1989			04
08	375018309921	LORENE KALE REYNOLDS	1249	0262			19
09	373018322465	DONALD R. POSEY	2107	1521	45	175	09
		JOY A. POSEY					
10	373018207083	LINDA FAYE M. LAIL	1213	0910			11
11	363906296783	BETSY ANN RINEHARDT ESTATE	2366	0809	23	54	12
		JENNA MARIE RINEHARDT ESTATE					
12	363906298434	FRUE LONG LAIL	0323	0572	23	54	13
13	363905188830	BRUCE ROY HUFFMAN	2385	0439	52	158	15
14	363905084458	MERLE S. SANDERS	1200	0172			17
15	363905082904	LAVOY SIMONS, JR.	1464	0578			
		PEGGY M. SIMONS					
16							
17	36290984913	BOBBY L. THRONEBURG	2002E	0250			14
		MISTY THRONEBURG					
18	36290982048	ROBERT WAYNE JARRETT	0505	0245			18
		JEANNE C. JARRETT					
19	37202092136	KENNETH RAY MORGAN	1196	0704	48	21	10
		KAREN S. MORGAN					
20	372020907486	KENNETH RAY MORGAN	1196	0704	48	21	08
		KAREN S. MORGAN					

FINAL DESIGN

REV. NO.	DESCRIPTION	DATE

PROJECT MANAGER: DRAWING SCALE: 1" = 200'
 DRAWN BY: JSJ/WES
 PROJECT DATE: 16 APR 08
 APPROVED BY: PROJECT NUMBER: 30195.00.HI
 FILE NAME: 30195601_FINAL_041608

WK DICKSON
 community infrastructure consultants

401 4TH STREET, SW
 SUITE 201
 HICKORY, NC 28602
 (828) 327-6911

Office Locations:
 North Carolina
 South Carolina
 Georgia

RELEASED FOR: DATE:
 APPROVALS:
 BIDDING:
 CONSTRUCTION:
 RECORD DWG.

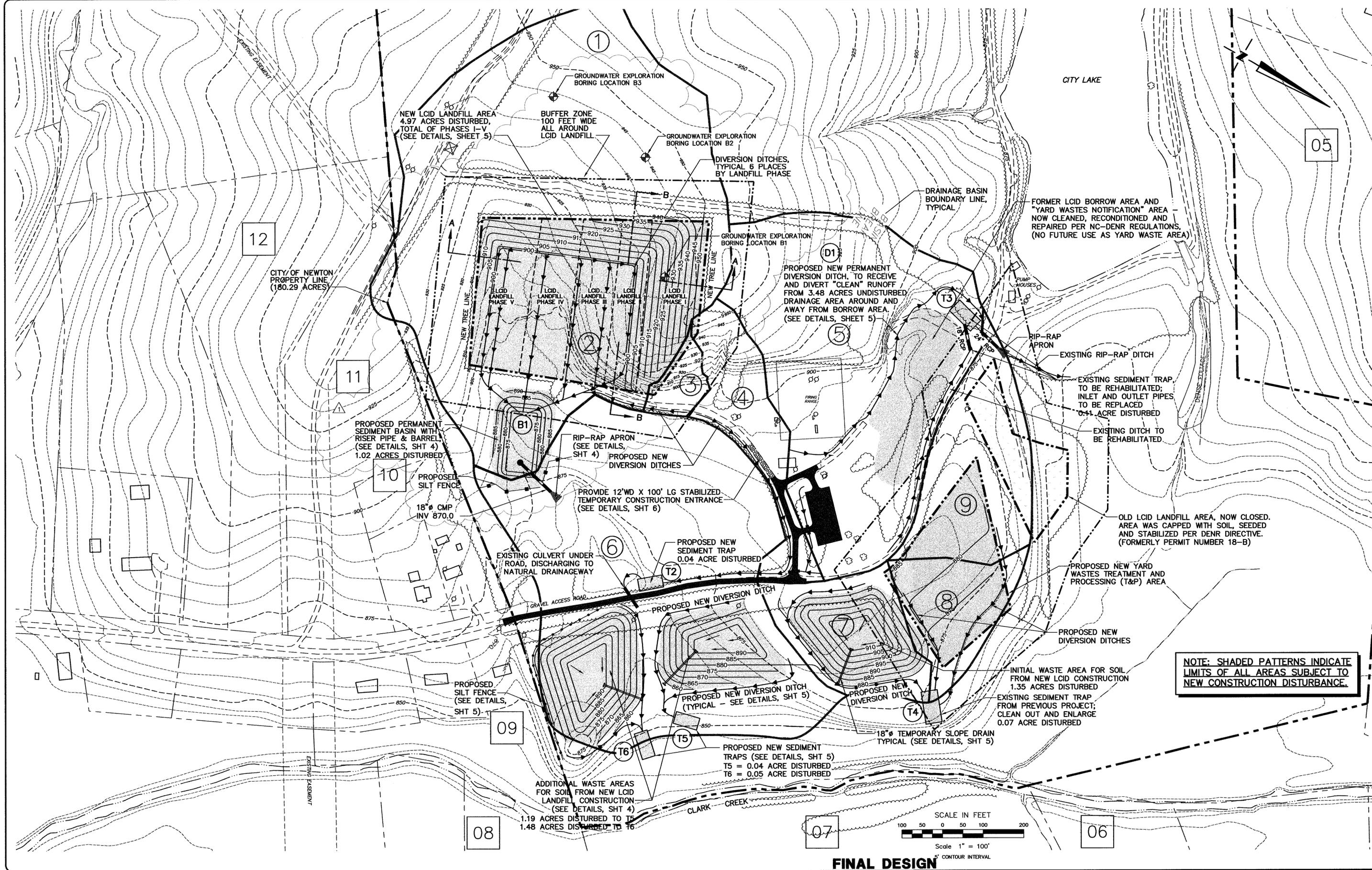
027403
 4/18/08

LCID LANDFILL
 FOR THE
CITY OF NEWTON
 NEWTON, NORTH CAROLINA

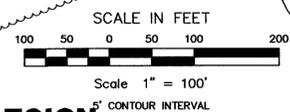
OVERALL SITE MAP

02 / 06

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 COUNTY OF NEWTON
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NOTE: SHADED PATTERNS INDICATE LIMITS OF ALL AREAS SUBJECT TO NEW CONSTRUCTION DISTURBANCE.



FINAL DESIGN

LCID LANDFILL
 FOR THE
CITY OF NEWTON
 NEWTON, NORTH CAROLINA

CLEARING, GRADING PLAN
EROSION/SEDIMENTATION CONTROL PLAN

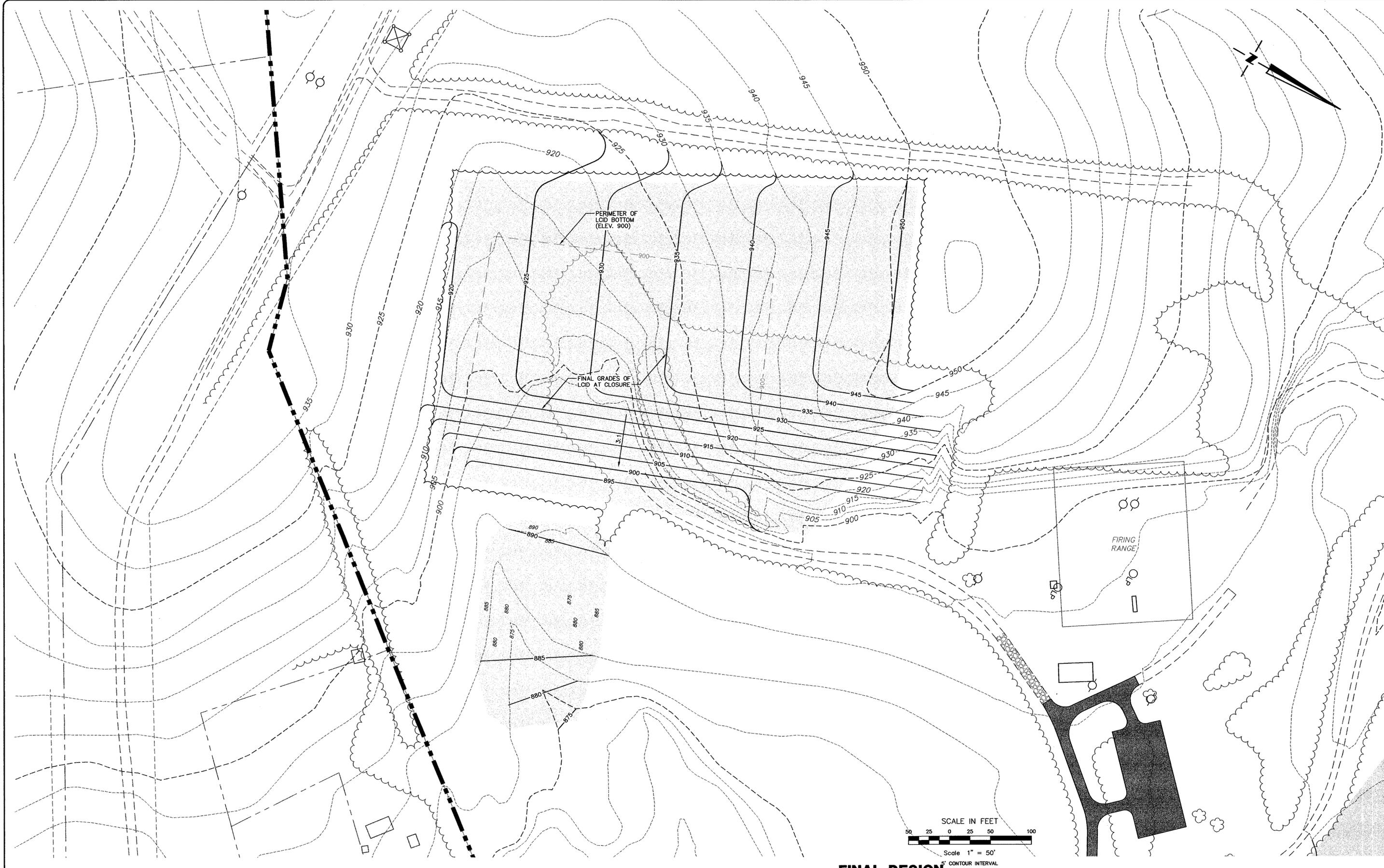
03
 06

REV. NO.	DESCRIPTION	DATE

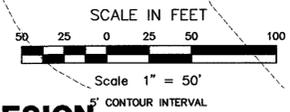
PROJECT MANAGER DRAWN BY PROJECT DATE PROJECT NUMBER FILE NAME	DRAWING SCALE 1" = 100' SUITE 201 HICKORY, NC 28602 (828) 327-6911 Office Locations: North Carolina South Carolina Georgia	RELEASED FOR APPROVALS BIDDING CONSTRUCTION RECORD DWG.	DATE
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WK DICKSON
 community infrastructure consultants
 4/18/08

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FINAL DESIGN



REV. NO.	DESCRIPTION	DATE
3	ADJUSTED FINAL LANDFILL GRADING	08/21/07

PROJECT MANAGER: JSJ/WES
 DRAWN BY: JSJ/WES
 PROJECT DATE: 16 APR 08
 APPROVED BY: [Signature]
 PROJECT NUMBER: 30195.001.HI
 FILE NAME: 30195b01_FINAL_041608.dwg



401 4th STREET, SW
 SUITE 201
 HICKORY, NC 28602
 (828) 327-6911
 Office Locations:
 North Carolina
 South Carolina
 Georgia

RELEASED FOR	DATE
APPROVALS	
BIDDING	
CONSTRUCTION	
RECORD DWG.	

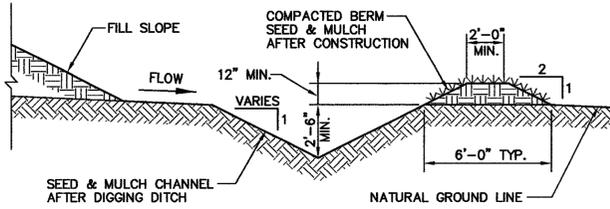
[Signature]
 4/18/08

LCID LANDFILL
 FOR THE
 CITY OF NEWTON
 NEWTON, NORTH CAROLINA

FINAL GRADING FOR
 FULL LCID LANDFILL

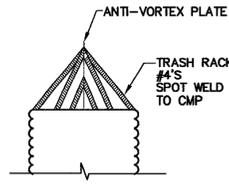
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 06

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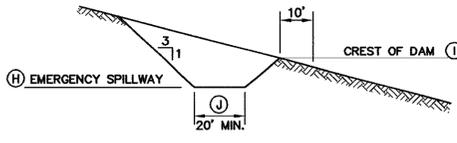


PERMANENT DIVERSION DITCH - D1
NOT TO SCALE

DITCH "D1" SIDE SLOPES:
 FIRST 1/3 OF LENGTH - 3.0:1
 MIDDLE 1/3 OF LENGTH - 3.5:1
 FINAL 1/3 OF LENGTH - 4.0:1



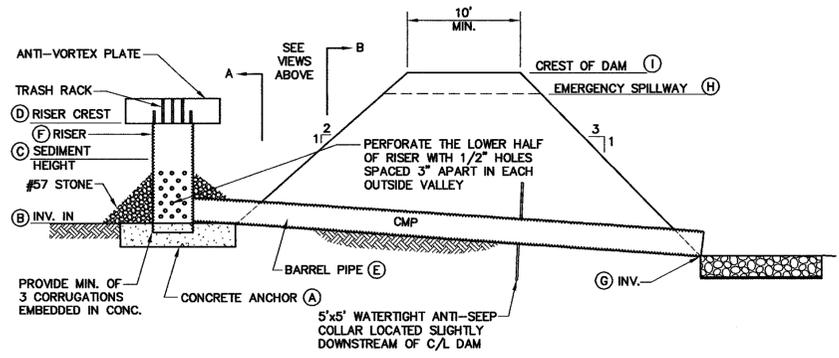
VIEW A



VIEW B

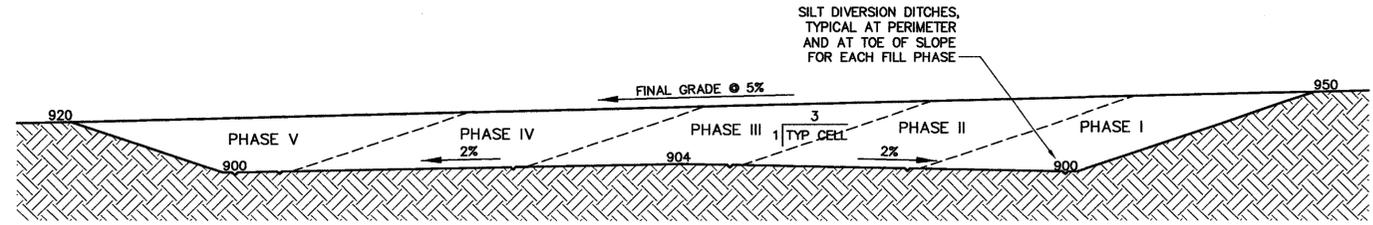
RISER TYPE SEDIMENT BASIN SCHEDULE										
BASIN #	A	B	C	D	E	F	G	H	I	J
	CONC. ANCHOR	INV. IN	HEIGHT OF SEDIMENT	CREST OF RISER	BARREL PIPE	RISER PIPE	INV. OUT	EMERGENCY SPILLWAY ELEVATION	CREST OF DAM	EMERGENCY SPILLWAY WIDTH (FT)
B1	5' x 5' x 1'	875.0	876.3	877.6	18" Ø CMP	24" Ø CMP	870.0	878.8	880.0	20

RISER/BARREL TYPE SEDIMENT BASIN SECTIONS & SCHEDULE
NOT TO SCALE

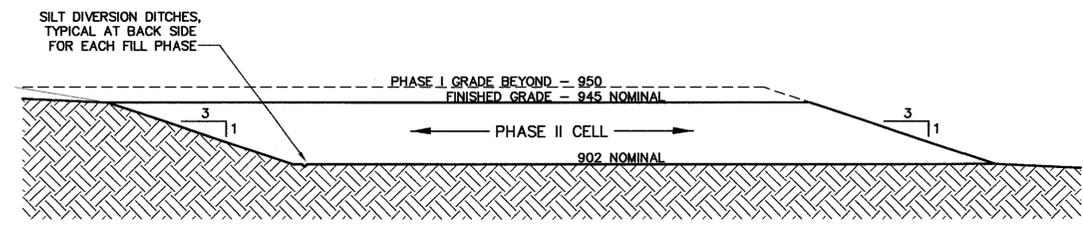


- GENERAL NOTES:**
- ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
 - ALL EMBANKMENTS AND THE EMERGENCY SPILLWAY SHALL BE SEEDED IMMEDIATELY UPON COMPLETION.
 - A YELLOW STRIPE SHALL BE PAINTED AT THE ELEVATION DESIGNATED AS "C". WHEN SEDIMENT IN BASIN REACHES THIS LEVEL IT SHALL BE REMOVED AND DEPOSITED IN A SUITABLE AREA IN SUCH MANNER THAT IT WILL NOT ERODE.

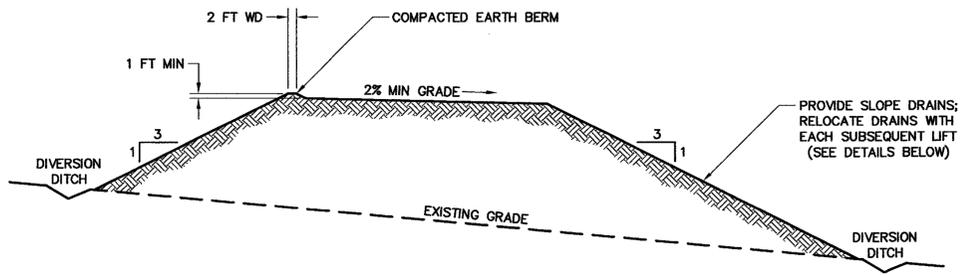
RISER/BARREL TYPE SEDIMENT BASIN
NOT TO SCALE



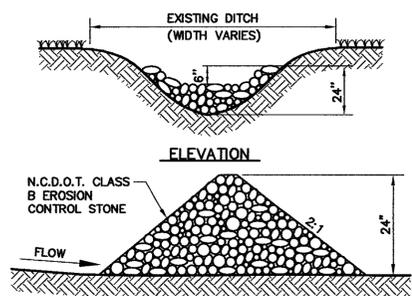
PROPOSED LCID LANDFILL SECTION VIEW 'A-A'
NOT TO SCALE



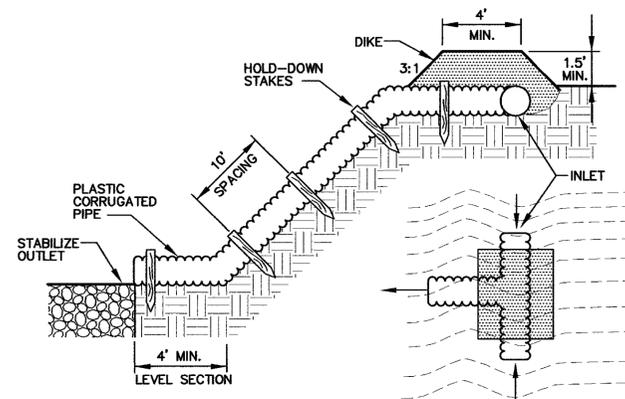
PROPOSED LCID LANDFILL SECTION VIEW 'B-B'
NOT TO SCALE



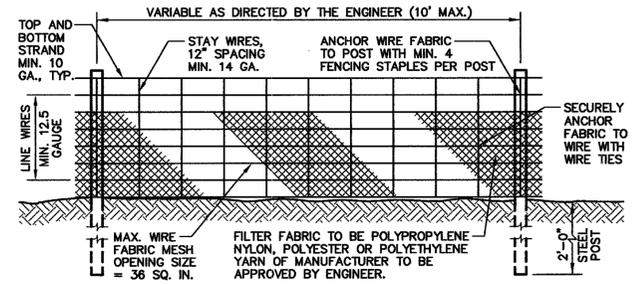
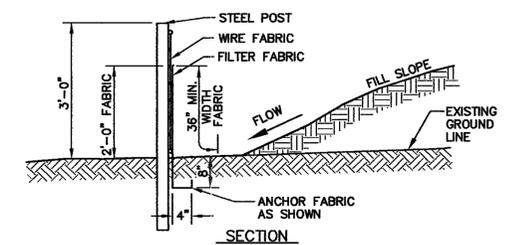
SECTION THROUGH PROPOSED SOIL WASTE STOCKPILE AREAS
NOT TO SCALE



TEMPORARY SILT CHECK DAM
NOT TO SCALE



TEMPORARY SLOPE DRAIN
NOT TO SCALE



- NOTES:**
- THE CONTRACTOR SHALL MAINTAIN ALL SILT FENCING BY REMOVING AND DISPOSING OF SILT ACCUMULATIONS AS DIRECTED BY THE ENGINEER. FILTER FABRIC SHALL BE REPLACED WHEN IT HAS DETERIORATED TO SUCH EXTENT THAT IT REDUCES THE EFFECTIVENESS OF THE SILT FENCE.
 - FILTER FABRIC SHALL HAVE A MINIMUM TENSILE STRENGTH (Ø 20% MAX. ELONGATION) OF 30lbs/LIN. IN., WIRE FABRIC REQUIRED.
 - IF EXTRA STRENGTH FABRIC IS UTILIZED (MIN. TENSILE STRENGTH = 50 lbs/LIN. IN. Ø MAX. 20% ELONGATION), WIRE FABRIC IS OPTIONAL, MAXIMUM POST SPACING = 6 FEET.
 - POSTS SHALL BE 1.33 lb/LF STEEL, MINIMUM, UNLESS OTHERWISE APPROVED BY ENGINEER.

TEMPORARY SILT FENCE
NOT TO SCALE

FINAL DESIGN

REV. NO.	DESCRIPTION	DATE
3	ADJUSTED FINAL LANDFILL GRADING	08/22/07

PROJECT MANAGER AS SHOWN	DRAWING SCALE AS SHOWN
DESIGNED BY JSJ/WES	PROJECT DATE 16 APR 08
APPROVED BY [Signature]	PROJECT NUMBER 30195.00.HI
FILE NAME 30195b01_FINAL_041608.dwg	



401 4th STREET, SW SUITE 201 HICKORY, NC 28602 (828) 327-6911	RELEASED FOR APPROVALS	DATE
Office Locations: North Carolina South Carolina Georgia	BIDDING	
	CONSTRUCTION	
	RECORD DWG.	

[Handwritten signature]
4/18/08

LCID LANDFILL
FOR THE
CITY OF NEWTON
NEWTON, NORTH CAROLINA

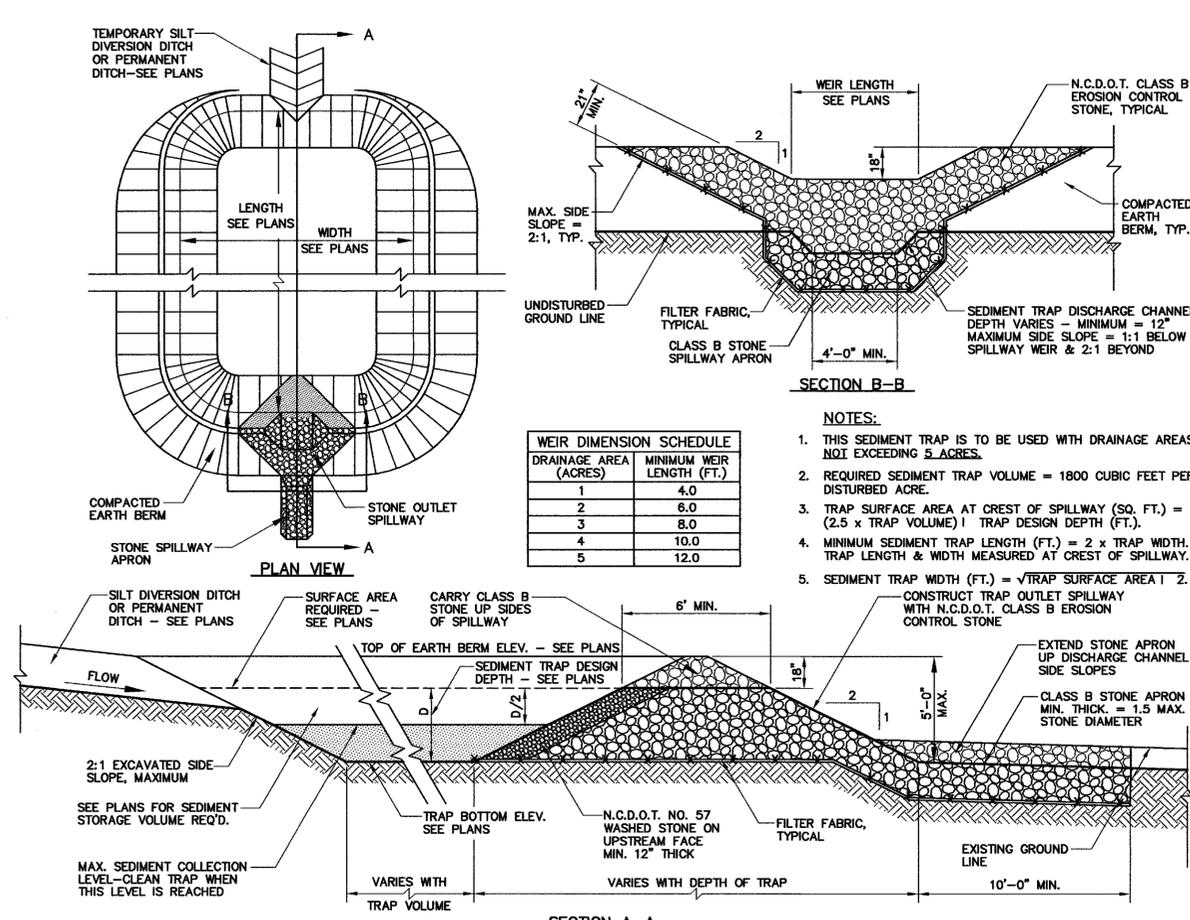
CONSTRUCTION DETAILS

05
06

EROSION CONTROL - SEQUENCE OF CONSTRUCTION NOTES

- SCHEDULE A PRECONSTRUCTION CONFERENCE ON-SITE WITH THE EROSION CONTROL INSPECTOR FROM THE MOORESVILLE REGIONAL OFFICE OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES (NCDENR, 704-663-1699), THE OWNER'S REPRESENTATIVE AND THE ENGINEER'S REPRESENTATIVE.
- BEFORE INITIATION OF CONSTRUCTION, INSTALL EROSION CONTROL MEASURES SHOWN ON THE PLANS ALONG WITH ANY REQUESTED BY THE NCDENR INSPECTOR RESULTING FROM THE PRECONSTRUCTION MEETING, CLEARING AREAS AS NEEDED TO INSTALL THE DEVICES. THE SILT CHECK DAMS SHOWN ARE TO BE INSTALLED AFTER THE TRENCH BACKFILL IS COMPLETED. THESE MUST BE INSTALLED DAILY AS WORK PROGRESSES.
- EROSION CONTROL DETAILS ARE SHOWN ON THE DRAWINGS AND STRUCTURE LOCATIONS ARE DEFINED IN THE PLAN VIEWS.
- MAINTENANCE OF EROSION CONTROL DEVICES IS THE RESPONSIBILITY OF THE CONTRACTOR. AFTER EACH RAIN EVENT THE DEVICES SHALL BE INSPECTED FOR DAMAGE AND REPAIRS MADE AS NEEDED. ANY SILT ACCUMULATION SHALL BE REMOVED IMMEDIATELY AND DISPOSED OF PROPERLY.
- RESEED AND MULCH DISTURBED AREAS AS GRADING IS COMPLETED ALONG ALL CONSTRUCTION. ALL DISTURBED AREAS MUST BE VEGETATED OR OTHERWISE STABILIZED WITHIN 15 WORKING DAYS AFTER BEING DISTURBED. THE CONTRACTOR SHALL UTILIZE THE SEEDING AND MULCHING SCHEDULES ON THE DRAWINGS AS FOLLOWS:
 - ALL LOCATIONS DISTURBED DURING CONSTRUCTION WILL BE RESTORED ACCORDING TO THE PERMANENT SEEDING SCHEDULE AS SHOWN ON THE PLANS.
 - IF THE CHANNEL VELOCITY OF AN EXISTING OR PROPOSED DITCH LINE IS EXPECTED TO EXCEED 2 FEET PER SECOND, TEMPORARY CHANNEL LINERS (JUTE NET, STRAW WITH NET, FIBERGLASS ROVING, GEOTEXTILE FABRIC, ETC.) SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER. THESE DITCH LINES WILL BE RESTORED ACCORDING TO THE PERMANENT SEEDING SCHEDULE AS SHOWN ON THE PLANS.
- AFTER COMPLETE STABILIZATION OF DISTURBED AREAS AND AS DIRECTED BY THE ENGINEER, REMOVE EROSION CONTROL DEVICES FROM THE SITE.

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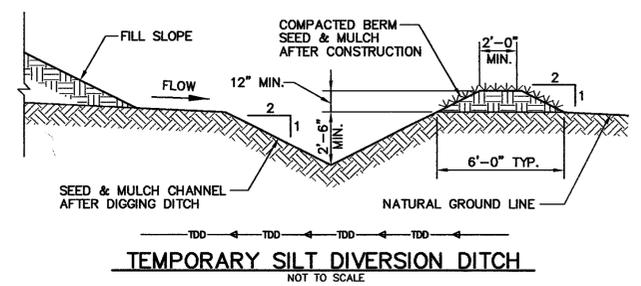
DRAINAGE AREA (ACRES)	MINIMUM WEIR LENGTH (FT.)
1	4.0
2	6.0
3	8.0
4	10.0
5	12.0

- NOTES:**
- THIS SEDIMENT TRAP IS TO BE USED WITH DRAINAGE AREAS NOT EXCEEDING 5 ACRES.
 - REQUIRED SEDIMENT TRAP VOLUME = 1800 CUBIC FEET PER DISTURBED ACRE.
 - TRAP SURFACE AREA AT CREST OF SPILLWAY (SQ. FT.) = (2.5 x TRAP VOLUME) / TRAP DESIGN DEPTH (FT.).
 - MINIMUM SEDIMENT TRAP LENGTH (FT.) = 2 x TRAP WIDTH. TRAP LENGTH & WIDTH MEASURED AT CREST OF SPILLWAY.
 - SEDIMENT TRAP WIDTH (FT.) = $\sqrt{\text{TRAP SURFACE AREA} \times 2}$.

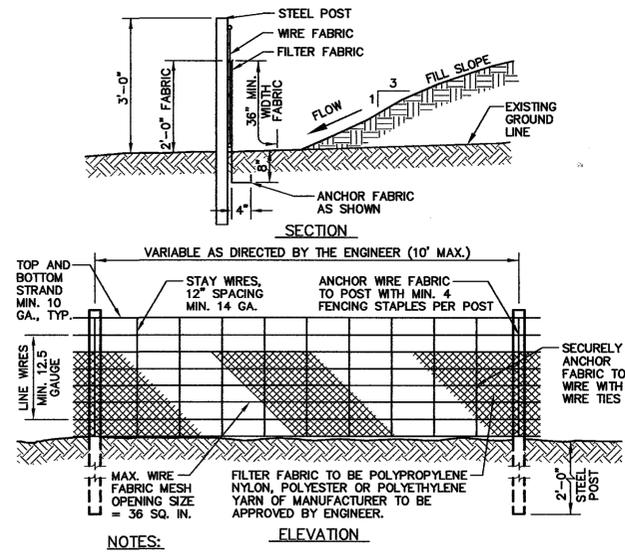
TEMPORARY SEDIMENT TRAP
NOT TO SCALE

TRAP	WIDTH	LENGTH	DEPTH	AREA	VOLUME	WEIR LENGTH
NOT USED						
T1						
T2	30	60	1	1800 SF	1800 CF	8
T3	36	72	1	2592 SF	2592 CF	10
T4	40	80	1	3200 SF	3200 CF	8
T5	30	60	1	1800 SF	1800 CF	6
T6	33	66	1	2178 SF	2178 CF	6

SEDIMENT TRAP SCHEDULE
SEE PLANS



TEMPORARY SILT DIVERSION DITCH
NOT TO SCALE



- NOTES:**
- THE CONTRACTOR SHALL MAINTAIN ALL SILT FENCING BY REMOVING AND DISPOSING OF SILT ACCUMULATIONS AS DIRECTED BY THE ENGINEER. FILTER FABRIC SHALL BE REPLACED WHEN IT HAS DETERIORATED TO SUCH EXTENT THAT THE EFFECTIVENESS OF THE SILT FENCE IS COMPROMISED.
 - FILTER FABRIC SHALL HAVE A MINIMUM TENSILE STRENGTH (20% MAX. ELONGATION) OF 30lbs/LIN. IN., WIRE FABRIC REQUIRED.
 - IF EXTRA STRENGTH FABRIC IS UTILIZED (MIN. TENSILE STRENGTH = 50 lbs/LIN. IN. @ MAX. 20% ELONGATION), WIRE FABRIC IS OPTIONAL. MAXIMUM POST SPACING = 6 FEET.
 - POSTS SHALL BE 1.33 lb/LF STEEL, MINIMUM, UNLESS OTHERWISE APPROVED BY ENGINEER.

TEMPORARY SILT FENCE
NOT TO SCALE

PERMANENT SEEDING SCHEDULE-MIXTURE #1M

Species	Rate (lb/acre)
Tall fescue	100
Sericea lespedeza	20
Korean lespedeza	10
Redtop	5
Kentucky bluegrass	5

Seeding note
After Aug. 1, use unscarified seed for sericea lespedeza.

Nurse plants
Between May 1 and Aug. 15 add 10 lb/acre German millet or 15 lb/acre Sudangrass. Prior to May 1 or after Aug. 15, add 40 lb/acre rye (grain). It may be beneficial to plant the grasses in late summer and overseed the lespedezas in March.

Seeding dates

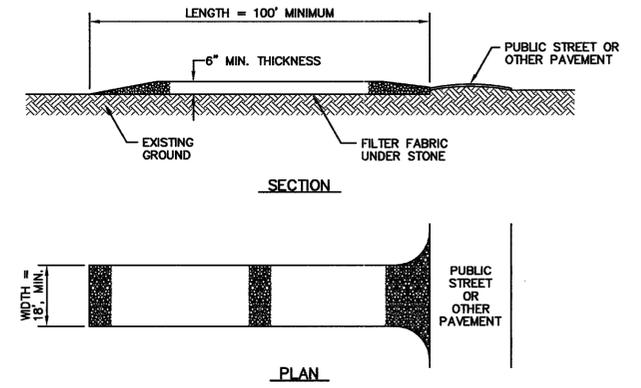
Below 2500 ft:	Best	Possible
	Aug. 15-Sept. 1	July 25-Sept. 15
	Mar. 1-Apr. 1	Mar. 1-May 10
Above 2500 ft:	July 25-Aug. 15	July 15-Aug. 30
	Mar. 20-Apr. 20	Mar. 5-May 15

Complete seeding earlier in the fall, and start later in spring on north and east facing slopes.

Soil amendments
Apply lime and fertilizer according to soil tests, or apply 4,000 lb/acre ground agricultural limestone and 1,000 lb/acre 5-10-10 fertilizer.

Mulch
Apply 4,000-5,000 lb/acre grain straw or equivalent cover of another suitable mulching material. Anchor mulch by tacking with asphalt, roving or netting. Netting is the preferred anchoring method on steep slopes.

Maintenance
Mow no more than once a year. Refertilize in the second year unless growth is fully adequate. Reseed, fertilize and mulch damaged areas immediately.



- NOTES:**
- A STABILIZED PAD OF CRUSHED STONE, 6" DEEP, SHALL BE PLACED WHERE ANY CONSTRUCTION TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE FROM OR TO A PUBLIC STREET OR OTHER PAVEMENT.
 - STONE TO BE NO. 5 FILTER STONE.
 - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC STREETS OR EXISTING PAVEMENT. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
 - ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC STREET OR OTHER EXISTING PAVEMENT MUST BE REMOVED IMMEDIATELY.
 - WHEN NECESSARY, WHEELS MUST BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTERING A PUBLIC STREET. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT BASIN.
 - FILTER FABRIC SHALL BE MIRAFI 500 OR EQUAL.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

FINAL DESIGN

REV. NO.	DESCRIPTION	DATE
	REVISIONS	

PROJECT MANAGER: DRIVING SCALE AS SHOWN
 DRAWN BY: JSJ/WES
 PROJECT DATE: 16 APR 08
 APPROVED BY: PROJECT NUMBER 30195.00.HI
 FILE NAME: 30195b01_FINAL_041608.dwg



401 4th STREET, SW SUITE 201 HICKORY, NC 28602 (828) 327-6911
 Office Locations: North Carolina, South Carolina, Georgia

RELEASED FOR: DATE
 APPROVALS: [Signature]
 BIDDING: [Signature]
 CONSTRUCTION: [Signature]
 RECORD DWG. [Signature]

LCID LANDFILL FOR THE CITY OF NEWTON, NORTH CAROLINA

CONSTRUCTION DETAILS

06 / 06