

North Wake Landfill Post Closure Land Use Plan

Wake County, North Carolina
Final Master Plan Summary Report
March 2006



Prepared For:



Prepared By:





Contents

I. Project Team	iv.
II. Executive Summary.....	1-11
A. Introduction	1
B. The Project Site	2
C. The Planning Process	3-4
D. Concept Design	5
E. Draft Master Plan	6-8
F. Final Master Plan	9-10
G. Cost Analysis / Phasing.....	11
III. Report	12-14
A. Introduction	12
1. Overall Landfill Facts	12
2. Initial Site Observations.....	13
3. Critical Redevelopment Issues	14
B. North Wake Landfill Citizen's Committee	15
C. Planning Process	16
1. Project Schedule.....	16
D. Site Analysis.....	17-26
1. Regional Land Use Map	17
2. Surrounding Land Use Map.....	18
3. Regulatory Constraints and Post Closure Monitoring	19-20
4. Hydrology and Drainage Map.....	21
5. Slope Analysis	22
6. Existing Vegetation and Habitat Map	23
7. Existing Facilities	24
8. Redevelopment Opportunities	25
9. Community Meeting #1 (Results from the meeting- comments)	26
E. Precedents	27-32
1. Thomas M. Danehy Park	27
2. Pope John Paul II Park	28
3. Millenium Park	28
4. Roussel and Lincoln Parks	29



Contents

5.	Byxbee Park	30
6.	Freshkills Landfill	30
7.	Nanji Island Park	31
8.	Dyer Boulevard Park	31
9.	Mount Trashmore	31
10.	Community Meeting # 2 (Results from the meeting-comments)	32
F.	Conceptual Designs	33-40
1.	Program Elements	33
2.	Concept A	34-35
3.	Concept B	36-37
4.	Concept C	38-39
5.	Community Meeting # 3 (Results from the meeting-tally of votes, comments)	40
G.	Draft Master Plan	41-49
1.	Elementary School and Athletic Complex	41
2.	Community Recreation Complex	42
3.	Braided Pathway	43
4.	The Meadow	44
5.	Kids and Canines Recreation Area	45
6.	Prospect Hill	46
7.	Top of the Hill Education Center	47
8.	Cross Section	48
9.	Community Meeting # 4 (Results from the meeting- comments)	49
H.	Final Master Plan	50
1.	Overall Description	50-51
2.	Probable construction costs / phasing	52
3.	Community Meeting # 5 (Results from the meeting-comments)	53-54



Contents

IV. Appendix 1	55
1. Tables	55
a. Tally Sheet	55
2. Meeting Minutes	56-92
a. CORE Team meetings	56-69
b. Community meetings	70-92
3. Construction Cost Estimate Spreadsheet	93-99
4. Other	100-109
a. Landfill Images: Before and After	100-106
b. Newspaper Articles	107-110

Project Team

Wake County

Tim Maloney, *Project Manager, Facilities, Design, and Construction*
Phil Stout, *Facilities, Design, and Construction*
Rick Rowe, *Environmental Services*
Jim Reynolds, *Solid Waste*
Dan LaMontagne, *Solid Waste*
Johnny Beal, *Solid Waste*
Dave Goodwin, *General Services Administration*
James Bailey, *Field Services*
Robert Hinson, *Parks, Recreation, and Open Space*
Larry Sherrill, *Program Manager, Wake County Public Schools System*

State of North Carolina

Ed Mussler, *NCDENR, Division of Waste Management*
Dexter Mathews, *Division Director*
James Coffey, *Section Chief- Solid Waste Section*
Mark Poindexter, *Solid Waste Field Operations Branch*

City of Raleigh

Richard Bailey, *Parks and Recreation*
Shanna Davis, *Parks and Recreation*
Vic Lebsock, *Parks and Recreation*

Design Team

Brian Starkey, *obs landscape architects, Project Manager, Landscape Architect*
Katherine Work, *obs landscape architects, Project Planner*
Jeffrey Claus, *obs landscape architects, Project Planner*
John Boyer, *CDM, Project Manager*
Joe Wiseman, *CDM*
Tommy Esqueda, *CDM*
Robert Brossoie, *CDM*
Kimberly Jarvis, *CDM*
Dr. Robert Goldstein, *Environmental Consultant to obs*
Ward Marotti, *Environmental Consultant to obs*

Citizen Representatives

Beau Mills
Pat Rohner

Executive Summary- Introduction

The North Wake Landfill Post Closure Land Use Master Plan defines a vision for the potential public use of this 260 acre property following the closure of the North Wake Subtitle D Landfill cell in 2008.

The vision recognizes and successfully illustrates numerous uses and their implementation in a manner that is compatible with maintaining the landfill's integrity, as well as post closure monitoring of the site. The plan protects landfill gas, groundwater monitoring and gas harvesting operations, while creating a cohesive place that offers abundant recreational, educational and cultural opportunities. The plan promotes an accessible environment and insures public health, safety, and welfare.

The plan is the result of an involved community planning and conceptual design process conducted over a six month time frame. The process included five public meetings attended by several hundred citizens. The plan was well received by the public at the final community meeting held December 6, 2005.

Prior to the initiation of this master plan study, an earlier study prepared by a citizens committee was completed. The North Wake Landfill Committee Post Closure Use Report identified potential uses for the property and served as a solid foundation and springboard for this plan.

In addition to the input received from community members, the project benefited from the involvement of other parties throughout the process. Those are as follows:

- *Wake County*
- *City of Raleigh*
- *Wake County Public School System*
- *NC Department of Environment and Natural Resources*



Executive Summary- The Project Site

The project site is a 260 acre parcel located on Durant Road in North Raleigh immediately adjacent to the Falls River and Bedford subdivisions. A population of approximately 118,500 live within a 5 mile radius of the project site. Of the 260 acres, 43 acres are actively being used as a soil borrow area for daily operation of the landfill. The borrow area, although adjacent to the landfill site, is outside the permitted landfill boundary. Over the life of the landfill facility no waste has been deposited in the borrow area.

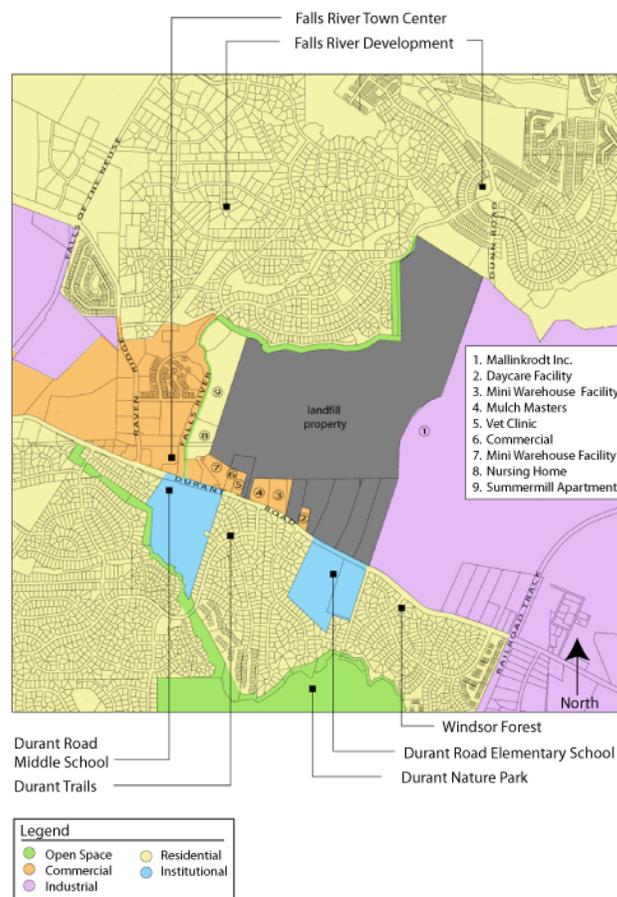
Currently only one of the existing three landfill cells on the site is in operation and accepting waste. This is the Subtitle D municipal solid waste (MSW) lined landfill cell. It is the largest landfill cell and the only landfill cell with a synthetic liner. The largest of the other two is a closed MSW landfill cell located to the north of the Subtitle D landfill cell and the smallest, a construction and demolition debris landfill located to the west of the Subtitle D landfill cell.

Decomposition gas is collected from the Subtitle D MSW landfill cell and the closed MSW unlined landfill cell and sold to Mallinkrodt Inc., a pharmaceutical company located on property adjacent to the east of the landfill site. This collection operation is contracted to a private landfill gas operator.

Landfill gas recovery, as well as landfill gas and groundwater monitoring of the site will continue during the 30-year post closure period following closure in 2008.

The natural attributes of the site include three tributaries or drainage ways. One drainageway crosses the site from west to east just north of the Subtitle D MSW landfill cell. The second drainageway flows along the eastern property boundary beginning in the borrow area. The third drainageway is just north of the MSW unlined landfill cell. These drainage ways all have Neuse River buffers associated with them to protect water quality.

There is abundant wildlife on and around the site which include migratory birds and gulls, native birds, deer and fox. There are also tree lined buffer areas around the perimeter of the waste facility.



Executive Summary- The Planning Process

The planning process conducted was community based and the final plan reflects the input of residents and community members as well as several prospective user groups. At each community meeting, attendees were solicited for input through the use of brainstorming sessions and conceptual diagrams. The following is a brief description of the process conducted:

Site Analysis

The site analysis phase of the process inventoried and evaluated natural characteristics of the site as well as various site features and / or operations that would influence the planning and design of the master plan. Evaluated were topography, vegetation, soils and hydrology as well as surrounding land use, and requirements for development as identified through meetings with City of Raleigh Planning and Transportation departments, and state regulatory officials.

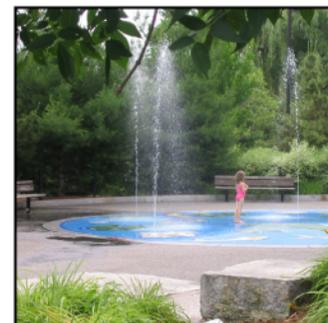
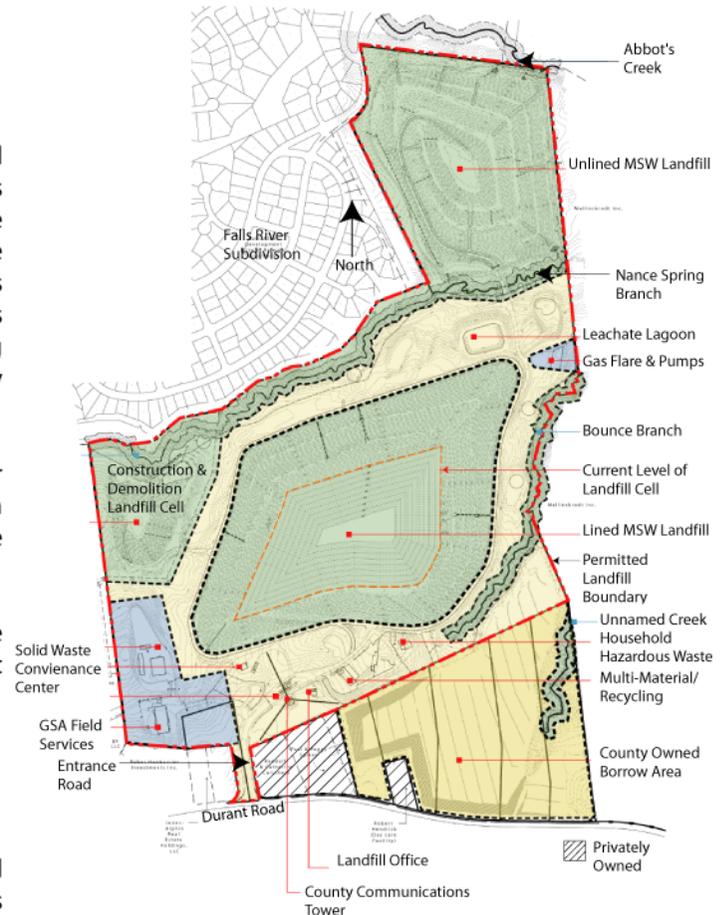
Also inventoried and defined were the gas and groundwater monitoring and gas extraction systems existing on site from the standpoint of regulatory compliance and post-closure monitoring.

Along with this information the public was presented the process and schedule for the master-planning project at Community Meeting #1.

Landfill Redevelopment Precedents

Precedents for reuse of the landfill property were researched and presented at Community Meeting #2. Various projects were examined including visits to several sites in the Boston / Cambridge Massachusetts area. Other projects researched and presented to the community were both local and international in scope.

The second portion of Community Meeting #2 involved brainstorming sessions with attendees to identify needs and potential uses to be considered for inclusion in the Master Plan.



Danehy Park, Cambridge, Massachusetts

Executive Summary- The Planning Process

Concept Design

Three concept plans were presented at Community Meeting #3. All of which were focused on the development potential of the borrow area portion of the site. The consensus of the meeting was for the preference of concept A that included the sighting of an elementary school along with athletic fields and community park facilities within the borrow area.

Draft Master Plan

With consensus on the concept direction, illustrative plans were prepared for six major reuse areas of the property and presented at Community Meeting #4. These areas included:

1. *School / Community Recreation Complex*
2. *Braided Walkways*
3. *Meadow*
4. *Prospect Hill*
5. *Kids and Canines Recreation Area*
6. *Top of the Hill Education Center*

Final Master Plan

A comprehensive Master Plan was presented during Community Meeting #5. The plan reflects input received throughout the process. It also reserves property for the continuation, expansion, and improvement of Wake County's Solid Waste facilities and Wake County Field Services area. The final Master Plan also addressed regulatory constraints within the 300 foot buffer area beyond the limits of waste and safety zone around the existing communications tower.

Critical Redevelopment Issues

The following were primary issues critical to the development of the Master Plan:

- Maintain the integrity of the landfill and allow for the continued monitoring of the landfill and the gas extraction system during the 30-year post-closure period.
- Provide active and passive recreational opportunities, as well as activities for all ages.
- Protect what natural environments exist on site, and ensure the public's health and safety.
- Develop a plan that is handicap accessible to all.
- Develop a logical plan for phasing and implementation, as well as an estimate of probable construction costs.

The plan provides for safe recreational opportunities with a balance between passive and active recreation facilities, preserves the natural environment, and protects the public as well as the landfill monitoring systems.



Executive Summary- Concept Design

The three concept plans presented at the third community meeting can be distinguished from each other by the proposed development of the borrow area. Across a majority of the site each concept illustrates various arrangements of the same program elements and ideas. These include trails, playgrounds, dog park, skate park, education areas, garden areas, viewing opportunities etc. Also common to all three concept plans is the identification and protection of existing gas recovery systems, including the perimeter gas extraction system installed around the unlined MSW landfill area.

Concept A

The borrow area in Concept A proposes an elementary school with a separate bus drop off and parent drop off area, three football fields, one multi-purpose field, three baseball fields, and a variety of parking for these facilities. To the north of the school and athletic fields is the community/education center and one of two playgrounds. To the east of the large Subtitle D MSW landfill cell is the skate park. There are 2.5 miles of walking and biking trails associated with the plan. The vehicular circulation around the large Subtitle D MSW landfill cell is split two ways towards the dog park and the leachate pond area.

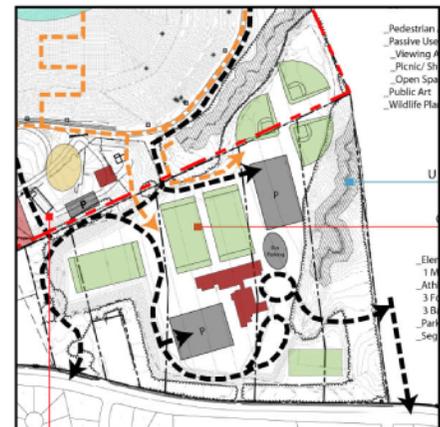
Concept B

The borrow area in Concept B proposes an athletic complex. There are four football fields, four baseball fields, concession stand, restrooms, and an abundant amount of parking for the fields. There are also basketball courts and tennis courts with a playground nearby. Adjacent to the borrow area is the community and aquatic center as well as a skate park. To the east of the site is an environmental education center with open fields and trails.

Concept C

The borrow area for Concept C proposes athletic fields with a commercial component as well. There are three football fields, four baseball fields, and two basketball courts. The commercial buildings could provide retail / restaurants for the athletic fields or could be separate.

North of the athletic field and commercial complex are playgrounds, community center, picnic areas, and open field. This concept includes six miles of walking trails, one mile of off-road bike trails, a half acre skate park, and a two acre dog park. The vehicular circulation around the large Subtitle D MSW landfill cell is two way from the entrance of the park to the leachate pond.



Concept A Borrow Site



Concept B Borrow Site



Concept C Borrow Site

Legend

- Playground
- Skate Park
- Athletic Fields
- Elementary School
- Commercial
- Parking

Executive Summary- Draft Master Plan

The draft master plan was presented at Community Meeting #4. The plan includes separate illustrative plans for six major areas of development.

School / Community Recreation Complex

The draft master plan proposes an elementary school and athletic fields on the borrow site. Attached to the elementary school is an environmental education and community center. The school will be able to utilize the center as part of their curriculum to teach about landfills and the issues of environment, consumption, recycling and land reclamation. The center will be available to other schools as well. Restrooms and concessions are located central to the football fields and the baseball fields. Public art is proposed at various points throughout the complex adding unique identity.



Elementary School/Athletic Fields

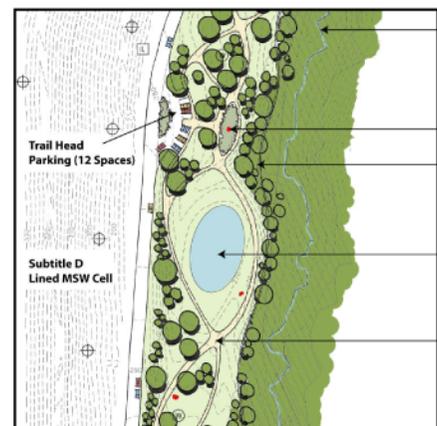
Located north of the borrow area is the community recreation complex. A fifty meter aquatic center, one acre skate park and a one acre playground are proposed. Picnic shelters are located near the playground and premier athletic field for convenience. There is a bus drop off located near the environmental education/ community center for schools that are visiting the park.



Community Recreation Complex

Braided Pathways

Pedestrian pathways are located to the east and north of the Subtitle D MSW landfill cell connecting the school area to Prospect Hill, the Meadow and dog park.



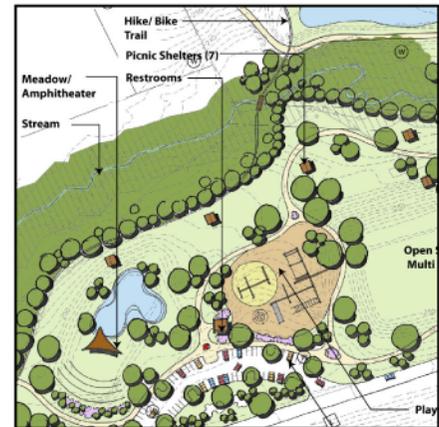
Braided Pathways

Executive Summary- Draft Master Plan

The Meadow

The meadow is located to the north of the Subtitle D MSW landfill cell. The braided pathways are to the south of this site. The meadow has various program elements including a large open space area, playground, outdoor classroom and main parking area. Picnic shelters and restrooms are proposed at convenient locations for the park visitor. Located to the east of the multi-use field is a native plants garden which also features a storm water pond.

The secured area contains the gas flare and leachate tank. The tank will take the place of the leachate pond allowing this area to become flexible open space. This area also contains maintenance operations for the park.



The Meadow

Kids and Canines Recreation Area

The former construction and debris landfill cell proposes a dog park and playground area. There are a variety of hiking and biking trails that surround the landfill cell, as well as walking trails at the base of the landfill cell and trails that wind up to the top. The four acre dog park is at the base of the park toward the north. The children's play area is located at the top of the landfill cell which also includes a viewing area. Access to the top of the hill is not regulated and is available to pedestrians and cyclists.



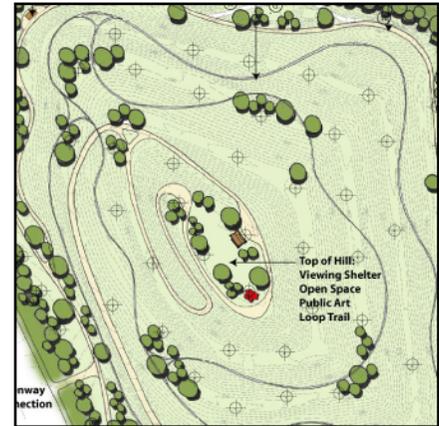
Kids and Canines Recreation Area

Executive Summary- Draft Master Plan

Prospect Hill

Prospect Hill is the unlined MSW landfill cell located to the north of the Subtitle D landfill cell. It features walking and biking trails. There is a viewing shelter at the top of the landfill cell. Located on the landfill cell are various off road bike trails that wind up and around the hill. Located at the base is a paved pedestrian trail which provides another greenway connection as well as connections to other areas of the park site. Access to the top of the hill is unregulated and is available for pedestrians and cyclists.

Existing gas recovery wells in and around the perimeter of the unlined MSW cell will be protected from public access to maintain the integrity of the gas recovery systems and for general public safety.

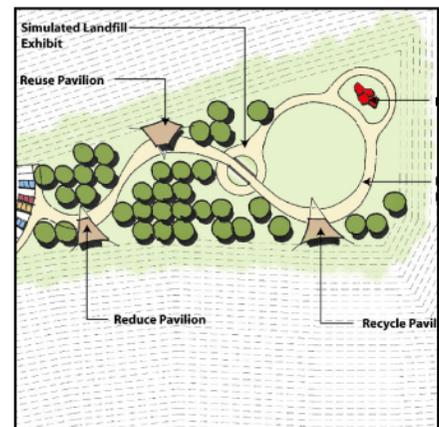


Prospect Hill

Top of the Hill Education Center

The Top of the Hill Education Center located on top of the Subtitle D MSW landfill cell provides the public with several opportunities. One is the view that visitors will get of downtown Raleigh from the top of the cell.

The main program for this area is environmental education. The site is only accessible by a programmed event. Once at the top, the visitor can experience three education pavilions: reduce, reuse, and recycle along with a simulated landfill exhibits that is technical but also addresses human impact on the environment.



Top of the Hill Education Center

Executive Summary- Final Master Plan

The final Master Plan reflects recommendations for future phased development of the property. The plan is supported by the surrounding community as well as other groups and individuals that were involved in the planning and conceptual / study process. Primary components and features of the final Master Plan include:

- Continued and expanded use by County Solid Waste and Field Services
- Elementary School
- Baseball Fields 3 (1 350'; 2 250')
- Athletic Fields including 3 football fields and 3 baseball fields
- 3 Playground facilities
- 1 acre skate park
- 4 acre dog park
- 5 miles of off road hiking and biking trails
- 8 miles of paved biking and pedestrian trails
- Educational opportunities
- Public art opportunities
- Flexible open space
- Public gardens
- Supporting infrastructure including roads, parking areas, utilities, and storm water facilities

These uses reflect community input received throughout the public planning process.

Funding for the implementation of the Master Plan will require partnerships between the County and private organizations as well as the City of Raleigh and Wake County Public School System.



Executive Summary- Final Master Plan

Legend

A. Elementary School, Athletic and Community Recreation Complex

- Elementary School
- Football Fields 4 (3-360'x180', 1 300x150)
- Baseball Fields 3 (1 350', 2 250')
- Environmental Education and Community Center
- Restrooms and Concessions Buildings
- Playground
- Skate Park
- Basketball courts (2)
- Picnic Shelters
- Parking (483 spaces)
- Public Art

B. Braided Pathways

- Paved Pedestrian/ Bike Trail
- Central Pond
- Hike and Bike Trails (unpaved)
- Public Art
- Trail Head Parking (10 spaces)

C. The Meadow

- Hike and Bike Trails (unpaved)
- Native Plants Garden
- Open Space Multi-Use
- Playground
- Paved Pedestrian/ Bike Trails
- Picnic Shelters (7)
- Restrooms
- Outdoor Classroom
- Parking (60 spaces)
- Secured Area/ Gas Flare, Leachate Tank and Maintenance Building

D. Prospect Hill

- Hike and Bike Trails (unpaved)
- Paved Pedestrian/ Bike Trails
- Top of Hill: Shelter, Open space, Public Art, Loop trail
- Wetland
- Greenway connection
- Picnic Shelter

E. Braided Pathways

- Paved Pedestrian/ Bike Trail
- Hike and Bike Trails (unpaved)
- Public Art
- Trail Head Parking (10 spaces)

F. Kid and Canines Recreation Area

- Dog Park (4 acres)
- Hike and Bike Trails (unpaved)
- Greenway Connection
- Restrooms
- Top of Hill: Viewing Shelter, Public Art, Playground
- Paved Pedestrian / Bike Trail
- Parking (91 spaces)

G. Top of the Hill Education Center

- Reduce Pavilion, Reuse Pavilion, Recycle Pavilion
- Public Art
- Pedestrian Trail
- Simulated Landfill Exhibit
- Programmed Vehicle Parking (12 spaces)

H. Field Services

- Offices
- Storage and Maintenance
- Fueling Station

I. Solid Waste Services

- Convenience Center
- Household Hazardous Waste
- Multi Material Drop-off
- Maintenance
- Communications Tower



Executive Summary- Cost Analysis

Probable construction costs associated with complete project development illustrated by the Master Plan is estimated to be approximately \$36 million. This estimate reflects current construction costs, materials, and labor.

The estimate separates the landfill site into four areas. These are as follows:

Area 1 includes the Elementary School, Athletic and Community Recreation Complex Facilities. This area is estimated to cost in the range of \$34 million. Of this, the school building is estimated at \$17-18 million.

Area 2 includes Prospect Hill and improvements to the perimeter drive around the base of the lined MSW landfill cell. It is estimated to cost approximately \$2 million.

Area 3 includes the Kids and Canines Recreation area and associated trails and parking. This area is estimated to cost approximately \$1 million.

Area 4 includes The Meadow, Braided Pathways and the Top of the Hill Education Center. The elements and facilities associated with this area are estimated to cost just over \$5 million.

Phasing

The operation of the landfill is projected to close in early 2008. Once the landfill is closed, implementation of the Post Closure Master Plan can begin in earnest.

The first phase will likely include the elementary school and athletic facilities (Area 4). This reflects the urgent need for school facilities in Wake County and anticipates strong partnerships between Wake County and private organizations interested in organized team athletics.

It is estimated that the area associated with Phase 1 construction will be accessible to construct in mid year 2009.

Phase 2 will include the Kids and Canines Recreation Area (Area 3). Beyond Phase 2 much of the program involves trails, shelters, landscape revitalization, artwork, playgrounds and associated facilities. These facilities run throughout the site and are not currently identified in a phasing plan. Future phasing will be further defined through identification of partners and work of the stakeholder group.

The final phase will likely include the Top of the Hill Education Center. This will allow as much time as possible for settling of the Subtitle D MSW lined landfill cell and monitoring over the initial years following closure.

Final Report: Introduction- Overall Landfill Facts

The North Wake Landfill, located on Durant Road in Raleigh, North Carolina, has been actively used as a landfill for 19 years. The site is 260 acres total, including the stockpile / borrow area, south-east of the permitted landfill property.

A borrow area is a piece of land that is used to collect soil for the landfill operations. This area is not in the permitted boundary of the landfill and thus it has never received waste.

The permitted boundary of the landfill is 217 acres. The permitted landfill contains two cells which contain solid waste and one with that contains construction and debris. The oldest landfill cell is located toward the north-east. It is defined as a "Closed / Unlined Municipal Solid Waste Landfill." The cell is 35.8 acres and contains 1.6 million tons of solid waste. The cell opened in 1986 and closed in 1997.

The Municipal Solid Waste Subtitle D Lined Landfill cell is the largest and is still in use until it reaches capacity. It is located in the center of the site. The cell is 69.5 acres and contains 3.5 million tons of solid waste. Once completed it will roughly contain 4.5 million tons of solid waste. This cell was opened in 1996 and is estimated to reach capacity in early 2008.

The Closed Construction and Demolition Landfill is located on the western portion of the site. This cell is 9.4 acres and contains 125,000 tons of construction debris. It opened in 2000 and reached capacity in 2003.



Landfill Site



Stockpile / Borrow Area



Unlined MSW Cell



Lined Subtitle D Cell



Construction & Demo Cell

Final Report: Introduction- Initial Site Observations

The North Wake Landfill has many attributes to its location. It is located in north Raleigh, where residential development is primarily all around the site. To the east of the site there is a private company, Mallinckrodt, a pharmaceutical company. To the north and west, there are various residential neighborhoods. To the south, separated by a major roadway, are two schools, an elementary and middle school, and other residential neighborhoods.

Through various site visits, it was evident that the major goals were to protect and connect to surrounding residential land uses and schools.



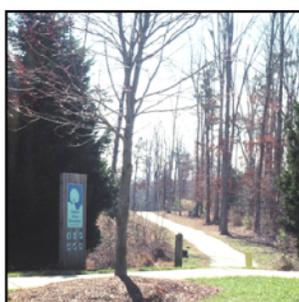
Another key observation was that there will be a need to minimize the impact of redevelopment to adjacent waterways and protect the water quality of the streams located on the site. The landfill site has two significant streams and one just north of the property.

The stockpile / borrow area is a significant portion of the landfill site. It is important to evaluate the highest and best use for development in that area.

Although the land is used as a landfill, there are many opportunities for wildlife, including deer, birds, snakes, turtles and raccoons. It is important to protect and enhance the wildlife habitat.

There are currently two County facilities that are using the site. One is Wake County's Field Services, and the second is Solid Waste. Current uses available to county residents include recycling and drop off areas. It is important to recognize these uses and evaluate the future of these facilities and other county facilities that may use this area.

Finally, it is important to capitalize on unique land forms and systems associated with the landfill.



Final Report: Introduction- Critical Redevelopment Issues

Throughout the design process, the public expressed the need for active and passive recreational opportunities, as well as providing activities for all ages. There were many comments regarding the need to protect existing vegetation and wildlife on the site, while providing natural open space in the park. The plan reflects a balance between passive and active recreation facilities and a focus on preserving the natural environment.

Other critical redevelopment issues that have been discussed are:

- 1) Maintain the integrity of the landfill and preserve the effectiveness of environmental protection and monitoring systems.
- 2) Formulate ideas and concepts with the community that resolve potential conflict and create a sense of place for the public space.
- 3) Ensure safety and accessibility of the community and user.
- 4) Develop a logical plan for phasing and implementation.

The site has many elements which will be developed with a time line that is appropriate for the closure of the landfill. It is important to recognize the cost implications of the redevelopment proposals and ideas as well as avoiding the promotion of ideas that are maintenance intensive.



Final Report: North Wake Landfill Citizen's Committee

In preparation for the redevelopment of the North Wake Landfill, the Wake County Solid Waste Division worked with residents surrounding the landfill site to develop ideas for the reuse of the site. The North Wake Landfill Citizen's Committee is a neighborhood-based group. They began meeting in March 2004. The committee consists of 25 individuals who represent neighborhoods around the landfill site. They met monthly with Wake County staff to develop ideas of what the community would like to see occur once the landfill closed.

The mission of the citizen's committee was to create an asset for the community by turning a negative into a positive. They also wanted to add to the quality of life where they live and for the broader community. It was important to the committee to leave a legacy for that area. The site should also educate and benefit all ages (children, teens, and adults.)

Through site tours and discussions with various groups, such as the state, county, school, and city officials, they began to understand what the possibilities could be on this site.

After various discussions with these groups, the committee began to form suggestions as to what may occur on the redeveloped landfill site. Some of the suggestions were to have a dog park, trails which included bike trails and greenway connections, athletic fields, wildlife, a community center / environmental education center, as well as youth recreation (skate park or "X Games".)

Other elements that were considered were schools. The committee recognized a need for either a elementary or middle school. Committee members recommended that the school could share athletic facilities with other sport groups and other schools nearby. Commercial uses were also a consideration, as well as an indoor pool and tennis courts.

Through the committees research, the master plan process began to evolve into a public process which identified areas where certain uses are appropriate and can be integrated with existing facilities and land uses.

The committees work resulted in a documented report entitled North Wake Landfill Committee Post Closure Use Report dated May 2005.

Final Report: Planning Process and Project Schedule

Site Analysis and Research:

First Public Meeting: August 2, 2005

Inventory and evaluation of the natural, physical, and regulatory forces and influences that shape the master plan.



Project Goals and Objectives:

Second Public Meeting: August 23, 2005

Educate public through other landfill projects. Discuss the programming and involve the community in the idea process. Develop clear and concise goals for the redevelopment of the landfill.



Programming and Design Alternatives:

Third Public Meeting: September 27, 2005

Identify specific elements for the redevelopment and prioritize these elements for the master plan.



Draft Master Plan:

Fourth Public Meeting: October 25, 2005

Draft Master Plan presented to the public and receive comments from the community.



Final Master Plan:

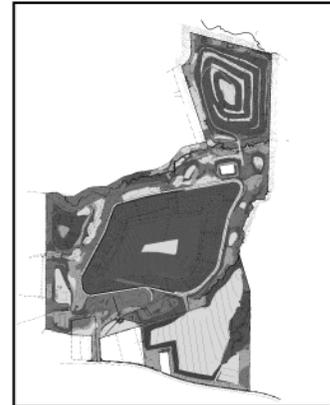
Fifth Public Meeting: December 6, 2005

Master Plan presented to the community as well as a discussion of phasing and cost estimates.



Master Plan Summary Report: February 1, 2006

The Final Master Plan illustrates the consensus reached on the redevelopment of the Master Plan documents and the planning and design process.



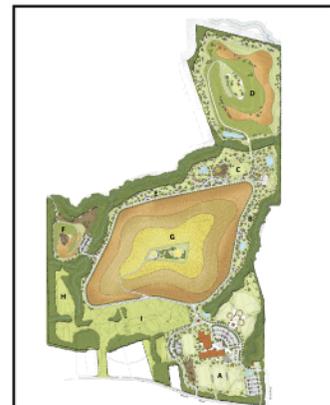
Site Analysis



Precedents



Concepts

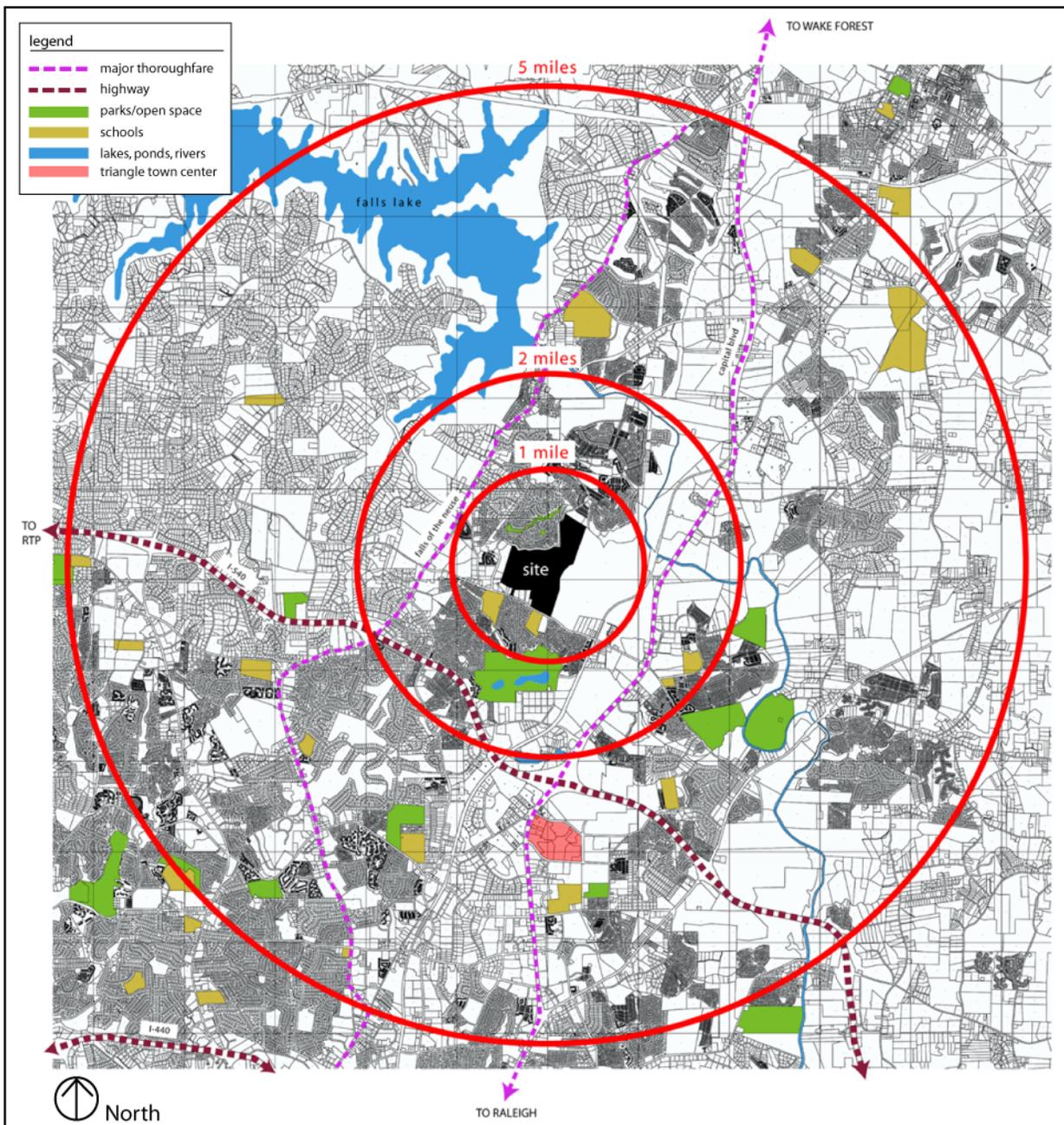


Master Plan

Final Report: Site Analysis

Regional Land Use Map

The North Wake Landfill is located in north Raleigh along Durant Road between Falls of Neuse Road and Capital Boulevard. It is surrounded by primarily residential neighborhoods. Falls Lake is located 2 miles north of the landfill. There are various parks and schools surrounding the site. There are approximately 7,900 people within one mile of the landfill, 21,600 people living within two miles, and 118,000 people who live within 5 miles of the landfill site. The population surrounding the landfill expresses the need for more open space.



Final Report: Site Analysis

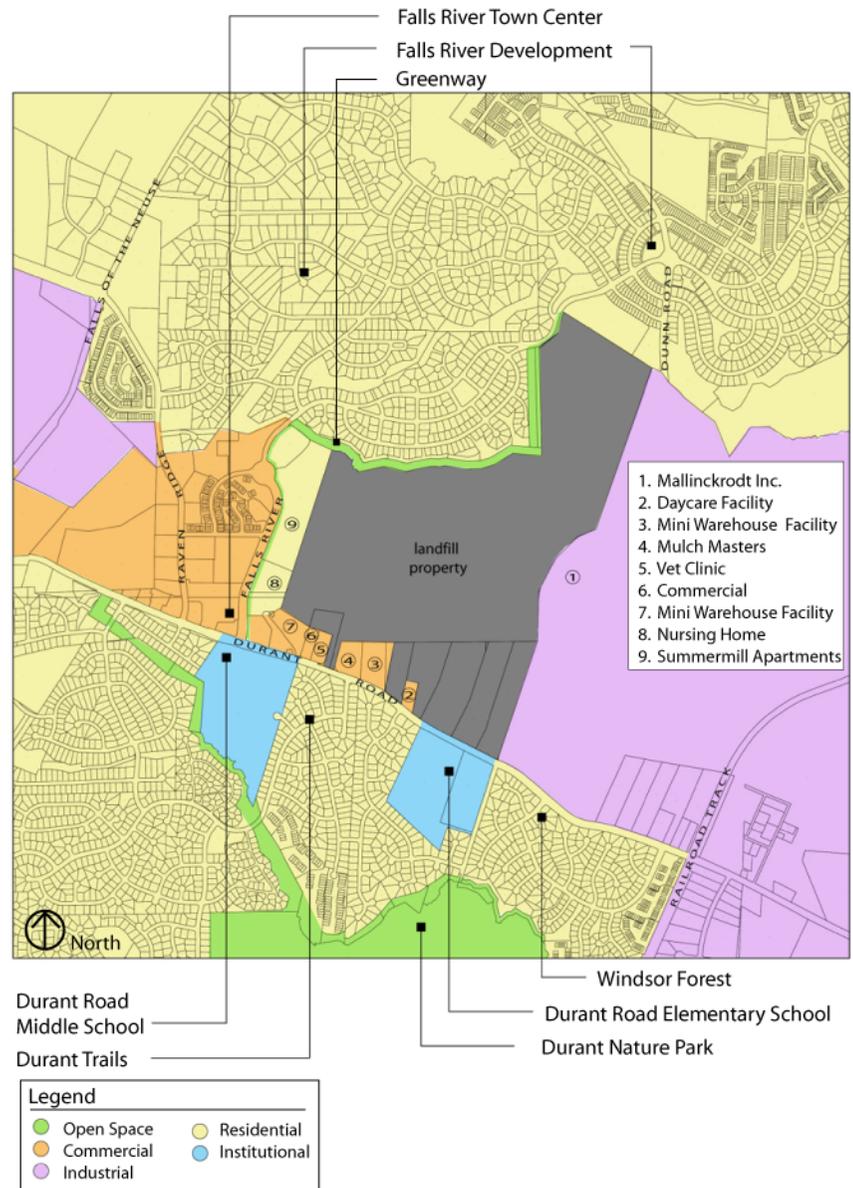
Surrounding Land Use Map

Adjacent to the North Wake Landfill are a variety of land uses. The primary uses are residential and commercial. The Falls River Subdivision is located to the north and west of the site. Commercial uses such as restaurants and a grocery store are found to the west of the landfill site as well.

Mallinckrodt, a pharmaceutical company, shares the eastern border with the landfill. Durant Road, a major thoroughfare, borders the southern portion of the site. Across from Durant Road there are two schools, Durant Road Elementary School, which is directly across from the landfill, while Durant Road Middle School is down the road toward the west. There are many residential neighborhoods that are across from the landfill such as Durant Trails subdivision, and Windsor Forest.

A greenway is located along the north-west portion of the site and connects across Durant Road to Durant Nature Park. Future greenway connections are proposed along the northern edge of the landfill and connect to the Neuse River toward the east.

Each of these areas serve as an important connection to the elements proposed on the landfill site.



Final Report: Site Analysis

Regulatory Constraints and Post-Closure Monitoring

Once the North Wake Landfill stops accepting waste, it will still be regulated by the North Carolina Department of Environment and Natural Resources (NCDENR) as a solid waste management facility subject to various rules and regulations pertaining to post-closure. Routine monitoring and maintenance of the facility will be required for a minimum of 30 years to ensure the capping, containment, and collection systems continue to function effectively to prevent releases to the environment. Section .1627(d) of the North Carolina Solid Waste Regulations describes the maintenance and environmental monitoring activities required during the 30-year post-closure care period. These activities consist of the following:

- Maintaining the integrity of the cap system
- Maintaining and operating the leachate collection system
- Monitoring of groundwater and surface water
- Maintaining and monitoring the gas monitoring system

Cap systems are associated with the C&D, Subtitle D, and Unlined Landfills present at the site. A leachate collection system is associated with the Subtitle D Landfill only. Groundwater wells and surface water points are located throughout the site to monitor potential contaminant migration from all three landfills. Gas extraction and monitoring systems are associated with both the Subtitle D and Unlined Landfills. In addition, a perimeter gas migration control system has been installed in the Unlined Landfill buffer area for post-closure compliance. Each of these systems will require long-term routine maintenance, regardless of how the site is eventually used. The Solid Waste Section (SWS), through NCDENR has no regulatory jurisdiction over the borrow area since it is not included in the permitted landfill boundary.

Section .1629(c)(3) of the Solid Waste Regulations states that, "Post-closure use of the property shall not disturb the integrity of the cap system, base liner system or any other components of the containment system or the function of the monitoring systems unless necessary to comply with the requirements of this Section." The Section goes on to state that, "The Division may approve any other disturbance if the owner or operator demonstrates that disturbance of the cap system, base liner system or other component of the containment system, including any removal of waste, will not increase the potential threat to human health or the environment." The Regulations do not specifically prohibit any specific site reuse features; rather they rely on the wording above to dictate a performance standard that is measured by its ability to prevent an increased threat to human health and the environment.

General landfill maintenance/post-closure care typically includes routine activities such as mowing, maintaining roadways and sediment & erosion control, which may include repair of washouts in slope areas and removing sediment from perimeter basin locations. In addition, on a semi-annual basis, groundwater samples are collected from each of the perimeter groundwater monitoring wells for analytical testing to monitor for potential migration of contaminants from the landfills. The semi-annual sampling follows a monitoring plan approved by the Solid Waste Section (SWS). Additional wells may be added to the plan at the direction of the Solid Waste Section depending on the results of the analytical testing. A similar plan exists for monitoring of landfill gas (LFG) migration at the landfill property boundary for both the Subtitle D and Unlined Landfills. Monitoring is performed on a quarterly basis at perimeter gas well locations installed around the perimeter of each landfill. The Solid Waste Section can also require the installation of additional gas wells to monitor LFG migration.

Final Report: Site Analysis

Regulatory Constraints and Post-Closure Monitoring

A perimeter gas migration control system has been installed around portions of the Unlined Landfill to capture LFG before migrating beyond the property boundary. This has resulted in the installation of 75 four inch diameter vacuum gas extraction wells in the buffer area of the Unlined Landfill. The gas extraction wells are connected to the existing vacuum gas recovery system inside the waste limits. The perimeter gas migration control system will continue to be monitored and vacuum adjustments made during the 30-year post-closure period. In addition to the quarterly gas monitoring wells and the perimeter gas migration control system, an independent LFG contractor (Biomass Energy) will continue to recover methane gas for commercial use from both the Subtitle D and Unlined Landfills for the foreseeable future. This will require continued access to all gas systems for vacuum adjustment, as well as maintenance and the continued installation of gas recovery wells and collection headers in the Subtitle D Landfill. Maintenance will also include the existing flare station and conveyance header to the neighboring pharmaceutical company (Mallinckrodt) currently using the methane gas.

Although Section .1629(c)(3) does not specifically restrict post-closure reuse, the Solid Waste Section has indicated that the site reuse cannot impact the ability 1) to monitor the site, 2) to take whatever corrective action may be needed, and 3) to assess the corrective measures taken. For example, if landfill-related contaminants in groundwater were detected in the 200-foot buffer area around the Subtitle D Landfill, the Solid Waste Section has the authority to take corrective action (e.g. direct the installation of additional monitoring wells and/or implement a remediation plan). These activities may be destructive to a particular reuse feature that was installed in the buffer. The Solid Waste Section has noted that many non-intrusive features such as trails and playgrounds are acceptable within the buffer; however, more permanent structures such as buildings would be prohibited. Additionally, reuse in buffer areas would not be allowed if they have the potential to contaminate soil or groundwater.

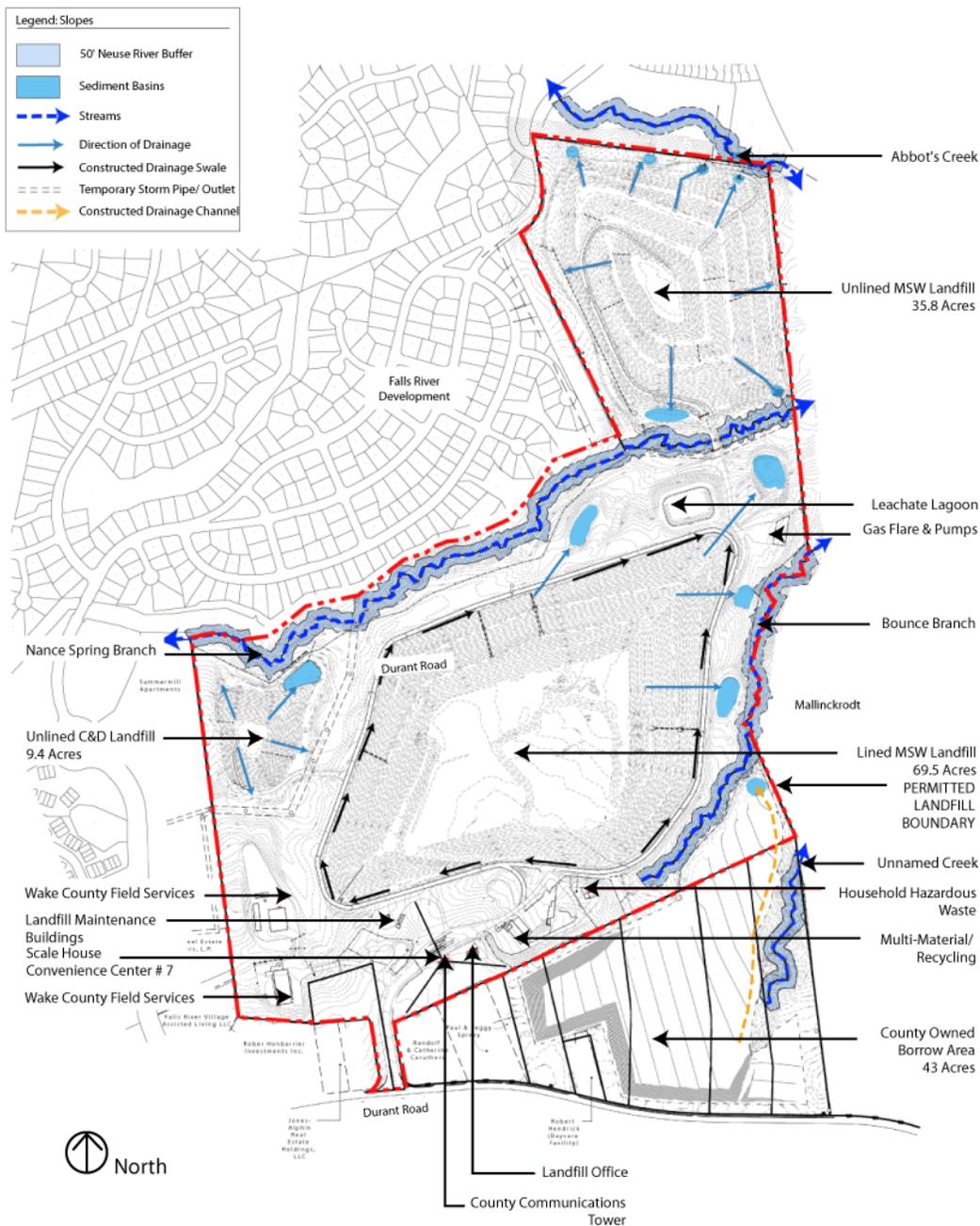
The Solid Waste Regulations also require the preparation of a Post- Closure Plan, which is to include "a description of the planned uses of the property during the post-closure period." The reuse scheme presented in this Master Plan will become part of the Post-Closure Plan that is subject to review and approval by the NCDENR Solid Waste Section.

* Refer to Existing Facilities Map on page 24 for the locations of monitoring systems located throughout the landfill.

Final Report: Site Analysis

Hydrology and Drainage

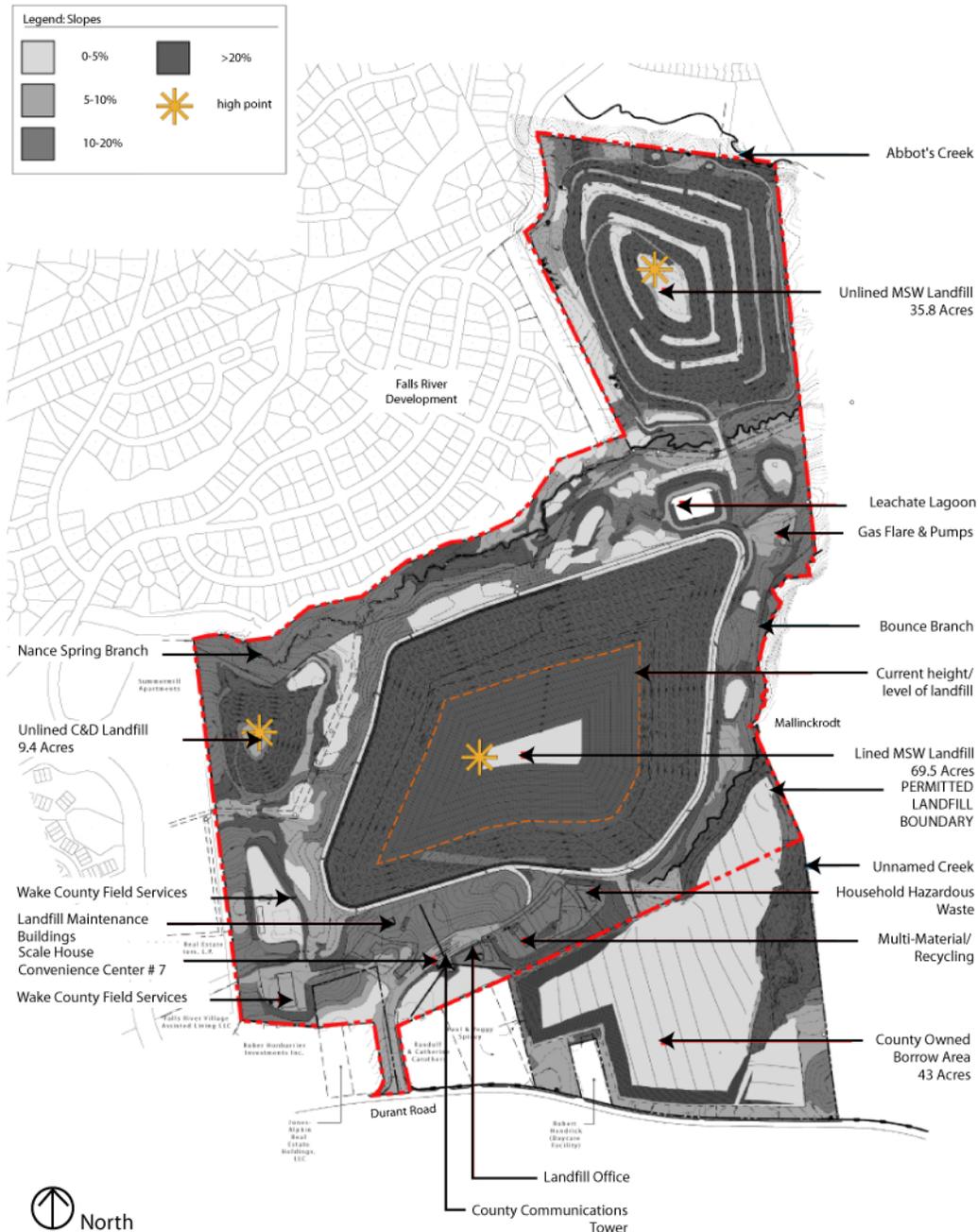
There are three streams that traverse through the landfill, Bounce Branch, Nance Spring Branch, and an unnamed creek. A fourth creek is located to the north of the landfill, Abbot's Creek. Each of the streams connect to the Neuse River east of the landfill site. Located inside the landfill are various existing sediment basins used for current landfill operations. At the base of the Lined MSW Subtitle D landfill cell is a large concrete and rip rap drainage swale. The drainage is distributed to various sediment basins.



Final Report: Site Analysis

Slopes

There are a variety of slopes on the landfill site. The borrow area exhibits the least amount of topographic change. The site is fairly level and can be manipulated the easiest because there is no municipal waste associated with it. The second most desirable areas to develop are those that surround the landfill cells. The landfill cells have the steepest slopes with benched areas and require careful consideration during the design process.



Final Report: Site Analysis

Existing Vegetation and Habitats

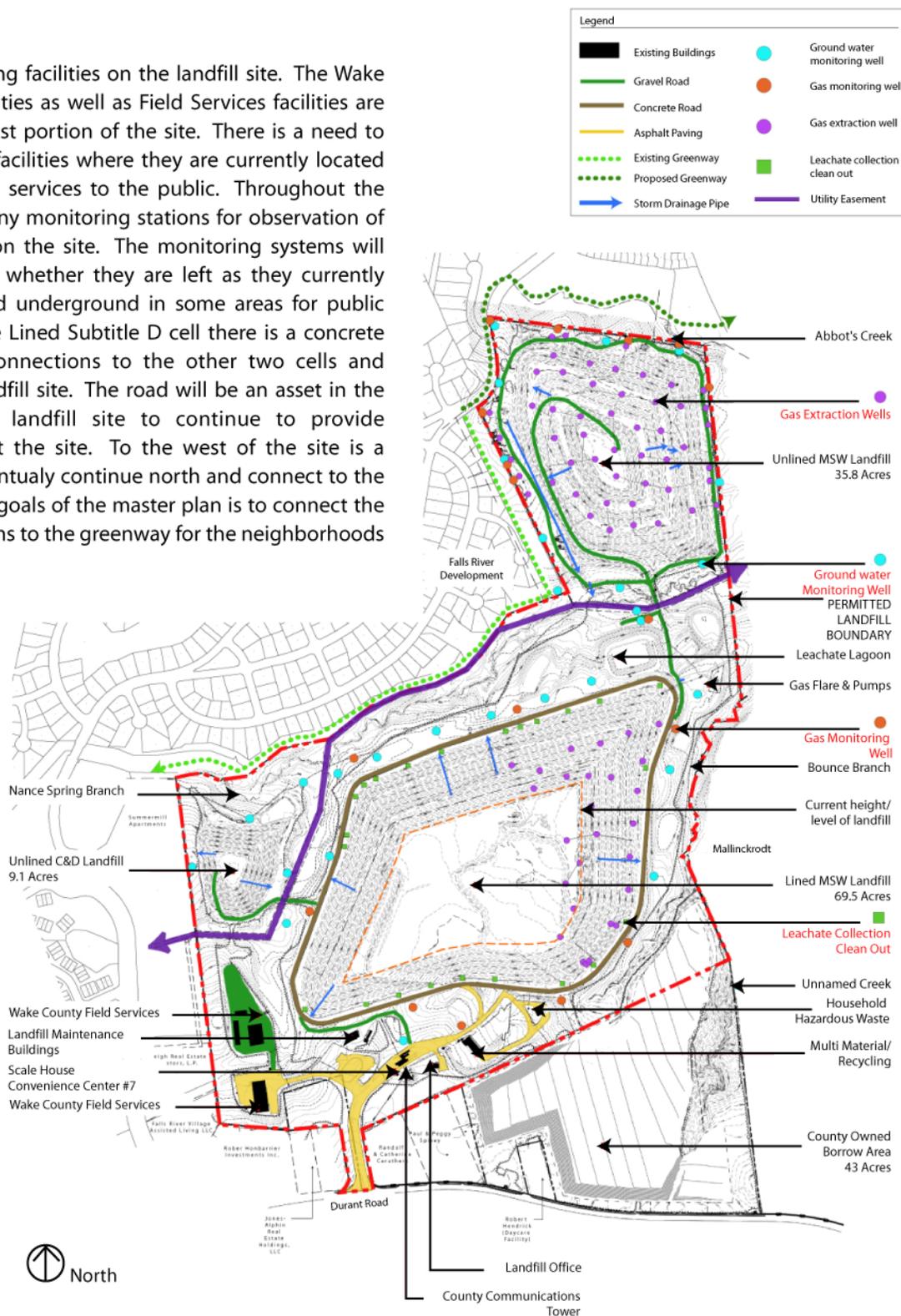
The existing vegetation found on the landfill site is minimal and borders the streams and along the edges of the landfill site. There are a few animals found on the site such as deer, turtles, raccoons, and snakes. There are no wetlands evident on the site. The cells are grassed and maintained / mowed several times a year. The borrow area is void of vegetation except along its perimeter.



Final Report: Site Analysis

Existing Facilities

There are various existing facilities on the landfill site. The Wake County Solid Waste facilities as well as Field Services facilities are located on the south-west portion of the site. There is a need to preserve those existing facilities where they are currently located for continuation of their services to the public. Throughout the landfill site there are many monitoring stations for observation of gas and ground water on the site. The monitoring systems will need to remain on site, whether they are left as they currently stand or must be buried underground in some areas for public safety. Around the large Lined Subtitle D cell there is a concrete road which provides connections to the other two cells and maintenance for the landfill site. The road will be an asset in the redevelopment of the landfill site to continue to provide connections throughout the site. To the west of the site is a greenway which will eventually continue north and connect to the Neuse River. One of the goals of the master plan is to connect the trails and pathway systems to the greenway for the neighborhoods and community.



Final Report: Site Analysis

Community Meeting #1

The first community meeting was held on August 2, 2005 at the Durant Road Elementary School Auditorium. The design team presented the site analysis for the North Wake Landfill site to the community. The public was introduced to the natural, physical, and regulatory components to the site that shapes the master plan. There were approximately 250 citizens in attendance at the meeting.

The meeting discussed the goals and objectives for the master plan process and allowed for public discussion about the process. After the site analysis presentation, the community had an opportunity to ask questions and to make comments about the process and the landfill site. Some comments that were addressed included whether trees could be planted on the landfill cells. Trees can be planted on the landfill cells with a minimum of 4 foot soil added to the landfill cap. This prevents the root system from disturbing the cap.

Another comment which was addressed was an explanation of the difference between a lined and an unlined landfill. Unlined landfills were used prior to 1998. Landfill sites currently use a lined method which provided an impermeable liner to protect against leachate infiltration into local waterways and drinking water.

There was a concern about the risks associated with the post closure of the landfill and the odor of the landfill. Monitoring, maintenance, and collection of leachate and associated landfill gasses will continue over the next 30 years. The odor will no longer exist once the landfill has closed. The current odor is associated with the daily operations of the landfill.

The community asked about the timeframe of the landfill closure. The formal closing of the landfill will be in early 2008. Operations and facilities located on the site will remain open after the landfill is closed. These facilities include the solid waste convenience center, multi-materials drop off, and the household hazardous waste. The facilities will continue to serve the public, but will be redesigned for a more convenient drop off method. There will be phasing associated with the redevelopment of the landfill and there will need to be various partnerships to implement the master plan. Currently there is no funding for this project.

The goal of the master planning process is for the citizens to determine the outcome for the redevelopment of the landfill site. The meeting minutes can be found in Appendix 1 page 74.



Final Report: Precedents

Before the North Wake Landfill Post Closure Master Plan process began, members of the project team had an opportunity to visit some examples of landfills which had been redeveloped into recreational amenities for the public. Participants included representatives of Wake County, City of Raleigh Parks and Recreation, NCDENR, as well as the project designers with OBS Landscape Architects and CDM. The team took a trip to Boston, Massachusetts in late June of 2005. They were introduced to various reclaimed landfill sites which had been developed by CDM. Designers from the Cambridge office of CDM met the Core Team at five different landfill locations, Danehy Park in Cambridge, Millennium Park in West Roxbury, Pope John Paul II Park in Dorchester, and Roussel and Lincoln Park in Nashua New Hampshire. Each reclaimed landfill offered the team an education in what could potentially happen on the North Wake site.

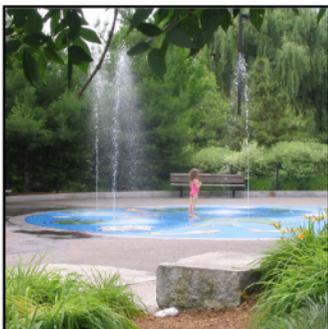
Thomas Danehy Park, Cambridge, Massachusetts

Thomas Danehy Park, Cambridge's largest recreational area, has a unique history. The land was originally used during the Civil War as a brick yard, which contained drying kilns and clay pits. In 1952, the city of Cambridge bought the land and used the pits for refuse dumping until they were filled in 1971. The final transformation was the redevelopment of this landfill into a recreational amenity for the citizens of Cambridge. The park was completed in 1990 and serves as a model for other similar landfills.

The park is 50 acres, and offers a year-round multi-purpose recreational facility. There are variety of active and passive recreational facilities. The first element of the park which is very popular is the soccer field. It is made from artificial turf with a track surrounding it, and lights for evening games. Other program elements associated with the park are walking and jogging trails, picnic areas, sledding hills, baseball fields, tot-lots, a water play area, and nature study areas.



Soccer Fields



Water Play Area



Sensory Trails

There are over two acres of wetlands associated with this park which help enhance the environmental and recreation experience on the site. The wetlands provide storm water control for the park as well as habitats and outdoor educational opportunities.

Public art can be seen throughout the park. Examples of art found at the park are, recycled glass used for pavement, recycled rubber to form benches in a small outdoor classroom, and a trail which incorporates a variety of plants which create a sensory experience for the visitor. Much of the art throughout the park represents a concept to educate the community about the reuse of materials that the public tends to disregard every day.

Through the process of redeveloping the landfill, the community was involved and educated about the site and its opportunities. Residents, neighborhood associations, environmental groups, and schools around the area met for five years to decide what would be appropriate and safe for this site. Through education, the public and design team developed an area which enhances the neighborhoods that surround it, as well as provides a recreational area for all to enjoy.

Final Report: Precedents

Pope John Paul II Park, Dorchester, Massachusetts

Pope John Paul II Park, located along the Neponset River in Dorchester, Massachusetts, was completed in 2000. The park is 65 acres, separated by a stream that connects to the river.

The former landfill required some site remediation and restoration techniques to prepare the site for public use. Many grasses and plantings were used along the bank of the river to assist with erosion and remediation from the landfill.

The park consists of walking trails, playgrounds, and multi-use fields on one side of the park, while the other side is more passive recreation. There are walking trails, open fields, and picnic shelters. The picnic shelters serve as a gas extraction device. The gas comes up through the pillars of the shelter and out through the cupola at the top of the shelter. Trees are planted on the landfill cells, but require four feet of soil mounded above the cell to prevent tree roots penetrating the landfill cap.

Another key feature of the park is the art associated with it. The underpass, which connects the park to the neighborhoods across the road by way of a greenway, depicts a mural.

Pope John Paul II Park provides its residents with a safe and enjoyable space that the community needed.



Bridge connecting two landfill cells



Public art along overpass

Millennium Park, West Roxbury, Massachusetts

Millennium Park is situated along the banks of the Charles River in West Roxbury Massachusetts. It served the public as a landfill until 1985 when the city decided to revitalize the property for the community and to enhance the habitats on the site for wildlife and vegetation. The landfill looks over a historic preserve that also provides various wildlife habitats.

The park is 100 acres and has more than 25 acres of multi-use sports fields, walking trails, bike paths, nature trails, an outdoor classroom, children's play areas, and picnic areas. The park is unique to that area because it provides a handicap canoe/kayak launch along the Charles River. The slopes of the landfill cell have been restored with native grasses and plantings to provide various habitats for nature education.

The park opened in 2001 and offers various active, passive, and educational opportunities for the community.



Shelter



Walking trails

Final Report: Precedents

Roussel and Lincoln Park, Nashua, New Hampshire

Roussel and Lincoln Parks are smaller plots of land that were once used for dumping garbage. They were filled in some years ago and have since become an asset for the communities that surround them.

Both parks provide active and passive recreation through athletic fields, walking trails, and children's play areas. Each park serves as a place for the Youth League teams to play which creates a great sense of community for the area.

The parks monitor their landfill gas from an extensive monitoring system below the ground. This provides the public with a safe and more natural park.



Baseball Fields

Final Report: Precedents

Byxbee Park, Palo Alto, California

Byxbee Park is a 150 acre reclaimed landfill site in California. It provides the community with public art, habitat restoration and reclamation techniques, bike and jogging trails, and educational elements.

Outdoor sculpture gardens such as pole fields and hillocks represent the history of the area. The pole fields are reminiscent of the ruined pier pilings in the Bay. The hillocks represent shell mounds from the Indians who inhabited the region.

This park serves as an educational tool through reclaiming the landfill and exploring the history of the site.



Image © Hargraves and Associates

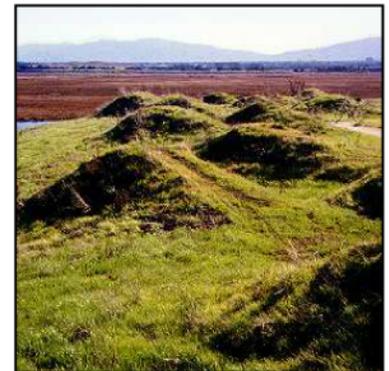


Image © Hargraves and Associates

Freshkills Landfill, Staten Island, New York

Freshkills landfill is a 2,200 acre site located on Staten Island. For years, garbage came by trucks and barge from New York and New Jersey. The master plan for the reclaimed landfill is currently under design.

The plan will feature park elements such as hiking and biking trails, athletic fields, sledding hills, habitat restoration and reclamation, astronomy areas, open air markets, as well as a 9/11 memorial garden.

The park will serve a large community and provide open space where it is desperately needed.



Image © Field Operations

Final Report: Precedents

Nanji Island Park, Seoul, Korea

Nanji Island Park is an 854 acre reclaimed landfill which focuses on environmental processes. The grass fields absorb pollutants, while the windmills generate electricity for the park.

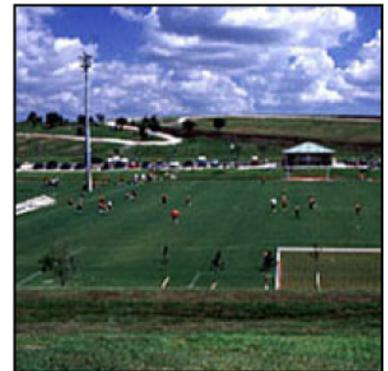
Other elements found throughout the park are walking trails, playgrounds, picnic shelter, and open air performance area.



Windmills (photo not from actual site)

Dyer Boulevard Park, West Palm Beach, Florida

Dyer Boulevard Park is a 540 acre park that provides primarily athletic fields, such as soccer, baseball, and volleyball. The park offers visitors 3 miles of biking trails, picnic shelters, and playgrounds.



Soccer Fields

Mount Trashmore, Virginia Beach, Virginia

Mount Trashmore is a 50 acre reclaimed landfill which provides the community with a variety of amenities such as kite flying areas at the top of the mound, playgrounds, picnic areas, an outdoor movie area, jogging trails and a skate park.



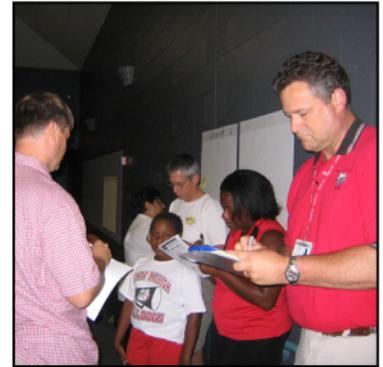
Trail to the top of the landfill cell

Final Report: Precedents

Community Meeting #2

The second community meeting was held on August 23, 2005 at the Durant Road Elementary School Auditorium. The design team presented precedents of other landfill projects that had been redeveloped into parks. There were approximately 300 people who attending the meeting.

The North Wake Landfill Citizen's Committee presented the research that their group had worked on prior to the master plan process. They discussed the mission of the committee and the opportunities that can occur on the North Wake landfill site. Some of the program elements that were discussed were walking and biking trails, dog park, athletic fields, environmental education center, and a skate park.



There were some other organizations that had a chance to speak about their concerns for the redevelopment of the landfill site. Some of the groups that spoke were the North Raleigh Athletic Association, North Wake County Baseball Association, TORC (Triangle Off Road Cyclists), the Falls River Homeowners, and PUP (People for Unleashed Dog Parks). The groups were able to talk about who they represented and what a park could offer to these groups.

After the presentations, the public was asked to divide into groups and discuss what they would like to see occur on the landfill site. Each group presented their comments to the audience. The comments were tallied according to the amount of a program element the public wanted. The results of from the meeting can be viewed in Appendix 1, page 54.

Some questions that occurred during the meeting were about budget, phasing, master plan schedule, and closing dates of the landfill. The meeting minutes can be found in appendix 1 page 83.

Final Report: Conceptual Designs

Program Elements

Overall the three design concepts for the North Wake Landfill are similar. Each concept includes primary program elements that were discussed by the public. These were walking / hiking trails, playgrounds, wildlife planting, athletic fields, dog park, skate park, and open space. From concept to concept these elements are located in different places.

The major difference between each of the three concepts are represented in the borrow area. In the first concept the borrow area is utilized for an elementary school and athletic complex. The second concept is exclusively an athletic complex. The third concept includes some commercial development. There are also differences in traffic circulation from concept to concept.

During the third public meeting, the community chose the concept which had the elementary school and athletic complex. Other program element placements were chosen from other concepts which can be viewed on page 35, 37, and 39.

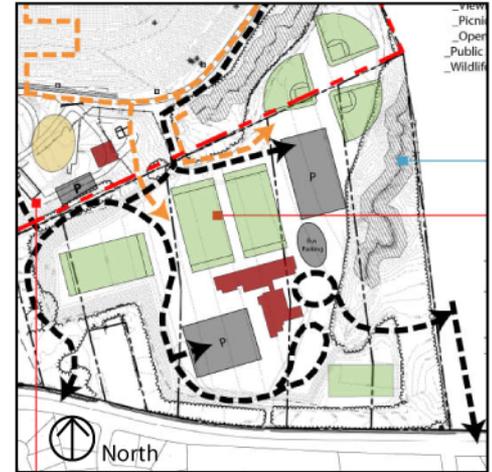
Final Report: Conceptual Designs

Concept A

The concept designs presented to the public are different in one distinct area, the borrow site. The other program elements are similar in some way in every concept. The major differences are the locations of the program elements. Each of the concepts also reconfigures a new entry road different from the existing Deponie Drive, which will help with circulation, as well as proposing a segment of the future Dunn Road east of the site.

The first concept combined an elementary school with the athletic fields for football and baseball. The landfill site also provided elements that were discussed at the second public meeting. Those elements are a community / education center, skate park, playgrounds, restrooms, walking and biking trails, public art, dog park, and natural open spaces.

The borrow area for Concept A contains the elementary school with a separate bus drop off and parent drop off area, three football fields, one multi-purpose field, three baseball fields, and a variety of parking for these facilities. North of the school and athletic fields are the community/education center and one of two playgrounds. To the east of the large cell is the skate park, while the 3 acre dog park is situated on the construction and debris cell. There are 2.5 miles of walking and biking trails associated with this plan. The vehicular circulation around the large cell becomes a two way road towards the dog park and the Leachate Pond area.

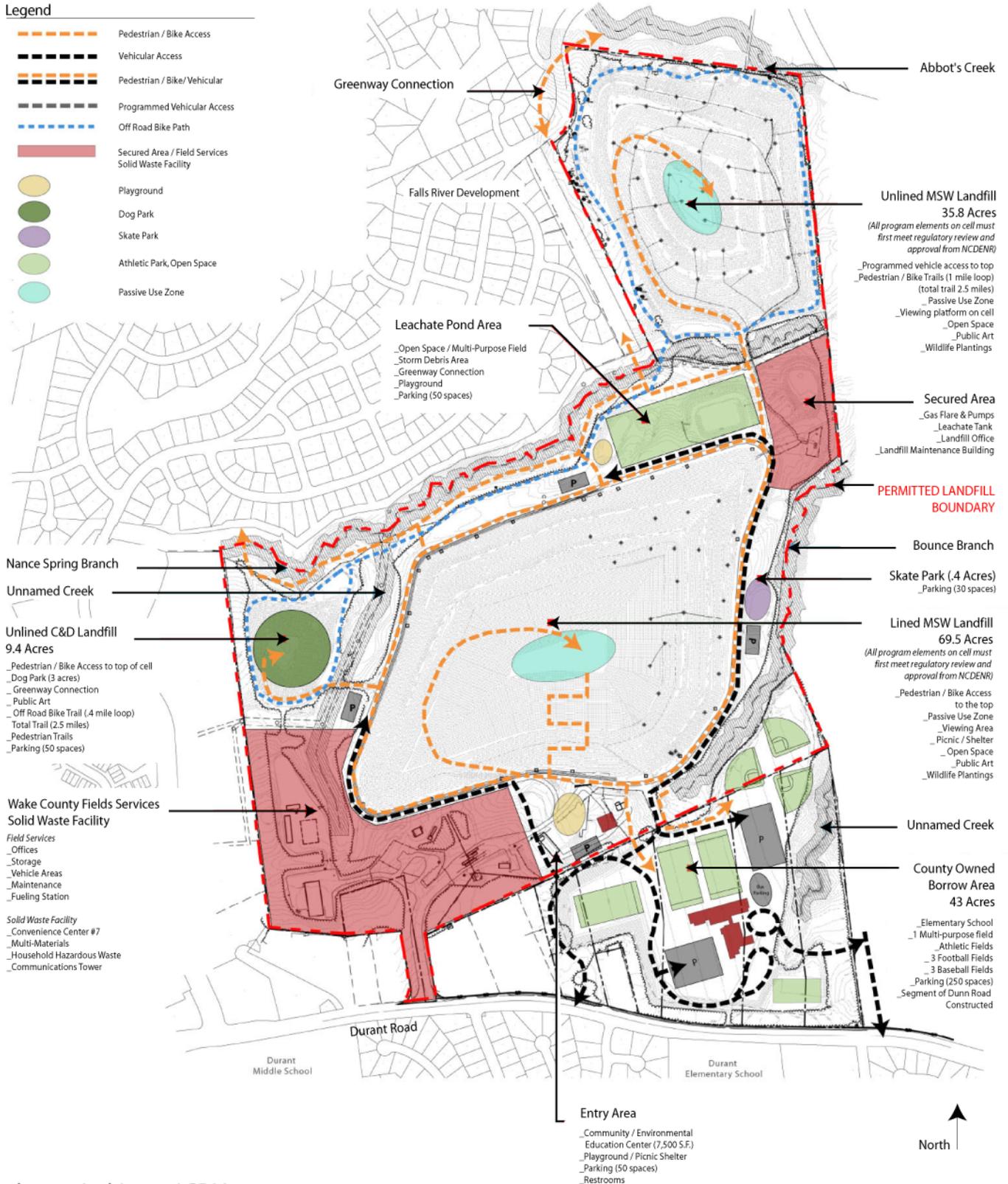


Borrow Area Enlargement A

Final Report: Conceptual Designs: Concept A

Legend

- Pedestrian / Bike Access
- Vehicular Access
- Pedestrian / Bike/ Vehicular
- Programmed Vehicular Access
- Off Road Bike Path
- Secured Area / Field Services Solid Waste Facility
- Playground
- Dog Park
- Skate Park
- Athletic Park, Open Space
- Passive Use Zone



- Nance Spring Branch
- Unnamed Creek
- Unlined C&D Landfill
9.4 Acres
 - _ Pedestrian / Bike Access to top of cell
 - _ Dog Park (3 acres)
 - _ Greenway Connection
 - _ Public Art
 - _ Off Road Bike Trail (.4 mile loop)
 - _ Total Trail (2.5 miles)
 - _ Pedestrian Trails
 - _ Parking (50 spaces)
- Wake County Fields Services
Solid Waste Facility
 - Field Services
 - _ Offices
 - _ Storage
 - _ Vehicle Areas
 - _ Maintenance
 - _ Fueling Station
 - Solid Waste Facility
 - _ Convenience Center #7
 - _ Multi-Materials
 - _ Household Hazardous Waste
 - _ Communications Tower

- Abbot's Creek
- Unlined MSW Landfill
35.8 Acres
(All program elements on cell must first meet regulatory review and approval from NCDENR)
 - _ Programmed vehicle access to top
 - _ Pedestrian / Bike Trails (1 mile loop) (total trail 2.5 miles)
 - _ Passive Use Zone
 - _ Viewing platform on cell
 - _ Open Space
 - _ Public Art
 - _ Wildlife Plantings
- Secured Area
 - _ Gas Flare & Pumps
 - _ Leachate Tank
 - _ Landfill Office
 - _ Landfill Maintenance Building
- PERMITTED LANDFILL BOUNDARY
- Bounce Branch
- Skate Park (.4 Acres)
_ Parking (30 spaces)
- Lined MSW Landfill
69.5 Acres
(All program elements on cell must first meet regulatory review and approval from NCDENR)
 - _ Pedestrian / Bike Access to the top
 - _ Passive Use Zone
 - _ Viewing Area
 - _ Picnic / Shelter
 - _ Open Space
 - _ Public Art
 - _ Wildlife Plantings
- Unnamed Creek
- County Owned Borrow Area
43 Acres
 - _ Elementary School
 - _ 1 Multi-purpose field
 - _ Athletic Fields
 - _ 3 Football Fields
 - _ 3 Baseball Fields
 - _ Parking (250 spaces)
 - _ Segment of Dunn Road Constructed

- Entry Area
 - _ Community / Environmental Education Center (7,500 S.F.)
 - _ Playground / Picnic Shelter
 - _ Parking (50 spaces)
 - _ Restrooms



Final Report: Conceptual Designs

Concept B

In Concept B the borrow area becomes the site for an athletic complex. There are four football fields, four baseball fields, concession stand, restrooms, and an abundant amount of parking for the fields. There are also basketball courts and tennis courts with a playground nearby. Adjacent to the borrow area is the community and aquatic center as well as a skate park. Towards the east of the site is an environmental education center as well as open fields and trails. Continuing toward the north of the site at the old Leachate Pond area there is a 2 acre dog park and a multi-purpose field. The closed unlined cell toward the north contains trails and a viewing area at the top of the cell. The construction and debris cell would be used for a natural children's play area, with trails at the base of the cell.

The top of the large landfill cell is another viewing area with some public art. Once the cell reaches the final grade, the public will be able to view downtown Raleigh.

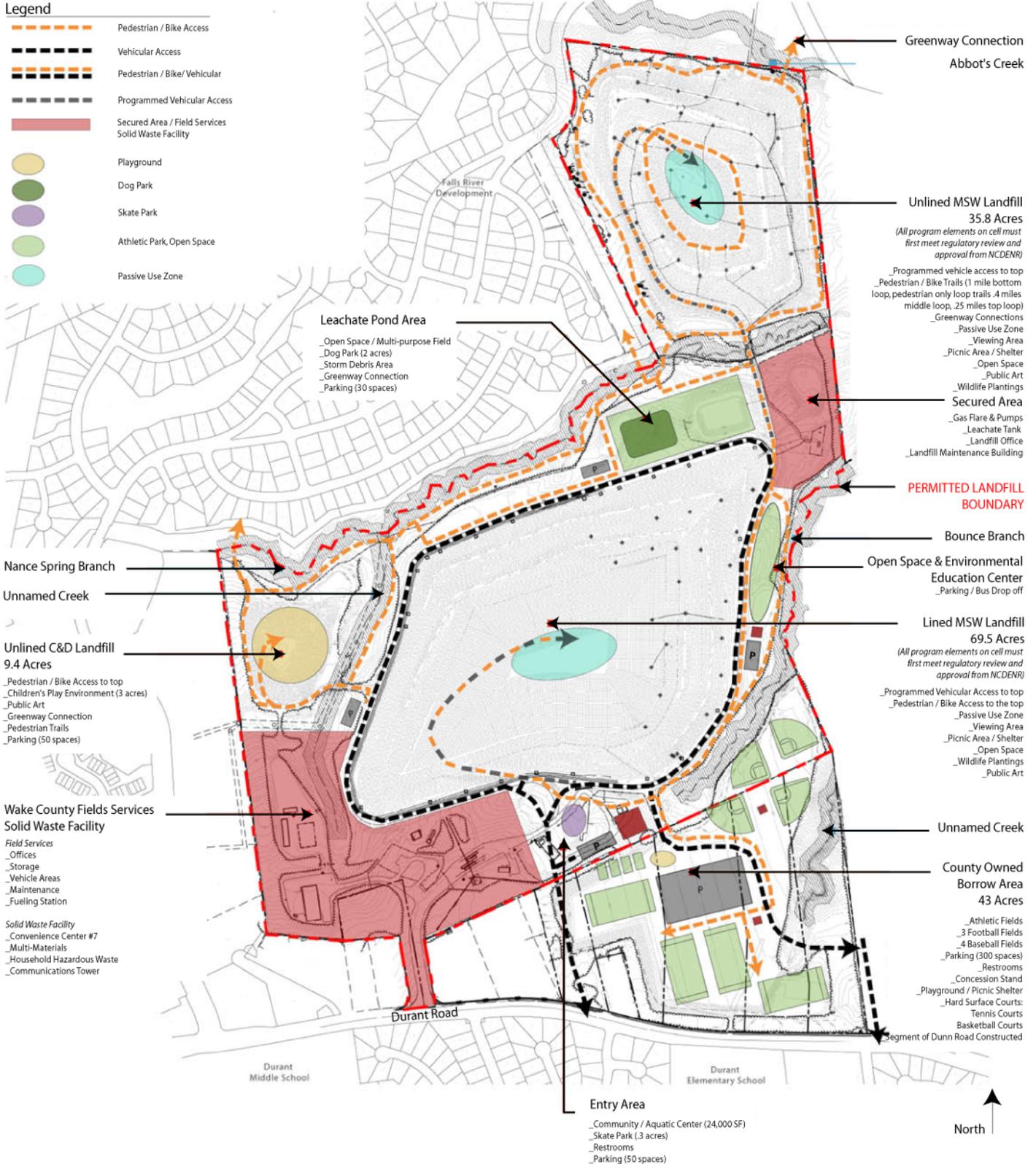
The red areas on the plan are the restricted areas with no public access. Toward the south west corner, the solid waste and field services area remain the same for their operations. The gas flare area is also a restricted area. This is located toward the north east of the site near the Leachate Pond.

This concept contains a full one way vehicular circulation route around the large cell, along with a .3 acre skate park, and combined bike and pedestrian trails.



Borrow Area Enlargement B

Final Report: Conceptual Designs: Concept B



Final Report: Conceptual Designs

Concept C

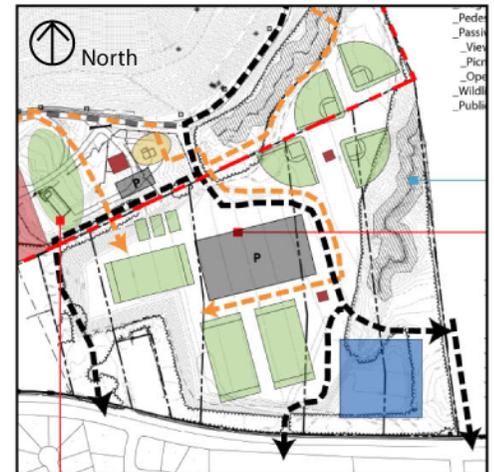
Development of the borrow area in Concept C includes athletic fields with a commercial development component. There are three football fields, four baseball fields, and basketball courts. The commercial buildings could provide retail / restaurants for the athletic fields or could be separate.

North of the athletic field and commercial complex are playgrounds, a community center, picnic areas, and an open field. In this concept the dog park is located to the east of the large cell along with the skate park. The construction and debris cell has a viewing area at the top, with walking and biking trails at the base.

The top of the unlined landfill cell has a viewing area which is accessible by pedestrian, bike, or vehicle. This concept also allows the pedestrian to walk along the benches of the unlined landfill cell.

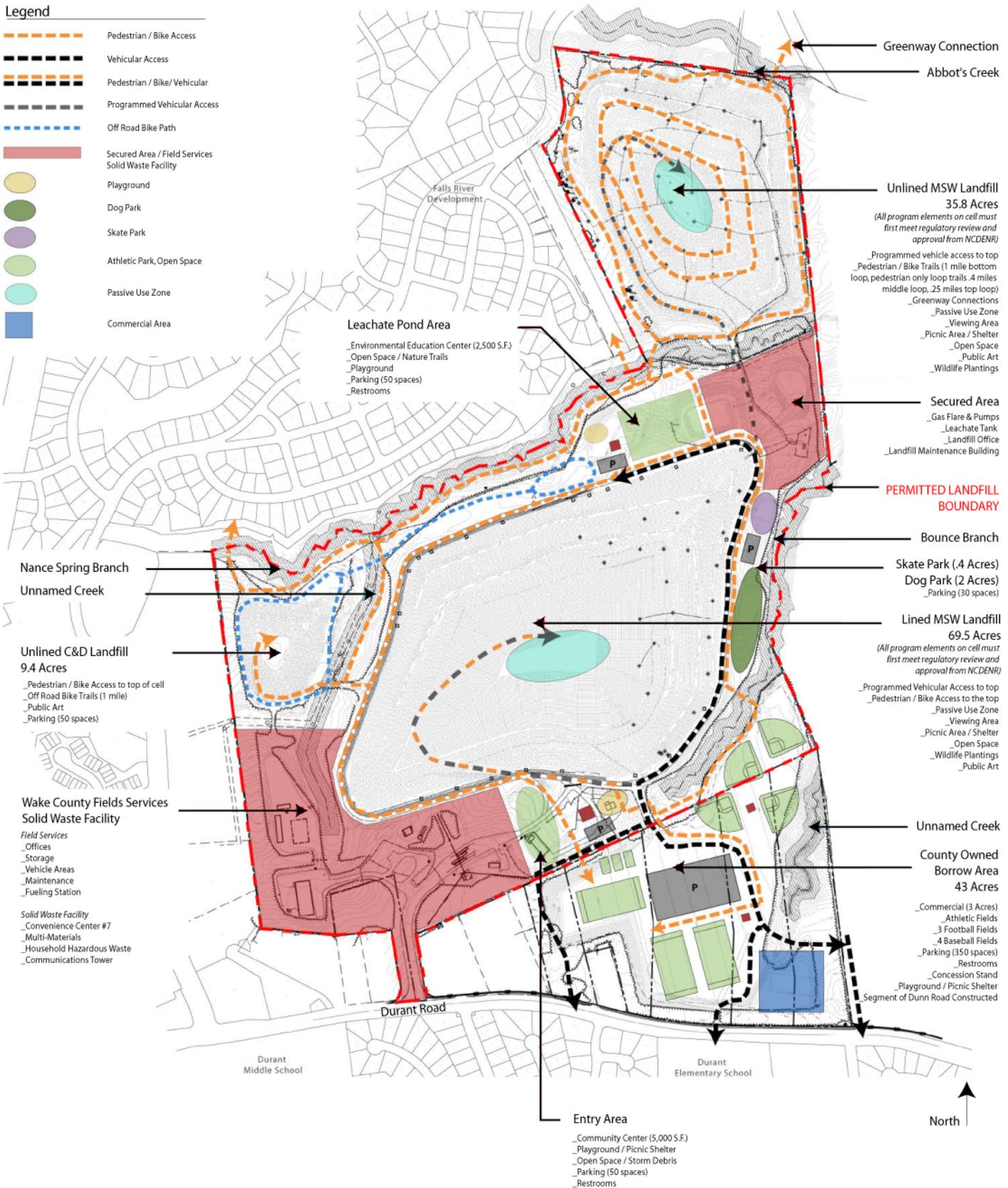
The Leachate Pond area is converted to a multi-purpose field with a playground associated with it and appropriate parking.

This concept has many walking trails, one mile of off-road bike trails, a .4 acre skate park, and a two acre dog park. The vehicular circulation around the large cell is two way from the entrance of the park to the Leachate Pond.



Borrow Area Enlargement C

Final Report: Conceptual Designs: Concept C



Final Report: Conceptual Designs

Community Meeting #3

The third community meeting was held September 27, 2005 at the Durant Road Elementary School Auditorium. The design team presented three concepts for the redevelopment of the landfill. Around 200 citizens attended the third meeting.

The first concept (Concept A) redeveloped the borrow site into a combined athletic field and elementary school use. There were walking trails, 2 playgrounds, a 3 acre dog park, skate park, and 2.5 miles of off-road bike trails.

The second concept (Concept B) developed the borrow area into exclusively athletic fields. There were four football fields, 4 baseball fields, basketball and tennis courts, concession stands, and restrooms. The plan also contained a 2 acre dog park, 2 children's play areas, and skate park.

The final concept (Concept C), contained athletic fields and commercial development on the borrow site. There were three football fields, four baseball fields, and basketball and tennis courts. Other program elements shown in concept C were 1 mile of off-road bike trails, miles of walking trails, dog park, skate park, and playgrounds.

The concepts have similar program elements, except for the borrow area. During the previous public meeting there were a large amount of citizen's present who expressed the need for athletic fields. Each design concept addresses that need in some way.

After the presentation of the concepts, the public was asked to walk around to the three concepts and with a tally sheet, write down what was most important to them in each concept. The full record of the tallies can be seen in Appendix 1, page 55. The majority of the community like the combined athletic field and elementary school in concept A, as well as the placement of the trails, community center, skate park, and dog park. Concept A received the most support.

There were various comments from the community about elements presented on the concepts. One comment was that the off-road bike group wanted to see more trails throughout the park. Anything less than five miles was not appealing to them. Another question that was asked was about whether or not one of the football fields could have a track around it. Other comments were about how late the park would be open and whether or not the skate park would have lighting associated with it.

From the information gathered at the third meeting, the design team was able to begin a draft master plan of the program elements. The meeting minutes can be found on page 85.



Final Report: Draft Master Plan

Elementary School and Athletic Complex

The Draft Master Plan incorporated the elementary school and athletic fields on the borrow site. The entry road from Durant Road takes the visitor past the premier football field and around the aquatic center, playground and skate park, shown on the next page. This road is for entry into the park as well as for parent's dropping off / picking up their child at the school. There is a separate entrance and exit for the school busses off of future Dunn Road to the east of the site. The elementary school and football fields are all linked by pedestrian pathways. The visitor to the school or park will not need to cross a road except to get to the baseball fields. Attached to the elementary school is an environmental education and community center. The school will be able to utilize the center and the park to educate their students about landfills and reclaiming them once they are closed. Other schools around the area can also utilize this center for educational purposes. The premier football field has a track around it, which was a comment made at the third public meeting. There are restrooms and concession facilities located central to the football fields and the baseball fields. Public art is located at various points throughout the park.



Final Report: Draft Master Plan

Community Recreation Complex

Located north of the borrow area is the community recreation complex. Visitors to the park will drive by this to enter the park or access the school and athletic fields. There is a 50 meter aquatic center, 1 acre skate park, and a 1 acre playground. Picnic shelters are located near the playground and premier field for convenience. There is a bus drop off located near the environmental education/community center for schools that are visiting the park.

The skate park offers a unique opportunity for teenagers, as well as other age groups to utilize the park. The large playground serves the public as well as parents and children visiting the park for a football or baseball game. The aquatic center provides a service that is needed in this area. It also has a green roof, which reinforces the commitment to recycling reclaiming the landfill into a more natural and sustainable approach.

Public art plays an important role in the plan and is located at strategic places.



Final Report: Draft Master Plan

Braided Pathways

The braided pathways are located to the east and north of the large cell. They are a system of pathways providing visitors of the park a connection to various elements, such as the athletic field, the meadow and the dog park.

The paths meander through the site with one main path that is 10 feet wide, while the smaller paths are 6 feet wide. Located parallel of the walking trails is an off-road bike trail. This trail weaves in through the trees and is part of a five mile system.

A central pond is used for stormwater collection as well as a feature to the park. Visitors can sit and have picnics along the banks of the pond.

There are various benches and sitting areas along the pathways, and throughout the park.

Trail head parking is also located in this section to provide the visitor with an additional place to begin a walk or bike ride.



Final Report: Draft Master Plan

The Meadow

The meadow is located north of the large landfill cell and south of Nance Spring Branch. The meadow has various program elements associated with it. There is a large open space area that can be used for multi-purpose programs as well as a temporary storm debris drop off. A playground and outdoor classroom are located near the main parking area. Picnic shelters and a restroom facility are located for the convenience of the park visitor. Located to the east of the multi-use field is a native plants garden which also utilizes another stormwater pond. Hiking and off-road bike trails pass by the garden area and head north across the stream toward the unlined landfill cell. Various walking paths circle the garden and connect to the braided pathways toward the south, as well as paths to the north and west of the site.

The secured area, located south of the garden area includes the existing gas flare, leachate tank and some maintenance operations for the park.



Final Report: Draft Master Plan

Kids and Canines Recreation Area

The former construction and debris cell is planned for a dog park and playground area. There are a variety of hiking and biking trails that surround the cell, as well as walking trails at the base of the cell and trails that wind up the cell to the top. The 4 acre dog park is at the base of the cell toward the north. The dog park is a fenced in area with two sections, one for large dogs, and one for smaller dogs. A visitor can let their dog run free inside this space and play with other dogs. There is a restroom near the dog park and parking lot for convenience. The children's play area is located at the top of the cell which also includes a viewing area. To the northwest of the site is a trail that connects to the City of Raleigh greenway across from the stream. This provides the neighborhoods to the North a safe pedestrian connection into the park.



Final Report: Draft Master Plan

Prospect Hill

Prospect Hill is the name given to the unlined cell located in the northern portion of the site. Plans feature walking and biking trails. There is a viewing shelter at the top of the cell along with open play space and opportunities for public art. There are various activities that can occur at the top of this cell, for instance, star gazing and kite flying. Located on the cell are off-road bike trails that wind up and around the cell. Located at the base of the cell is a paved pedestrian trail which provides another greenway connection to the adjacent neighborhood to the southern areas of the park site.



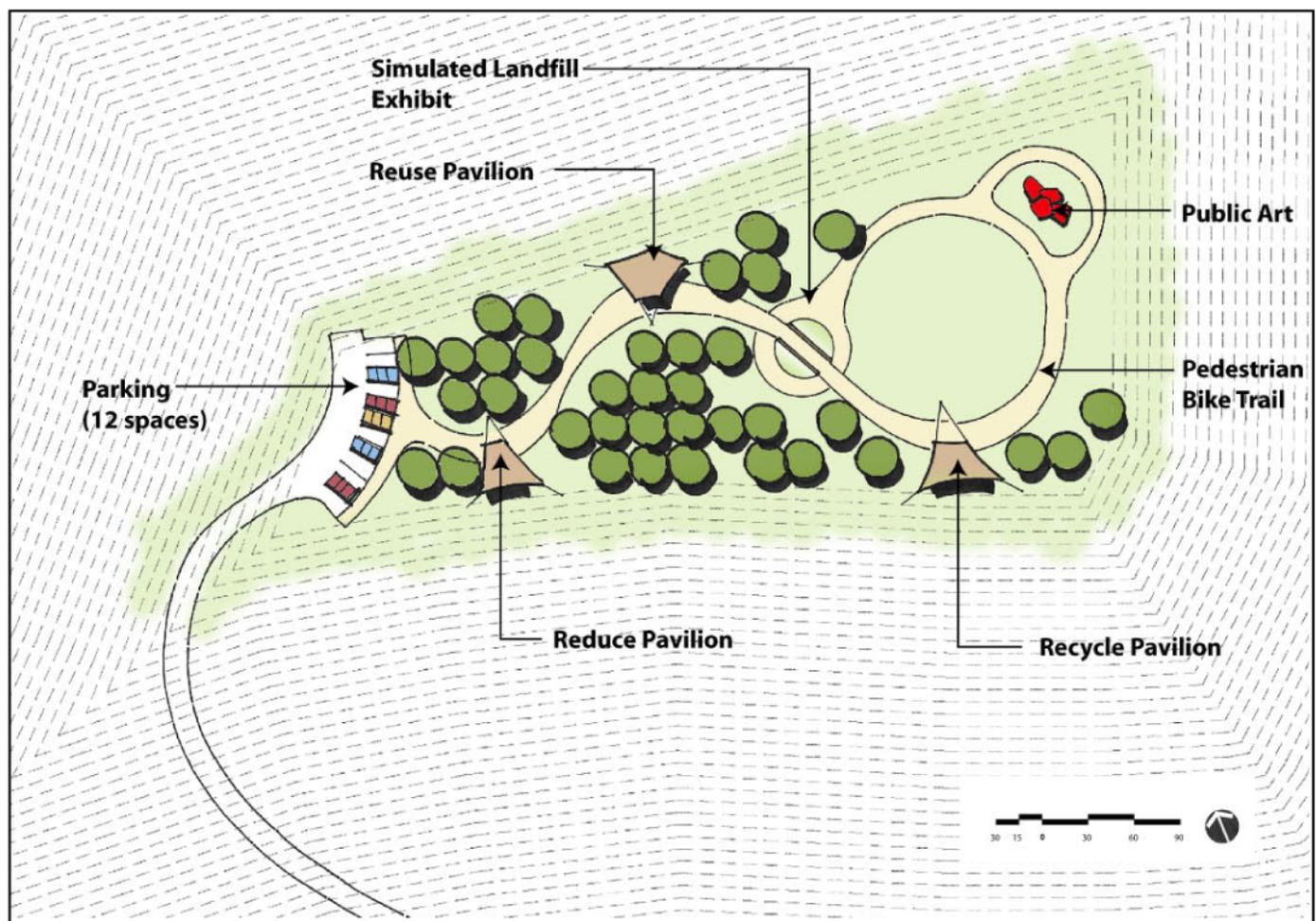
Final Report: Draft Master Plan

Top of the Hill Education Center

The Top of the Hill Education Center provides the public with a variety of opportunities. One opportunity is the view that the public can get from the final elevation of the largest cell. Once completed, a visitor will be able to stand at the top and see downtown Raleigh.

More importantly, the main program for this area is environmental education. The site is only accessible through a programmed event. Located on top of the cell are three pavilions; reduce, reuse, and recycle, as well as exhibits on the landfill. Between the reuse and recycle pavilion is an earth mound that simulates the inside of a landfill cell.

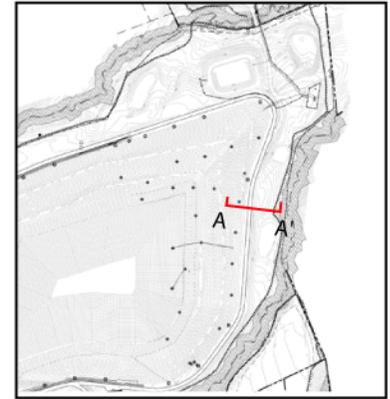
These facilities can help educate the public on not only the technical workings at a landfill but also the importance of conserving, recycling and human's impact on the environment.



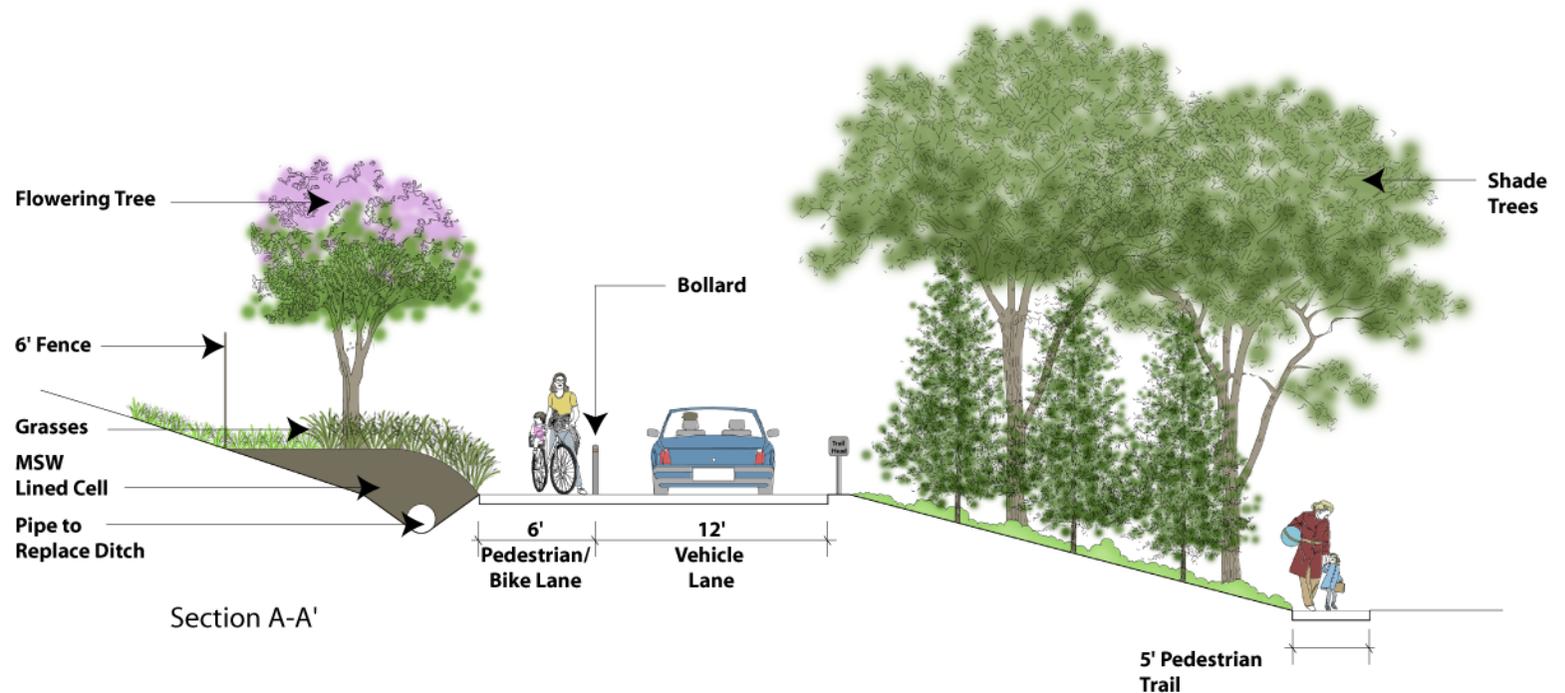
Final Report: Draft Master Plan

Large Municipal Solid Waste Subtitle D Landfill Cell and Braided Pathways Cross Section

The section below illustrates the result of the existing concrete road around the Subtitle D Landfill cell for pedestrian and vehicular use, elimination of the existing concrete ditch, security of the cell and the adjacency of other trails.



Vicinity Map



Final Report: Draft Master Plan

Community Meeting #4

The fourth community meeting was held October 25, 2005 at the Durant Road Elementary School Auditorium. The design team presented the draft Master Plan to about 150 citizens.

Plans for the seven identified areas were displayed around the auditorium for the Draft Master Plan presentation. These included, the Elementary School and Athletic Complex, The Community Recreation Complex, Braided Pathways, The Meadow, Kids and Canines Recreation Area, Prospect Hill, and the Top of the Hill Education Center.

Before the formal presentation began, the public had a chance to view each of the seven enlargements. Following the presentation attendees were invited to ask questions and make comments about the draft master plan.



Final Report- Final Master Plan

Final Master Plan / Overall Description

The vision illustrated by the North Wake Post Closure Land Use Master Plan is rooted in the community planning and design process. The plan recognizes and is built upon the work completed by the North Wake Landfill Citizens Committee as well as input received from the community, private organizations and stakeholders throughout the planning process.

The plan maintains the integrity of the landfill and allows for continued monitoring and gas extraction. The plan also insures accessibility of the facilities and is conscious of the requirements regarding the health, safety and welfare of the public.

The plan reflects lessons learned at similar facilities which have been converted to public use. Precedents examined during the process made clear the opportunities for redevelopment as well as the inherent safety issues.

The plan offers the public a variety of programmed and un-programmed recreational opportunities as well as educational and community facilities and opportunities.

The plan illustrates the reservation of land for the expansion and improvement of Wake County facilities including General Services and the Solid Waste public recycling facilities.

Implementation of the plan cannot begin until the landfill operation closes out in early 2008. Once the landfill operation is closed out implementation of the master plan can begin. Realizing the vision established by the master plan will require partnerships among government and private organizations to fund construction.

Implementation will require a phased approach. The first phase of development will likely include the proposed elementary school and associated infrastructure. This reflects the urgent need for schools in Wake County as well as the community interest in a school on this site. The last phase of construction will probably include development of the Subtitle D MSW lined landfill cell.

This 260 acre property which has served the county in one capacity has the potential to serve the public once again. This is the essence of the vision illustrated by the Master Plan.

The final Master Plan is illustrated on the following page.

Final Report- Final Master Plan

Legend

A. Elementary School, Athletic and Community Recreation Complex

- Elementary School
- Football Fields 4 (3-360'x180', 1 300x150)
- Baseball Fields 3 (1 350', 2 250')
- Environmental Education and Community Center
- Restrooms and Concessions Buildings
- Playground
- Skate Park
- Basketball courts (2)
- Picnic Shelters
- Parking (483 spaces)
- Public Art

B. Braided Pathways

- Paved Pedestrian/ Bike Trail
- Central Pond
- Hike and Bike Trails (unpaved)
- Public Art
- Trail Head Parking (10 spaces)

C. The Meadow

- Hike and Bike Trails (unpaved)
- Native Plants Garden
- Open Space Multi-Use
- Playground
- Paved Pedestrian/ Bike Trails
- Picnic Shelters (7)
- Restrooms
- Outdoor Classroom
- Parking (60 spaces)
- Secured Area/ Gas Flare, Leachate Tank and Maintenance Building

D. Prospect Hill

- Hike and Bike Trails (unpaved)
- Paved Pedestrian/ Bike Trails
- Top of Hill: Shelter, Open space, Public Art, Loop trail
- Wetland
- Greenway connection
- Picnic Shelter

E. Braided Pathways

- Paved Pedestrian/ Bike Trail
- Hike and Bike Trails (unpaved)
- Public Art
- Trail Head Parking (10 spaces)

F. Kid and Canines Recreation Area

- Dog Park (4 acres)
- Hike and Bike trails (unpaved)
- Greenway Connection
- Restrooms
- Top of Hill: Viewing Shelter, Public Art, Playground
- Paved Pedestrian / Bike Trail
- Parking (91 spaces)

G. Top of the Hill Education Center

- Reduce Pavilion, Reuse Pavilion, Recycle Pavilion
- Public Art
- Pedestrian Trail
- Simulated Landfill Exhibit
- Programmed Vehicle Parking (12 spaces)

H. Field Services

- Offices
- Storage and Maintenance
- Fueling Station

I. Solid Waste Services

- Convenience Center
- Household Hazardous Waste
- Multi Material Drop-off
- Maintenance
- Communications Tower



Final Report: Phasing / Construction Costs

Probable Construction Costs

The estimate of probable construction costs is based on the final master plan. Phasing the implementation of the master plan as well as associated costs are as follows.

PH1 / Area 1:

- Elementary School
- Athletic Fields
- Community Recreation Complex: *skate park, picnic shelters, playground*

The total estimated cost for Area 1 is \$34,160,615

PH2 / Area 2:

- Prospect Hill: *shelter, pathways, vegetation*

The total estimated cost for Area 2 is \$2,006,387

PH3 / Area 3:

- Kids and Canines Recreation Area
- Dog park
- Playground

The total estimated cost for Area 3 is \$1,277,930

PH4 / Area 4:

- Top of the Hill Education Center: *structures, pathways, simulated exhibit*
- Vehicular / Pedestrian Road around the large cell
- Braided Pathways: *pathways, landscape*
- The Meadow: *Playground, Restroom*

The total estimated cost for Area 4 is \$5,246,087

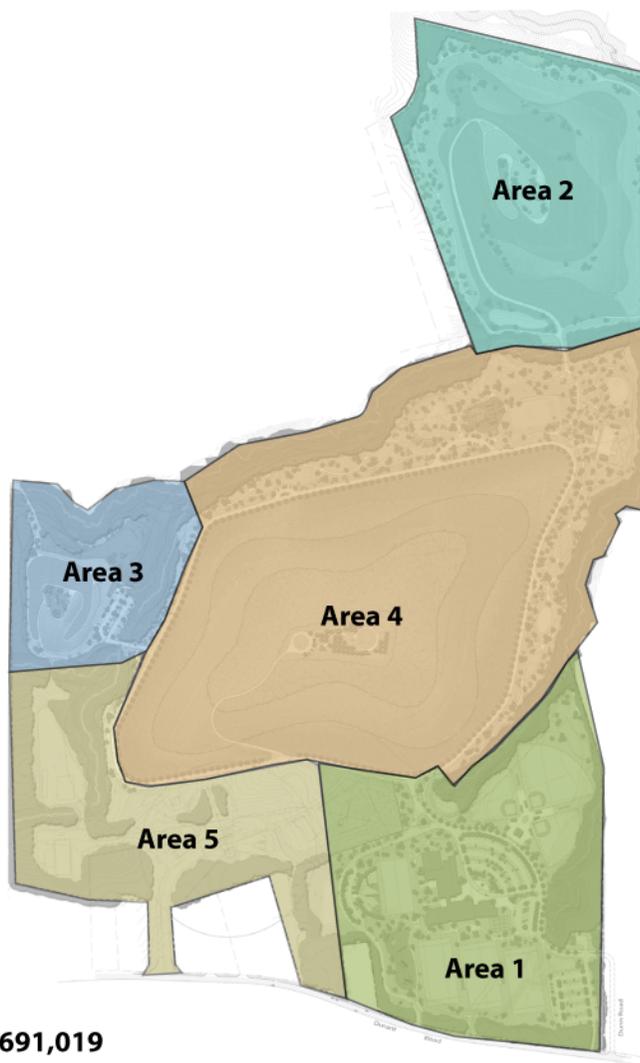
Area 5:

- County Facilities: *General Services & Solid Waste Facilities*

No estimate is a part of this plan

The approximate total cost for implementation is **\$42,691,019**

A detailed cost estimate can be found in Appendix 1 on pages 93-99.



Final Master Plan

Community Meeting #5

The final community meeting was held December 6, 2005 at the Durant Road Elementary School auditorium. The design team presented the final master plan to approximately 100 citizens .

One comprehensive Master Plan was presented to the community based on comments received on the draft master plan, and further consideration by the project team. The presentation addressed the program elements proposed for the site. Prior to and following the presentation the public had the opportunity to review the Master Plan and ask any further questions about the plan's recommendations. While the Master Plan for the redevelopment of the landfill was very similar to the plans presented at the fourth public meeting, some elements were rearranged and two removed. The need to reserve additional land for expansion of Wake County facilities contributed to the elimination of the Aquatic Center. The Aquatic Center was not a high priority nor was the running track which was also removed from the final plan.

Comments for further consideration raised at Community Meeting #5 included a bus drop off inside the park, a fishing pond located along the braided pathways, and funding and partnerships for the project site.



Appendix

Community Meeting # 3 Tally of program elements

Concept A				
School/Athletic Fields	77			
Concept B				
Athletic Fields	66			
Concept C				
Athletic Fields/Commercial	5			
No Opinion of Overall Concept	1			
Program Elements	Concept A	Concept B	Concept C	
Public Vehicle Circulation	18	38	3	
Pedestrian/Bike Trails	36	13	23	
Community Center	29	18	3	
Skate Park	27	11	19	
Dog Park	51	12	22	
Open Space	25	10	9	
Off Road Bike Trails	39	6	7	
Playgrounds	28	21	3	
Environmental Education Center	21	6	4	
	Yes	No		
Segment of Dunn Road	96	15		
Aquatic Center	45	61		
Golf	17	82		
Library	46	58		
Police Substation	35	55		
Hard Surface Courts	38	57		

Written Comments:

Need Schools
 Basketball Courts
 Change Elementary School to Middle School, no fields
 Add all of Dunn Road
 Both Elementary and Middle School on Borrow Site
 No Dog Park
 Off Road Bike Trails should be added throughout the capped area for intermediate and advanced riders
 Add mileage for Off Road Bike trails (8-9 miles min.)
 Add Off Road Bike trails on both cells
 Keep Dog Park away from housing
 Aquatic Center: who pays for it?
 Off Road Bike trails can be used as multi-purpose trails
 Could use a library up here instead of fields
 Community Center larger
 Skate Parks can be incorporated with Off Road Bikers
 Keep in mind where the residents of Falls River live to keep noise down especially after dark
 No lights in the Leachate Pond area and no noise producing activities
 No dog parks, lights, athletic fields, and skate parks near the residential neighborhoods
 Additional Football fields in the Leachate Area
 Dog Parks need to incorporate the pond near the C&D cell
 Rock Climbing boulders like Cary for several places around the site
 Only one entrance to the park

Appendix

Community Meeting # 4 Tally of program elements

North Wake Landfill Fourth Public Meeting Tally of Ideas

<u>Items:</u>	<u>Yes</u>	<u>No</u>
School / Athletic Field Complex	48	3
<u>Comments</u>		
1. Liked Bus Parking separate from Parent drop-off		
2. Add restroom facilities		
3. Separate schools Gym and Auditorium so that it can be used when school is not in session		
4. Basketball Courts		
5. Show how kids could walk to school		
6. Could school be solar?		
Community Recreation Complex	47	3
1. Liked the Aquatic Center and Skate Park location		
2. Public art in this area should be "kid friendly"		
3. Take Green Roof everywhere		
4. More parking for the aquatic center/ skate park		
5. Basketball courts/ indoor/ outdoor		
6. More Picnic Shelters to hold larger groups		
Braided Pathways	47	3
1. More throughout the park		
2. Central Pond large enough for paddle boats		
3. Picnic shelter next to pond area		
4. Like multi use trails		
5. Amphitheater here instead of meadow		
The Meadow	47	3
1. Trees throughout this area		
2. Frisbee golf in this area		
3. Amphitheater could be too loud here		
4. Enlarge open space area eliminate playground		
Prospect Hill	47	3
1. Wetland can be an educational component		
2. Parking be added to the back of the cell		
3. Plant native plantings on cell for bird sanctuary		
Kids and Canines Recreation Area	47	3
1. Like the size of the dog park		
2. Concern about the noise of the dog park		
3. Make the playground more natural		
Top of the Hill Education Center	47	3
1. The idea is great, built somewhere else on site		
2. Solar powered activities		
3. Camping activities on top- programmed		
4. Need bus parking area up at the top for programs		

Meeting Minutes

Initial Core Team Meeting, June 16, 2005 Thursday 8am-10am, Wake County General Services Building

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager*, Phil Stout- *Wake County Facilities Design & Construction*, Rick Rowe- *Wake County Division of Environmental Services*, John Taylor- *Wake County General Services Administration/Field Services*, Dave Goodwin- *Wake County General Services Administration*, Dan LaMontagne- *Wake Solid Waste*, Jim Reynolds- *Wake Solid Waste*, Larry Sherrill- *Wake County Public School System*, Wendy Shough- *Wake County Public School System*

Representative from the City of Raleigh: Richard Bailey- *Raleigh Parks and Recreation*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Kate Work- *OBS Landscape Architects, Project Planner*, Kim Jarvis- *CDM, Landscape Architect*, John Boyer- *CDM, Project Manager*, Joe Wiseman- *CDM, Senior Professional*

Meeting began at 8am.

Tim Maloney opened the meeting with introductions around the room. He then gave a brief overview of the selected design committee and discussed the goal of the master plan, and the process for developing the master plan, including public meetings.

Jim Reynolds gave a quick update about the existing citizen committee which was a spin off from the Falls River Association. The committee was educated about the existing landfill, how it operates, and studied other post closure landfill plans.

The committee developed some ideas of what they would like to see on the site:

- Hiking, biking, BMX/Skate park, dog park, environmental education, bird
- Sanctuary, star gazing area, library, school, etc.

Tim Maloney mentioned that the Design Team will receive the Citizen Design Committees Draft Document of their discussions

Brian Starkey introduced the master planning schedule:

Phase I

- Develop project schedule
- Kick-off Meeting with project partners (County, Raleigh, WCPSS, NCDENR)
- Assemble base mapping
- Precedent research (visit similar projects) also find out with the CDC researched

Phase 1 completion: July 13th

Phase II

- Perform site analysis
- Community meeting #1 August 2nd
- Introduce design team
- Explain planning process and schedule
- Present site analysis: topography, vegetation, surrounding land use
- Discuss what can be done on the site: CDM's technical experience
- Discuss the community's goals and objectives for the master plan

Phase III

- Meetings with Stakeholders (Citizen Committee, athletic user groups, etc.)
- Community Meeting #2 August 23rd
- Discuss programming & involve the community in idea process
- Develop initial design concepts

Meeting Minutes

Initial Core Team Meeting, June 16, 2005 Thursday 8am-10am, Wake County General Services Building

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager*, Phil Stout- *Wake County Facilities Design & Construction*, Rick Rowe- *Wake County Division of Environmental Services*, John Taylor- *Wake County General Services Administration/Field Services*, Dave Goodwin- *Wake County General Services Administration*, Dan LaMontagne- *Wake Solid Waste*, Jim Reynolds- *Wake Solid Waste*, Larry Sherrill- *Wake County Public School System*, Wendy Shough- *Wake County Public School System*

Representative from the City of Raleigh: Richard Bailey- *Raleigh Parks and Recreation*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Kate Work- *OBS Landscape Architects, Project Planner*, Kim Jarvis- *CDM, Landscape Architect*, John Boyer- *CDM, Project Manager*, Joe Wiseman- *CDM, Senior Professional*

Meeting began at 8am.

Tim Maloney opened the meeting with introductions around the room. He then gave a brief overview of the selected design committee and discussed the goal of the master plan, and the process for developing the master plan, including public meetings.

Jim Reynolds gave a quick update about the existing citizen committee which was a spin off from the Falls River Association. The committee was educated about the existing landfill, how it operates, and studied other post closure landfill plans.

The committee developed some ideas of what they would like to see on the site:

- Hiking, biking, BMX/Skate park, dog park, environmental education, bird
- Sanctuary, star gazing area, library, school, etc.

Tim Maloney mentioned that the Design Team will receive the Citizen Design Committees Draft Document of their discussions

Brian Starkey introduced the master planning schedule:

Phase I

- Develop project schedule
- Kick-off Meeting with project partners (County, Raleigh, WCPSS, NCDENR)
- Assemble base mapping
- Precedent research (visit similar projects) also find out with the CDC researched

Phase 1 completion: July 13th

Phase II

- Perform site analysis
- Community meeting #1 August 2nd
- Introduce design team
- Explain planning process and schedule
- Present site analysis: topography, vegetation, surrounding land use
- Discuss what can be done on the site: CDM's technical experience
- Discuss the community's goals and objectives for the master plan

Phase III

- Meetings with Stakeholders (Citizen Committee, athletic user groups, etc.)
- Community Meeting #2 August 23rd
- Discuss programming & involve the community in idea process
- Develop initial design concepts

Meeting Minutes

North Wake Landfill Site Visit and Meeting with Design Team, July 8, 2005, Friday 11am-1pm

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager*, John Taylor- *Wake County General Services Administration/Field Services*, Dan LaMontagne- *Wake County Solid Waste*, Jim Reynolds- *Wake County Solid Waste*, Meghan O'Connor- *Wake County Solid Waste*

Representative from the City of Raleigh: Richard Bailey- *Raleigh Parks and Recreation*, Shanna Davis- *Raleigh Parks and Recreation*

Representative from State of North Carolina: DENR: Ed Mussler, *Division of Waste Management*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Kate Work- *OBS Landscape Architects, Project Planner*, John Boyer- *CDM, Project Manager*, Joe Wiseman- *CDM, Senior Professional*

Citizen Representative- Pat Rohner

Meeting began at 11 am.

Brian gave a recap of the Boston Landfill Site Visit: All landfills had some good ideas, trails, fields, etc. It was important to see drainage issues and how they are dealt with.

Comments from visiting the site:

Dick Bailey spoke about how the visit was important to get a sense of scale of the elements associated with the parks.

Pat Rohner enjoyed seeing the park sites and felt that Millennium Park had personality associated with it, which the future landfill should have. She would like to see various ideas, with an understanding that there will be a need for phasing.

Joe Wiseman mentioned that the all the park sites were being used extensively, which he felt was important to see. Found it interesting that the old landfills can become a park, but keep the environmental integrity of the site, through monitoring systems, etc.

Jim Reynolds enjoyed seeing the different facilities, but noticed that the parks up north are different to what the North Wake Landfill is. The parks up north are older, and slopes were different.

There was some discussion about the amount of soil that was used on the parks up north vs. what this proposed site could take, structurally. Settling issues with the landfills. Could take 10 years to settle. The back cell of the North Wake Landfill has been settling 1"/year. * Need to find out how much it settled in the first two years vs. the past two years.

Ed Mussler spoke about the regulatory issues associated with converting the landfill to a park site. Because this hasn't been done in North Carolina yet, there are no certain rules that are written, will be a precedent for other projects. Must continue to monitor the site, and at some point may have to come in once the park is finished and dig up areas, should there be issues with the site. Must be aware of these issues when designing. The design team needs to be aware of the permitted landfill boundary and 300' buffer on the site.

There was a question about how far away the public will need to be from the monitoring systems. Certain issues concerning the systems in the landfill will need to be addressed for design of the park. "What can we do and keep the public safe on this site." Review limitations and possibilities.

Tim asked that everyone send the photos they have from the Boston site visit to Kate and she will make a cd to give to Tim to make copies for everyone. The pictures should be sent to Kate by Friday, July 15th.

Meeting Minutes

North Wake Landfill Site Visit and Meeting with Design Team continued

Brian gave a quick overview of the site analysis boards that OBS is creating for the first community meeting. The ortho mapping will need to be updated, it is from 1999. Ed Mussler mentioned that DOT would be able to get more updated mapping.

Tim discussed the intent of the site analysis for the community meeting.

Brian asked if anyone knew what the final grade of the top of the large cell would be when finished. Joe Wiseman mentioned that he had a base map he would send OBS with that information.

Pat asked if the greenway would be extending further any time soon, and Dick Bailey mentioned that the extension would be happening in the near future. It will be important to add that to the site analysis maps for the community meeting and label it "Future Greenway". Dick will send Kate a copy of that extension to add to the base map.

Tim asked that the existing facilities map label the County Communications Tower.

There was some discussion about the terms usable vs. unusable on the site. Some areas will change on the plan, but the Wake County Field Services Building and the County Solid Waste area will not be moving. Jim mentioned shading those areas that would not move and keeping them separate from areas that could move around on the site.

Ed mentioned adding the Neuse River Buffers and check with CDM about their permitting documents to see how wetlands were delineated. CDM will provide OBS with that information. The permitting boundary should be added to the bases for site analysis. CDM will provide OBS with that information.

Pat mentioned that OBS show the neighborhoods around the site on the surrounding land use plan (update) so that the public can located in relation to their house, where the landfill is.

The borrow area should be represented differently from the landfill: County owned property, and should be depicted differently.

Jim mentioned that some services need to stay on the site not necessarily the buildings, example would be: Recycling area. Need to be aware of where the design team places the services: example, the queuing of the cars coming to the site for the recycling area.

There was some discussion about the maintenance and cost associated with the park in the future and how much the master plan deals with future costs of the park. "Post Closure Care" definitions to be developed along the process.

Joe mentioned that the Leachate Pond can eventually be smaller and even buried underground in a holding tank. There may be opportunity for a use where that pond used to be in the future.

Attendees at the meeting then drove around the landfill in several vehicles.

ACTION ITEMS:

1. Team members who went on the Boston trip should send site photos to Kate Work at OBS by Friday July 15th.
2. OBS will send Tim Maloney a cd of the Boston site images, once she has received them from other team members. Tim will send out cd's to team members.
3. OBS will e-mail list/dates of the community meetings to the team members.
4. CDM will provide OBS with permit documents containing wetland information, base information containing 300' buffers and 50' Neuse buffers on the site, the actual permitted boundary on a base, and the final contour information of the large cell.
5. OBS will coordinate with CDM about presentation to the community
6. OBS will provide a narrative and fact sheet for the community meeting
7. Ed Mussler to provide OBS with a list of absolute no's relative to the landfill
8. Jim Reynolds to provide OBS with a list of criteria relative to the existing facilities
9. OBS to review with Tim and Jim the site analysis boards, prior to the community meeting, before July 25.
10. Dick Bailey will provide OBS with a greenway plan for the extension to the north of the landfill.

Meeting Minutes

Second Core Team Meeting, September, 2, 2005 9am-10:30am

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager*, James Bailey- *Wake County General Services Administration/Field Services*, Larry Sherrill- *Wake County Public School System*, Wendy Shough- *Wake County Public School System*, Robert Hinson- *Wake County Parks and Recreation*

Representative from State of North Carolina: DENR: Ed Mussler, *Division of Waste Management (through conference call)*

Representative from the City of Raleigh: Richard Bailey- *Raleigh Parks and Recreation*, Shanna Davis- *Raleigh Parks and Recreation*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Kate Work- *OBS Landscape Architects, Project Planner*, John Boyer- *CDM, Project Manager*

Citizen Representative- Beau Mills

Meeting began at 9am.

Tim Maloney opened the meeting with introductions around the room. He then gave a brief overview of the 2 public meetings that have already occurred, there are 3 left. He mentioned the next public meeting would be September 27th, at 7pm at Durant Middle School.

Brian Starkey recapped the second public meeting, discussed the ideas generated from the public. Discussed the tally of ideas that were submitted. A strong desire for athletic fields, community building, and trails. Others that were mentioned, schools, skate parks, dog parks, etc.

There was interest in what Wake County Schools thought of having a school on the borrow area. The team wanted to get a sense of how serious the school system would be to developing the borrow area and what should be depicted in one of the concepts.

Reviewed a letter sent by a citizen about the concern of not having enough schools in the area for their children. The neighborhoods around the landfill have to send their children to 5 different elementary schools in the area.

The athletic association was worried that the school would not work with them about the use of fields. The school system said that they would work with them. There has also been an issue of working with the City athletic programs and the North Raleigh Athletic Association. That could be worked out on this site as well.

The school would need 20 acres and didn't feel that anything larger than an elementary school would fit. There would be a need for 2200 linear feet for stacking spaces. There would be an opportunity for a shared use much like the Briar Creek Elementary school with the community center attached and after school the community uses the spaces, while during the school hours, the kids use the space for school activities. Briar Creek has about 770+ students, which would be similar to the size at the borrow site.

There will need to be some coordination about presenting the school concept to the Board of Education and to the Council to approve a school for that site. This will need to occur between the presentation of the draft master plan and the final master plan, should the school concept be the strongest concept for the public.

There will need to be a Core Team meeting after the third public meeting, perhaps September 30th, Tim will coordinate.

Meeting Minutes

Second Core Team Meeting, September, 2, 2005 9am-10:30am

A meeting with Jim Reynolds, Dan LaMontagne, John Taylor/ James Bailey, will be scheduled for next week, the week of the 5th for review of the past public meeting and a coordination meeting. Tim will coordinate.

There will be a concept review meeting/In Progress meeting before the September 27th public meeting. This would be a Core Team meeting to review the concepts the design team will be presenting. The meeting is scheduled for September 15th, at 9am at Wake County.

The level of detail for the concepts on the September 27th public meeting will be between conceptual diagrams and an illustrative design. It will be illustrated, but not overly detailed like a master plan would be presented. The concepts will illustrate a level to which the public will be able to understand.

There will need to be some criteria for the protection of the monitoring systems. Will need an idea of what that is for the next public meeting.

Dunn Road: The discussion to show the "future" Dunn Road extension is still open for conversation about whether it will be shown on the concepts...

Dick Bailey mentioned: There is high demand for an aquatics center; design team will consider that into the concepts.

Police Substation: will have to look into the need for that facility up in that area
Fire/EMS-same

Timetable: If there is a school on the borrow site: could open in Fall 2009. Other phases could occur as early as 2008, once the landfill is closed appropriately.

TTA's relationship to the landfill site: circulation connections- future access to Dunn Road...

Enterprise Fund: Closeout purposes- existing facilities: clustering, relocating. School vs. commercial in an economic situation...

*Next meeting: September 15th, Core Team meeting at 9am to review the Initial Concepts from the design team.

Meeting Minutes

Third Core Team Meeting, September 15, 2005 9am-1.30am

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager*, James Bailey- *Wake County General Services Administration/Field Services*, Larry Sherrill- *Wake County Public School System*, Wendy Shough- *Wake County Public School System*, Robert Hinson- *Wake County Parks and Recreation*, Jim Reynolds- *Wake Solid Waste*, Rick Rowe- *Wake Solid Waste*

Representative from the City of Raleigh: Richard Bailey- *Raleigh Parks and Recreation*, Shanna Davis- *Raleigh Parks and Recreation*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Kate Work- *OBS Landscape Architects, Project Planner*, John Boyer- *CDM, Project Manager*

Citizen Representative- Beau Mills

Meeting began at 9am.

Brian opened the meeting discussing the three concepts that OBS had developed for the CORE team's review. There were two items that were similar throughout all three concepts: Field Services and Solid Waste Facilities area, and the "secured area" which is the location of the gas flare and pumps and leachate tank.

The three concepts also include the same program elements, but in different locations, these include: bike trails, pedestrian trails, skate park, community/environmental center, dog park, and open space. The borrow areas have different program elements to them. They are listed below:

The first concept's borrow area has an elementary school and athletic fields (approximately. 2 football, 2 baseball)

The second concept's borrow area has all athletic fields (approximately. 3 football, 3 baseball)

The third concept's borrow area has commercial and athletic fields (approximately. 2 football, 2 baseball)

There was a comment about increasing the mountain biking trails, and run them throughout the park (a loop option)

The entrances shown on the concepts all access Durant Road in the same place, but could also move them further away from the existing access or add another access that could be right in/right out.

Robert Hinson recommended looking at a combined school, community center, and environmental center.

Dick Bailey mentioned adding tennis courts, lacrosse, etc, into the athletic options as potentially other uses.

Pedestrian trails should be throughout the park, but limit the vehicular access into the park.

For the presentation on Tuesday September 27th, the concepts should express the desires of the public, but also make them aware that there may be phasing that will occur with various program elements on the cells. It will depend on regulatory requirements from DENR.

Board of Education meeting to discuss the use of the borrow site as a school site will be held on October 18th. The meeting will explain the process that this project has gone through from citizens involvement in a committee to the public process of meetings and discussions.

Durant Nature Park and other greenway connections should be shown on the concept plans. An overall map showing the area should be visible at the next public meeting for citizens to see where the elements are in relation with their homes.

OBS will need to set up a meeting with Jim Reynolds and Ed Mussler to discuss the public meeting for September 27th, and the three concepts and how they are communicated to the public.

Kate will e-mail Beau Mills the three concepts that were discussed at this meeting.

Kate will also e-mail Kim Jarvis concepts for her to review.

*Next meeting: September 27th, Third Public Meeting, 7pm at Durant Middle School ,and September 30, Core Team meeting at 9am to review the third public meeting.

Meeting Minutes

Fourth Core Team Meeting, September 30, 2005, 9am-11.00am

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager*, James Bailey- *Wake County General Services Administration/Field Services*, Larry Sherrill- *Wake County Public School System*, Wendy Shough- *Wake County Public School System*, Zach Davis- *Wake County Public School System*, Robert Hinson- *Wake County Parks and Recreation*, Jim Reynolds- *Wake Solid Waste*, Dan La Montagne- *Wake Solid Waste*

Representative from the City of Raleigh: Shanna Davis- *Raleigh Parks and Recreation*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Kate Work- *OBS Landscape Architects, Project Planner*, John Boyer- *CDM, Project Manager*

Citizen Representative- Beau Mills

Meeting began at 9am.

There was a brief discussion about the meeting with the Board of Education on October 18th, 4pm. Brian will present to the Board, the school concept. The meeting is located on 3600 Old Wake Forest Road, 2nd floor.

The next CORE Team meeting will be the next day on October 19th at 9am to review the draft master plan concept that Brian will develop. There will be discussion and comments.

There will be a correction made on the draft master plan stating that the Field Services, Solid Waste, and the Public Safety division will be labeled on the plan. The Public Safety is involved with the Communications Tower and should be noted on the plan. (change the label from under Solid Waste to Public Safety.

Brian discussed the Tally sheet breakdown, Concept A was the choice overall (combined school and athletic fields.)

Off Road Bike Trails was a concern (the length of trails on the site). Some members of the Off Road Bike Group will meet with OBS at the Landfill Site on Thursday October, 6th at 5pm to discuss opportunities for their trails on the site.

OBS will review the site plan for the fueling station size at the Southern Region near Wake Tech (3-4 10,000 gal. tanks) OBS will use this as a template for an area on the North Wake Landfill.

Buildings which can be reorganized on the site for Solid Waste: Household Hazardous Waste, Convenience Center, Multi Materials (combine, consolidate) Items which will not be moved: Field Services, Communications Tower, Gas Flare Pumps (work around them)

OBS will provide a stream buffer along the stream between the northern buildings and southern buildings of Field Services. (50' buffer)

There was a question from a citizen who was concerned about parking in her neighborhood near the greenway connections, she has asked OBS to review some areas in the neighborhood where parking may be implemented to help with the future use of the greenways. Beau Mills will look into that through the Homeowners Association (it is out of the landfill's scope of work)

OBS to review Briar Creek combination of Community center and School (implement in the master plan)

Meeting Minutes

Fourth Core Team Meeting, September 30, 2005, 9am-11.00am

Dog park lighting concerns: lighting in the dog park is very minimal and that will need to be addressed to neighbors concerned about lighting and noise on the C&D cell.

Bus and car pool can be at the same entrance but need to separate shortly after entering the road toward the school. The drop offs must be separate.

Baseball Fields: 2 250's and 1 300. 180x360 for football fields. Turn the multi purpose field into a football field to be shared with the Athletics' and the School. A track can be implemented around one of the football fields (perhaps the premiere one)

There will be a tour of the landfill on Thursday, October 6th, at 5pm. Kate from OBS will provide 24 copies of the concepts for citizens to review during the tour.

Meeting ended at 11.00am

*Next meetings: Thursday October 6th, 5pm landfill tour, Friday, October 14th, Environmental Services Committee Meeting, Wake County Board of Education meeting Tuesday, October 18th, 4pm, CORE Team meeting Wednesday, October 19th, 9am Wake County, Community Meeting-Draft Master Plan, October 25th, 7pm.

Meeting Minutes

Fifth Core Team Meeting, October 17, 2005, 9am-11.30am

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager*, James Bailey- *Wake County General Services Administration/Field Services*, Larry Sherrill- *Wake County Public School System*, Jim Reynolds- *Wake Solid Waste*, Dan La Montagne- *Wake Solid Waste*

Representative from the City of Raleigh: Shanna Davis- *Raleigh Parks and Recreation*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Kate Work- *OBS Landscape Architects, Project Planner*, John Boyer- *CDM, Project Manager*

Citizen Representative- Pat Rohner

Meeting began at 9am.

Brian Starkey introduced the enlargement drawings that OBS had developed for the Draft Master Plan. Each area of the landfill had an enlargement which could describe the program elements easier.

The Borrow area detailed the Elementary School and Athletic Fields. There was some discussion whether there was a track at the existing middle school across the road. Larry Sherrill said he would check on that, but for now OBS will show the track around the premier football field.

The Field Services and Solid Waste area needs to be defined better with circulation and uses. Jim Reynolds and Dan LaMontagne will meet with OBS to discuss that area further. OBS will leave it off of the Draft Master Plan at this time and will present it at the Final Master Plan. The bike trail will be made smaller in that area to allow for more room in the Field Services area.

The Meadow enlargement will need a larger sediment basin in the native garden area. It will need to hold the same amount of water as it stands now.

Need to show a sediment basin in the Braided Pathway area.

Change the red areas that are shown now to be smaller, there is a buffer associated along the Fields Services area which will need to remain. Field Services does not have as much room as previously shown.

OBS will show a section detailing what the road will look like: Landfill, fence, trench or pipe, bike/pedestrian trail, bollard, vehicle access, and open space

Large Cell will remain a programmed element at this time. It will have a few parking spaces, but only for programmed events- will need to be supervised.

Bike trail along the back cell- stay off the benches, but can move along the slopes on the cell.

Next CORE Team meeting: Friday November 4th, 9am at Wake County to discuss the 4th public meeting and the Final Master Plan process.

Meeting Minutes

Sixth Core Team Meeting, November 4, 2005, 9am-10.30am

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager*, Larry Sherrill- *Wake County Public School System*, Dan La Montagne- *Wake Solid Waste*, Robert Hinson- *Wake County Parks and Recreation*, Rick Rowe- *Wake Solid Waste*

Representative from the City of Raleigh: Shanna Davis- *Raleigh Parks and Recreation*, Vic Lebsock- *Raleigh Parks and Recreation*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Kate Work- *OBS Landscape Architects, Project Planner*, John Boyer- *CDM, Project Manager*

Citizen Representative- Beau Mills

Meeting began at 9am.

Brian Starkey introduced the enlargement drawings that OBS had presented at the Forth Public Meeting.

Vic Lebsock mentioned that OBS will need to check the amount of parking spaces at the Aquatic Center (may need more)

Tim Maloney mentioned the concern from the neighbors about the amphitheater. He will take pictures of other amphitheaters around Raleigh to send to the concerned neighbors. The amphitheater size is for a small outdoor classroom, not a large concert.

Robert Hinson mentioned that he had done some research about the track and that there is not a need for it at this facility. The track will be omitted and OBS will review the location of the premier football field vs. the elementary school play area. Larry Sherrill mentioned the need for about 2-4 acres for outdoor play space at the elementary school.

OBS will look at areas to add Tennis and Basketball courts. Perhaps near the skate park area. Tennis Courts will need to have 6 for league play (Horseshoe Farms may be providing that)

Baseball area will need batting cages, warm-up areas, etc. This can be added into the Baseball Complex area.

OBS will need to meet with Jim Reynolds, Dan LaMontagne, and Dave Goodwin to design the Field Services and Solid Waste area. OBS will need to coordinate with Tim Maloney and Field Services to add a Police Substation.

Rick Rowe- Coordinate meeting with Mallinckrodt

There will need to be a presentation to the Parks and Open Space Advisory Board- Staff and Brian to present.

Meeting ended at 10.30am

*Next meetings: City Council Meeting- November 15
NCDENR Meeting- November 17 at 9.00am
Field Services/Solid Waste Meeting- November 18, 8.30am
CORE Team meeting Review Master Plan- November 21, 9.30am
Final Public Master Plan Meeting- December 6, 7.00pm

Meeting Minutes

Seventh Core Team Meeting, November 21, 2005, 9.30am-11am

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager*, James Bailey- *Wake County General Services Administration/Field Services*, Larry Sherrill- *Wake County Public School System*, Jim Reynolds- *Wake Solid Waste*, Rick Rowe- *Wake Solid Waste*, Dan LaMontagne- *Wake Solid Waste*

Representative from the City of Raleigh: Vic Lebsock- *Raleigh Parks and Recreation*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Kate Work- *OBS Landscape Architects, Project Planner*, John Boyer- *CDM, Project Manager*

Citizen Representative- Beau Mills

Meeting began at 9.30 am

Brian recapped the City Council Presentation- positive comments, information only meeting. He also recapped the NCDENR meeting from last week. The only significant issue addressed at the meeting dealt with the 300' buffer around the large cell. There can be no enclosed buildings in that buffer (Aquatic Center will be adjusted). The buffer must be maintained in case of a need to add any wells in those areas.

Any program in the buffer area is subject to a possible well addition.

Brian also recapped the Solid Waste/Field Services meeting from last week. Comments from that meeting are as follows:

1. Adjust Solid Waste line to allow for more room for the services area
2. Move the entry road away from the tower lines
3. Keep the public away from the tower when dropping off at the solid waste services areas.

Brian discussed the two concepts of the entry area changes. The changes have occurred to move the Aquatic Center away from the 300' buffer and also to provide Solid Waste more room for their services.

The first concept showed the Aquatic center near the parking and the football field which originally had a track, was oriented North South without the track. The skate park and playground are smaller and are moved further south.

The second concept moved the Aquatic center behind the school and the premier field behind that towards the west. The skate park was near the parking and the playground was behind the Aquatic Center.

After some discussion the Core Team decided on the first concept. Should the Aquatic Center not be built there could be an opportunity to develop that space more efficiently than in concept B. Also, the school and field relate well with each other in the first concept.

The premier field will become one of the three fields to the south of the site.

During the public meeting on December 6th, Brian will address the enlargement of the Solid Waste services by stating a few items:

1. Make the area more efficient
2. Public Safety is a concern with the Communications Tower
3. Lessen the burden on Durant Road

Meeting Minutes

Seventh Core Team Meeting, November 21, 2005, 9.30am-11 am

A comment that was mentioned about the Master Plan was to maximize the parking but to keep in mind about the storm water areas in the borrow area and the entry area.

OBS will change the road from the top of the large cell to the entry road (make it a good connection)

OBS will add basketball courts to the entry plan

OBS to show the temporary road that the school will use while Solid Waste services are still in their present location.

OBS will change the traffic pattern around the large cell to a two-way traffic at the west portion of the site to allow for vehicles to access the dog park more efficiently. There will still be a pedestrian trail to link all the way around the cell.

OBS will change the title of Amphitheater to Outdoor Classroom

The report will mention phasing and also show phasing throughout the park. This will also be addressed to the public at the next meeting.

Beau mentioned a meeting at the site for Russell Allen, and County Commissioners who are interested in visiting the site. (Tim will arrange)

Dan mentioned that he has sent Mallinckrodt a copy of the site plan with a greenway map and transportation map and if they feel the need to meet, he will set up a meeting with them.

*Next meetings: County Parks Board Meeting November 28, 11.00am
Community Meeting December 6, 7pm
Joyce Engineering Meeting (TBD)
Mallinckrodt Meeting (TBD)
County Commissioners (TBD)

Meeting Minutes

Landfill Post Closure Reuse Site Visits in Boston, Cambridge, and Nashua, June 28-June 29, 2005

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager*, Rick Rowe- *Wake County Division of Environmental Services*, John Taylor- *Wake County General Services Administration/Field Services*, Jim Reynolds- *Wake Solid Waste*

Representative from State of North Carolina: DENR: Ed Mussler, *Division of Waste Management*

Representative from the City of Raleigh: Richard Bailey- *Raleigh Parks and Recreation*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Kate Work- *OBS Landscape Architects, Project Planner*, Kim Jarvis- *CDM, Landscape Architect*, Joe Wiseman- *CDM, Senior Professional*

Citizen Representative- Pat Rohner

Arrived in Boston: June 28 and met Kim Jarvis, CDM Landscape Architect from the Cambridge office at the first site: **Pope John Paul II Park in Dorchester, MA**

Kim gave the group a quick introduction to the site, the type of landfill it was and the process to create a park from an old landfill. The park is a 65 acre site which is adjacent to the Neponset River and divided by a creek.

The park consisted of a playground and multi-use fields on one side of the park along with a trails system that connected to the other portion of the site. The other side of the park consisted of walking trails, open lawn areas, and two picnic shelters. The picnic shelters acted as a gas extraction area. The gas came up through the pillars and out the cupola at the top of the shelter. Planted areas were mounded to create a minimum 4' depth for plantings.

There was a mural along an underpass which connected to another park and trail system in Dorchester. Throughout the park there were various benches and shelters, including a picnic shelter located beside the playground. The park is five years old.

The second park was **Millennium Park in West Roxbury, MA**

At Millennium Park, the North Wake Landfill Team met up with another CDM Landscape Architect from Cambridge, John Kissida. He introduced the site as an old landfill that was adjacent to a high school, which has been converted to a park. The park is 100 acres and the topography was much more severe than at Pope John Paul II Park. There was a lower level of playing fields beside the school and various trails throughout the park which connected to the playing fields, playgrounds, a small amphitheater, and picnic areas. All of the trails except for one were ADA accessible.

The main parking lot was at the middle level of the park and connected to the playgrounds and trails. At the bottom of the site, along the Charles River, was a second parking lot which connected to a canoe launch.

At the top of the park site was a large open multi use field. The park site overlooks a nature area and the Charles River. Picnic tables and shelters are used as overlook areas.

A trail loops around the top of the site, while other trails are along the base of the hillside. The sides of the park were stabilized with tall grasses, creating a variety of wildlife habitat. The park was dedicated to the community in 2000.

Meeting Minutes

Landfill Post Closure Reuse Site Visits in Boston, Cambridge, and Nashua, June 28-June 29, 2005

The third park visit was **Danehy Park in Cambridge, MA**

Danehy Park is a 50 acre site which was transformed from a former clay pit for brick making, to a landfill, and eventually a park site. The park was complete in 1990.

At the site the North Wake Landfill Team was introduced to Richard Rossi, Deputy City Manager, who is greatly involved in the park site. He and John Kissida gave the team a brief overview of the site and took the team on a tour of the site.

The site is 10 years older than the previous sites visited, and was evident in the amount and size of the plant material.

The park is unique from the previous two in that it has an artificial turf soccer field with a track surrounding it, various public art displays, a spray park, and many passive recreation areas. There are various trails throughout the park separating the pedestrian and the cyclist with a small planted median. The topography of the old landfill offers an opportunity for sledding in the wintertime.

Other observations:

On all three sites monitoring stations were in vaults underground.

On the second day of the trip, June 29, the North Wake Landfill Team went up to Nashua, New Hampshire to visit some smaller landfill reclamation projects.

Kim Jarvis met with the team again and introduced them to Nick Caggiano, Associate Manager of Park Maintenance and Rich Rein, Solid Waste Superintendent

The two gentlemen spoke with the team about their landfills and the process to create a park from the old landfill sites. There were discussions about capping and compacting the sites and the differences between each site. The parks are smaller than the other landfill sites that were visited the day before, but the programming and the process' were the same.

The Nashua representatives took the team on a tour of Lincoln and Roussel Parks. Both parks served the little leagues in the area, as well as offering various walking/biking trails, picnic areas, and playgrounds. Roussel Park provided berms for the adjacent neighbors, and both parks had extensive monitoring systems for the landfill below.

Meeting Minutes

North Wake Landfill Citizen Committee Meeting Tuesday, July 26, 2005 7pm-9pm

Representatives from Wake County: Tim Maloney- Wake County Facilities Design & Construction, Project Manager, Jim Reynolds- Wake County Solid Waste, Johnny Beal, Wake County

Representative from the City of Raleigh: Richard Bailey- Raleigh Parks and Recreation

Design Team: Brian Starkey- OBS Landscape Architects, Project Manager/Landscape Architect, Kate Work- OBS Landscape Architects, Project Planner

Citizen Representative: Beau Mills, Pat Rohner, Bryan Marshburn, Eileen Stahl, Mark Patton, Ann Weaver, Bob Kopetsky, Paul Stafford

North Raleigh Athletic Association: Doug Hernovich

Olver Incorporated: Louis Watts

Meeting began 7pm

Beau Mills, Citizen Representative, opened the meeting by introducing what the goal of the committee has been in preparation of the Landfill Closure. Discussed the survey that has been made for the neighborhoods around the site, and will provide obs with a copy before the Site Analysis Meeting.

Tim Maloney introduced the design team, obs as the lead planner and designers, cdm as the engineering consultant to obs to provide technical services. Dick Bailey as the City of Raleigh, Parks and Recreation contact, the Wake County School System

Tim mentioned the timeline and the 5 public meetings that would occur through the master planning process.

This meeting was for the specific user groups: the neighborhoods around the landfill, other meetings for other stakeholders would be occurring between the first and second public meeting.

Brian gave an overview of what would be presented at the public meetings from the site analysis to the final master plan concept.

Beau Mills gave a brief introduction to their work that had been done.

Doug Hernovich discussed that the athletic stakeholders would like to be considered for a meeting.

Tim discussed the possibility for commercial development on the borrow site to help pay for the park. That would probably be one concept to be presented.

Schools may be a concept for the borrow site, and the middle and elementary schools are the best size for that site.

There was a question about whether the county had already set design requirements, Tim answered that there are no design requirements.

Meeting Minutes

North Wake Landfill Citizen Committee Meeting Tuesday, July 26, 2005 7pm-9pm

Brian discussed the visit to Boston while Jim Reynolds showed slides of the sites in Boston. Brian mentioned that these examples were successful conversions from a landfill to a park. There are settling issues, as well as others to think about when having a park as a landfill.

Pat Rohner spoke about her experience at the Boston sites, and emphasized the need to plan now, even if there will be a need to phase programs into the park.

Paul Stafford, with the Falls River Homeowners Association has made a survey and will distribute to the design team.

Beau Mills spoke briefly about the programs that the citizens committee would like to see on the site:

Natural Areas/Wildlife areas

Trails, for pedestrians and bikes: paved or unpaved, or both, connections to greenway trails

Dog Park

Kids are the priority, places and programs for them to be exposed to.

Community center

Athletics

BMX/Skate Park- there is no free skate park in NC

Pedestrian connections into the park

Bus stop in the park for safety

Bridge connections: over Durant from the schools?

Art

Environmental Education: interpretive signage

Audubon Society- boy scouts could help manage areas: bird watching etc.

Places to visit: The Factory in Wake Forest

Blue Jay Point

Meeting ended at 9pm

Meeting Minutes

First Public Meeting, Durant Middle School, Tuesday August 2, 2005, 7pm-8pm

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager*, Jim Reynolds- *Wake County Solid Waste*, Meghan O'Connor- *Wake County Solid Waste*, Robert Hinson- *Wake County Parks and Recreation*

Representative from the City of Raleigh: Richard Bailey- *Raleigh Parks and Recreation*

Representative from State of North Carolina: DENR: Ed Mussler, *Division of Waste Management*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, John Boyer- *CDM, Project Manager*, Robert Brossoie- *CDM*, Tommy Esqueda- *CDM*

Meeting began at 7:15 pm.

Tim Maloney opened the meeting with a few words regarding the focus and outline of the night's meeting. He reminded the audience that this is the first of five public meetings to be held with regards to Post Closure Master Plan.

Brian Starkey took a moment to introducing those in attendance who were representing Wake County, City of Raleigh, DENR and the Design Team. Brian then presented a 20 minute power-point presentation. The presentation encompassed the following:

1. Project team
2. Overall landfill facts
3. Landfill facts
4. Initial site observations & goals
5. Critical redevelopment issues
6. Project approach
7. Site analysis maps
 - a. Regional Land Use Map
 - b. Surrounding Land Use Map
 - c. Primary Site Elements
 - d. Hydrology and Drainage Map
 - e. Slopes
 - f. Before and After Images of Landfill Closure
 - g. Existing Vegetation and Habitat Map
 - h. Existing Facilities
 - i. Redevelopment Opportunities
8. Next community meeting
9. Comments

The following items were the subject of question, comments, and discussion:

The borrow area is 43 acres in size and makes up for 17% of the total project. There is nothing currently on this site it is primarily a source of soil used in the daily operations of the landfill.

Trees can be planted on the landfill, so long as a minimum of 4 ft of soil is provided in addition to the post closure landfill cap. This prevents any root system from penetrating/disturbing the cap.

Meeting Minutes

First Public Meeting, Durant Middle School, Tuesday August 2, 2005, 7pm-8pm

Difference between lined & unlined landfills:

- all unlined landfills were closed as of January 1998
- lined landfills provided an impermeable liner to protect against leachate infiltration into local waterways and drinking water
- liner construction: a) 2 ft of compacted clay
 - b) 60 mm polyethylene liner
 - c) cushioned fabric (to protect the poly liner)
 - d) leachate collection system
 - e) gravel

There is no current zoning for the borrow area. It was described as a "zoning donut hole" in the Raleigh City limits.

Trails can be built on the landfill - it will be a challenge given the steep slopes.

There are no risk factors associated with post closure of the landfill. Monitoring, maintenance and collection of leachate and associated landfill gases will continue for the next 30 years after closure.

Odor will no longer exist once the landfill is closed. Current odor is associated with the daily operations of the landfill.

Vehicular connections to the Falls River subdivision will be taken under considered during the planning process. This relates primarily to the potential extension of Dunn Road.

Formal closing date of the North Wake County Landfill - end of the year 2007.

The Master Plan will include both the permitted landfill and the borrow area.

If they choose, Wake County can sell the borrow area to a private developer.

The implementation of the project will likely be phased. Funding for implementation is not defined at this time.

Funding for the project can come from a multitude of sources (i.e. grants - both federal and state, private partners, capital improvements)

No revenue can be gained from the gas extraction. This process is privately owned and operated.

The final layer of soil will be seeded at a minimum for slope stabilization. An assortment of other plant material can be added.

Operations/facilities that will remain open after landfill closer are:

- convenience center
- multi-material drop off
- hazardous materials

What is involved with the capping system? :

- From the bottom to the top there is 12" of intermediate soil cover over the waste. Above that is the 40 mil. LLDPE geosynthetic cap, then geocomposite drainage net. Above the drainage net is 18" of compacted final cover soil and finally 6" of vegetative cover soil to help promote growth of the grass cover.

Meeting Minutes

First Public Meeting, Durant Middle School, Tuesday August 2, 2005, 7pm-8pm

Settling of the site is a gradual, on going process.

The active landfill site is covered by soil on a daily bases.

What is intended for the next meeting is:

- present similar projects
- brainstorm (perhaps gather in small groups) / generate ideas

The hope of this project is that the citizens will determine the outcome of this site. Final approval will be that of the County Commissioners.

Implementation will not occur until the entire facility is closed. (end of 2007)

Paul Stafford - liaison for Falls River

"He who screams the loudest gets their way" - encourages people to come to the meetings

It will be the job of those involved with this planning process that all interests are taken into consideration.

The adjacent schools will be contacted and their interests will also be taken into consideration.

Meeting ended at 8:10pm

ACTION ITEMS:

1. OBS will send Tim Maloney a cd of the slide presentation to be available on the web.
2. Request from Citizens Group to present their ideas and plans for the post closure of the landfill at the next meeting. (scheduled for - August 23rd 7pm)
3. Request to view the study/information put together by the Citizens Group.

Meeting Minutes

Meeting with Sig Hutchinson, Wake County Building, Monday, August 15, 2005 4pm-5.30pm

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Katherine Work, - *OBS, Project Designer*

Sig Hutchinson

Meeting began at 4 pm

Tim Maloney and Brian Starkey introduced Sig Hutchinson to the site and discussed the existing greenways and proposed greenways around the site.

Sig mentioned the proposed trail along the Neuse River being developed and its connection from Falls Lake down to the Southern portion of the river in Wake County.

There were some connections discussed for the landfill site to existing and proposed greenways. A loop circulation system would be ideal for that area. Connect the park to Durant Nature Park, the Neuse, and Falls Lake.

Need to speak with Vic Lebsock and Dick Bailey, with the Raleigh Parks and Recreation Department, about the proposed greenway connection along the Mallinckrodt property that would meet up with the Neuse River connection- verify the location, and when the plan will be developed.

Connection Map to be established for the Landfill project describing where the trails will meet up with potential trails near the site. The Connection Map would include Horseshoe Farms Park site, Forest Ridge Park at Falls Lake, Durant Nature Park, and the existing greenway systems around the site. The map will show a hierarchy of trails which describe existing trails, trails which are under design, and proposed trails.

Mr. Hutchinson spoke about being an advocate for the trails that would connect to the site and also spoke about how to fund greenway trails as the proposed site would be going through construction drawings, when that time came.

Meeting ended at 5.30pm

Meeting Minutes

Meeting with the North Raleigh Athletic Association-Stakeholders, Wednesday August 17, 2005 9am-10.30am

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager* , Johnny Beal- *Wake Solid Waste*, Dan LaMontagne- *Wake Solid Waste*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Katherine Work, - *OBS, Project Designer*

Members of the North Raleigh Athletic Association: Steve Moss, Gary Green, Meredith Blackwood, Allen, Doug Hernovich, and Dave Hausfeld

Meeting began at 9.10am

Introductions were made

North Raleigh Athletic Association-Football/Cheerleading and North Raleigh Baseball spoke about their need for more fields

Wake County is growing rapidly and the children need places to play sports. The county is loosing the open space land, with new developments, and changes to the sizes of schools.

The two stakeholders would be interested in maintaining and managing the fields, if they could have some open space for their fields somewhere on the future park site.

At the present moment the North Raleigh Football teams play at 3 different places all over the city which makes it difficult for parents to get their children to the different places if they have more than one child playing in the sport. Parents are less likely to sign up their child if they know they will have to take them all over Raleigh to the games and practices. Need a central location for the facilities.

The three places they practice and play now are:

1. Ravenscroft
2. Durant Middle
3. West Millbrook

This is the first time that they have had to turn away children because there is not enough space to play more kids.

There are 16 teams:

- 4 Flag Football ages 5-7
- 1 Tiny Mite ages 5-7
- 3 Pee Wee ages 9-11
- 3 Pee Wee ages 10-12
- 1 Junior Middle ages 11-13
- 4 Mighty Mites ages 7-9

387 football players 87 cheerleaders 25 on waiting list, had to stop putting kids on the list.

Regular Football Field: 120x60 yards
80x60 for flag football only

Ideally they would need 8 fields including a Game Field, but they will take what they can if it were to work out on the site somewhere. They would need a 20x20 maintenance and storage building, currently they store there equipment at O'Neal Chrysler Plymouth. They play from August to October

Meeting Minutes

Meeting with the North Raleigh Athletic Association-Stakeholders, Wednesday August 17, 2005 9am-10.30am

There was some discussion about sharing the fields for lacrosse because they need a place to play and they would play at different times of the year. There could be some field sharing.

There is a need for a large open space for this area, even for large activities such as a concert

If there was a central location for these facilities, it would bring a large amount of people to the area which would be good for the entire site. More people would get use out of the park.

The maintenance building could be incorporated with the concession stand, restrooms, and sheltered eating area.

The football fields would need irrigation and the Game Field would need lighting

There was a request for a small press box as well.

Baseball was also discussed and they are also having trouble finding enough space for the kids to play. The types of playing fields are not great, and they have to struggle to get use out of them.

The amount of parking needed would be: 45 spaces/ field For football it would be: 50/field

North Raleigh Baseball: 850 kids, they have tryouts, but if they had more space, everyone would have been able to play.

They play at Leesville Elementary

Leadmine

Wakefield

Various Churches

Millbrook / West Millbrook

Wildwood Forest

Ages and Types of Baseball offered:

T-ball ages 5-6

Coach Pitch ages 9-12

Wake County Schools do not provide baseball for middle schools, North Raleigh offers it to 13-15 year

Olds

High School age 16-18

There is a need for the central location for baseball much like the football teams.

Field Sizes: 200' or less

1-2 that are 300'

4 wheel formats are fine to use as long as there is adequate space

Land efficient

Irrigation and lighting for baseball fields

Baseball and Football can share a concession stand and restroom facility

There was a discussion about connections into the park: A second entrance may happen, but the association would be happy to use the existing one to tie into the field area, they are flexible with that.

For potential concepts, there may be one with a school on the Borrow Area, one with retail, and one possibly with Athletic Fields, will have to see what happens at the August 23rd meeting with the public.

On the August 23rd meeting, the Athletic Association can stand to make some brief points as discussed above, Tim Maloney will let them know if a brief presentation can be made. He will let them know on Friday August 19th, but they will most likely just stand, say a few words, and allow others who are associated with the athletic teams to stand, it will be very brief, as the Design Team has a lot to cover that evening.

Meeting Minutes

Meeting with PUP: People for Unleashed Dog Parks-Stakeholders , Thursday, August 18, 2005 4pm-5.15pm

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager* , Johnny Beal- *Wake Solid Waste*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Katherine Work, - *OBS, Project Designer*

Members of the PUP: People for Unleashed Parks/Dog Parks: Bill Hornsby, Mary Eldridge

Meeting began at 4pm

Introductions were made

PUP: People for Unleashed Parks, an organization that advocates for dog parks around the Wake County area, have been an organization for 7 years, helping to bring dog parks to Raleigh, Cary, Holly Springs, and Fuquay Varina. All volunteers

2 acres minimum for dog park. 2 separate sections: 1 for large dogs, 1 for small dogs

Need to be able to close off sections at a time, to regrow grass if that is what is used instead of mulch

Owners must pick up after dogs, bags/gloves are provided at site

Don't need to watch them at all times, can have trees (ideal), mounds are ok, dog usually stays close by owner. Policing? Within the groups at the dog park, no outside security is usually necessary.

Need shade, trees, picnic shelter, good drainage, water: hose bib, or pond, site furnishings must be movable, benches, trash cans (hole in fence for maintenance who don't want to deal with the dogs), 5' chain link fence

Parking: 30-50 spaces, some nearby the dog park for elderly, ADA

There needs to be two gates, one to allow owner to unleash the dog before opening the second gate out into the fenced in area.

Question about barking: usually dogs are too busy playing, they usually bark when they want to get in to where the other dogs are. Not usually an issue with surrounding neighbors

Lighting is typical: some parks open till 11 pm, cooler to take your dog in the evening

Trails can be associated, but not all visitors will want to associate with the dogs...keep in mind when designing

Agility Park: AKC holds events, could hold at the landfill.- Mike Allway is a good contact to speak to about the agility parks and events that they have.

Rehab aspect can be incorporated in the park, with ponds, etc.

Meeting ended at 5.15pm

Meeting Minutes

Meeting with Vic Lebsock, Raleigh Parks and Recreation-Greenways, Friday, August 19, 2005 9am

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Katherine Work, - *OBS, Project Designer*

Raleigh Parks and Recreation: Vic Lebsock

Meeting began at 9 am

Introductions were made

Mr. Lebsock gave a brief explanation of where future greenway systems were going to be developed

Discussed opportunities to incorporate a greenway system to connect with the landfill site and loop down to Durant Nature Park and over to the Neuse River.

There are existing 8' paths along Falls of the Neuse and Durant Road up to Cub Trail Road. Could extend further to the proposed site as a connection...

Meeting ended at 9.30am

Meeting Minutes

Meeting with Vic Lebsock, Raleigh Parks and Recreation-Greenways, Friday, August 19, 2005 9am

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Katherine Work, - *OBS, Project Designer*

Raleigh Parks and Recreation: Vic Lebsock

Meeting began at 9 am

Introductions were made

Mr. Lebsock gave a brief explanation of where future greenway systems were going to be developed

Discussed opportunities to incorporate a greenway system to connect with the landfill site and loop down to Durant Nature Park and over to the Neuse River.

There are existing 8' paths along Falls of the Neuse and Durant Road up to Cub Trail Road. Could extend further to the proposed site as a connection...

Meeting ended at 9.30am

Meeting Minutes

Second Public Meeting, Durant Middle School, Tuesday, August 23, 2005, 7pm-9.30pm

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager*, Jim Reynolds- *Wake County Solid Waste*, Meghan O'Connor- *Wake County Solid Waste*, Robert Hinson- *Wake County Parks and Recreation*, Dan LaMontagne- *Wake County Solid Waste*, Johnny Beal- *Wake County Solid Waste*

Representative from the City of Raleigh: Shanna Davis- *Raleigh Parks and Recreation*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Katherine Work- *OBS Landscape Architects, Project Designer*, Jeff Claus- *OBS Landscape Architects, Project Designer*, John Boyer- *CDM, Project Manager*, Joe Wiseman- *CDM*, Kim Jarvis- *CDM*

Meeting began at 7:15 pm.

Brian Starkey took a moment to introduce those in attendance who were representing Wake County, the City of Raleigh, and the Design Team. He then briefly went over what he discussed at the last public meeting: Overview of the process/ schedule, and a brief presentation of the site analysis, initial observations and goals, and critical redevelopment issues.

Kim Jarvis presented some of CDM's landfill projects as precedents: Millennium Park, Danehy Park, Pope John Paul II, Nashua Parks, etc. Brian presented some reclaimed landfill projects that were done by others as well: Fresh Kills Landfill, Byxbee Park, Nanji Island Park, Dyer Field, and Mt. Trashmore.

Brian then welcomed Beau Mills and his citizen design committee to present some of the work that they had done. Beau and others presented program ideas that the community has discussed that they would like to see on the proposed site. Dog Parks, Skate Parks/BMX, Education and Wildlife, and Athletic Fields

Brian then opened the meeting up for other stake holder groups to have a representative come up to the podium and speak briefly about their groups. The groups who were represented were the North Raleigh Athletic Association, North Raleigh Baseball, TORC (off road biking) , Falls River Homeowners Association, PUP (people for unleashed parks), and County Commissioners: Herb Council, Harold Webb. City Council representative: Jessie Taliaferro also spoke about the similarity of Horseshoe Park and the need to get the citizens involved in that plan as well, and the connections associated with the two park sites.

After the presentations by other organizations were finished, Brian had the public break into their groups they were assigned to and begin ideating what they would like to see for the proposed site. The groups met for about 25 minutes and then one person from each group presented the ideas to the whole group.

Kate Work and Jeff Claus from OBS organized the ideas on large boards so that the public could get an idea of what the priorities were from the public.

Brian took some questions from the audience, which included: budget, funding, master plan schedule, and closing dates..

The next public meeting: The design team will bring various concepts to the meeting, which will represent the ideas generated at the second public meeting and will present them to the public. The public will be able to comment about the concepts and start to make decisions on what the plan will develop into.

The meeting ended at 9.30pm The next meeting will be September 27th 7pm

Meeting Minutes

Meeting with Jim Reynolds and Dan LaMontagne-Landfill Review, Monday, September 12, 2005 9am-11.15am

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager*, Jim Reynolds- *Wake Solid Waste*, Dan LaMontagne- *Wake Solid Waste*, James Bailey- *Wake County General Services Administration/Field Services*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Katherine Work, - *OBS, Project Designer*

Meeting began at 9 am

Brian Starkey and Tim Maloney gave a recap of the CORE team meeting that was held on September 2. They discussed the schools interest in the borrow site, and the timeframe to make a decision about whether or not Wake County Schools would purchase the land for a school (would have to go before the Board of Education first.) Brian discussed the possibility of the Dunn road extension, and that in the concept designs; one may show a portion of the extension from Durant Rd north to connect into a proposed school site. There are no definite plans to build the road now, but it is on the transportation MP, but could show future possibility.

There was some discussion about the grade change on the large cell. Tim and Jim discussed the reasons that they will not change them now. It would require at least a year to get the permit changed, steeper vs. shallow slope- not much difference in the size at the top, and it becomes a maintenance issue. Changing the gas monitoring well's sizes and flow would be extremely costly. The meeting addressed what Field Services would need on site, and how much land they would require to continue their operations. They will expand in the future and require more room for offices, and truck bays, etc. The design team will design around a facility for both the Field Services division and the Solid Waste division.

There was some discussion about what the Solid Waste department would need to maintain on site. The Convenience center, Multi-materials, and Household hazardous waste can be combined in one location, but must remain on site. These will still need to be accessible for the community. (Will need to rework road configurations for the accessibility to these facilities).

Santek contractor will remain on site. The communications tower will not move. But centralizing trailers can be done. There will be a need for a place with elevation change to drop off tires into a trailer.

The site will require a storm debris place for drop-off. It can be open field that when not in use from a storm could be a multi purpose field. (about 10 acres or more)

There was discussion about a separate entrance for the citizens into the park site vs. the citizens and solid waste/field services using the drop off conveniences.

Jim Reynolds was concerned about the use of the back cell with all of the monitoring stations. Brian proposed a fence around the perimeter. The final decision was to show at least one concept that would allow the public to access the back cell only around its perimeter and have limited access to the top (star gazing events only, bird watching- but must make arrangements first.) This is to keep the public safe as well as the landfill cell gas monitors from being disturbed. The concept/MP will show phasing, with a possibility of opening trails to the top if the public has not vandalized the monitoring wells in the first phase.

The concept will only show labels of future trails not show them on the plan. Only show definitive trails on the concepts.

The paths must be open to maintenance crew to check monitoring wells, as well as other events at all times, Solid Waste will have access at any time they feel the need. They do not want to have to make a schedule to come in to the site.

The meeting ended with a discussion about Thursday's meeting which Brian and Kate will show quick concepts to the CORE team members before the public meeting.

Meeting Minutes

Third Public Meeting, Durant Middle School, Tuesday September 27, 2005, 7pm-9.30pm

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager*, Meghan O'Connor- *Wake County Solid Waste*, Robert Hinson- *Wake County Parks and Recreation*, Rick Rowe- *Wake County Solid Waste*, Johnny Beal- *Wake County Solid Waste*, James Bailey- *Wake County Field Services*

Representative from the City of Raleigh: Shanna Davis- *Raleigh Parks and Recreation*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Katherine Work- *OBS Landscape Architects, Project Designer*, Jeff Claus- *OBS Landscape Architects, Project Designer*, Tommy Esqueda- *CDM, Project Manager*

Meeting began at 7:15 pm.

Brian Starkey gave a brief recap of the previous two meetings (including reminding everyone that the last Public meeting has been changed to December 6th. He then began to explain the three concepts to the public.

There were various program elements that were in all three schemes: Trails, Athletic Fields, Skate Park, Dog Park, Picnic Areas, Playgrounds, and Public Art opportunities.

In concept A: Elementary School/ Athletic Fields

- There is a split 2 way circulation (vehicular)
- Combined Pedestrian and Bike Trails

- 2 Playgrounds

- Dog Park (3 acres)

- Skate Park (.4 acres)

- Off Road Bike Trail (2.5 miles)

Concept B: Athletic Fields

- Full 1 way circulation (vehicular)

- Combined Pedestrian and Bike Trails

- Playgrounds (2) Children's play environment

- Dog Park (2 acres)

- Skate Park (.3 acres)

Concept C: Athletic Fields and Commercial

- Split 2 way circulation (vehicular)

- Pedestrian and Bike Trails

- Playgrounds (2)

- Dog Park (2 acres)

- Skate Park (.4 acres)

- Off Road Bike (1 mile)

Once Brian was finished with the Power Point presentation and describing each concept, the public was asked to review the concepts along the walls of the auditorium and use their checklist sheet (provided by OBS) to choose which concept they preferred (A, B, or C) and which program elements they preferred in which scheme.

I

Meeting Minutes

Third Public Meeting, Durant Middle School, Tuesday September 27, 2005, 7pm-9.30pm

There was a short question/answer period at the end of the meeting. Questions raised were:

1. The Off Road Bike group was concerned that there were not enough trails for their needs, they suggested at least 8 miles, and perhaps using the cells. Brian's reply was that the design team and Wake County would look at it further and discuss possible use on the cells, but due to the cells needing to have regulatory approval from NCDENR, that may not be possible. One of the bike groups asked why at Renaissance Park in Charlotte, can they get on the cells, and Brian replied that the landfill in Charlotte is different from this landfill and there are different regulations that must be followed.
2. There was a question about whether or not one of the football fields could have a track around it. Brian replied that that could happen.
3. One community member wanted to know about how late the park would be open and was concerned about noise and lighting in their subdivision. Brian and Tim replied that the park would be open from Dawn to Dusk and that the fields would be on Durant Road and the lighting would not affect the community behind the landfill.
4. The skate park will not have lighting associated with it.
5. The final cost estimate will be presented along with the Final Master Plan on December 6th. The project will be in phases with various partners. County, State, City, Grants, Private Funds, etc.
6. Dunn Road, on Mallinckrodt's property or the counties? Mallinckrodt's property but is on the Transportation Plan at the city already, just not a high priority unless neighbors speak up.
7. Will there be a transfer center at the site? Rick Rowe replied that there would not be at this time.
8. Traffic lighting for Dunn Road? Brian thought yes, but would have to look into that.

The meeting ended at 9.30pm The next meeting will be October 25th 7pm at Durant Middle School

Meeting Minutes

Fourth Public Meeting, Durant Middle School, Tuesday, October 25, 2005, 7pm-9pm

Representatives from Wake County: Jim Reynolds- *Wake County Solid Waste*, Dan LaMontagne- *Wake County Solid Waste*, Robert Hinson- *Wake County Parks and Recreation*, Rick Rowe- *Wake County Solid Waste*, Johnny Beal- *Wake County Solid Waste*, James Bailey- *Wake County Field Services*

Representative from the City of Raleigh: Shanna Davis- *Raleigh Parks and Recreation*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Kate Work- *OBS Landscape Architects, Project Designer*, Jeff Claus- *OBS Landscape Architects, Project Designer*, John Boyer- *CDM, Project Manager*

Meeting began at 7.00 pm.

Brian asked that the public review the enlargement boards before the meeting to become familiar with the areas that would be discussed at the presentation.

At 7.30pm Brian began the presentation. He discussed the site briefly for those who may have not been to the other meetings. Overview of the site: concerns, usable space, circulation issues, and buffers.

The presentation involved the Draft Master Plan which was divided into seven enlarged areas. The overall plan showed the buffers, circulation, and secured areas.

Brian gave a detailed description of each enlarged area starting with the school and athletic area: the borrow area. There would be a school with an environmental education center attached. Also four football fields and three baseball fields.

The other enlarged areas were the entry area with the Skate Park, playground, Aquatic Center, picnic areas, and parking. The Braided Pathways: Biking and Pedestrian trails, trail head, and public art. The Meadow, which was the old leachate area, amphitheater, playground, ponds (sediment basins), gardens, and the secured gas flare area which included landfill maintenance operations. The back cell (Prospect Hill) contained bike trails, pedestrian trails, a viewing shelter at the top of the cell, and a greenway connection. The C&D cell transformed into a dog park and playground area with pedestrian and bike trails around the bottom of the cell. The large cell was described as program access to the top with an environmental education component at the top.

After the presentation, Brian took comments and questions.

Some questions that were brought up were:

1. Total Cost of the project? How is the project being funded?

-response was: not determined yet, there will be an estimated cost for the final master plan (20-30 million not including the school) There will be phases (7-10 years to build) Money will come from partners, not just one organization

2. Will this create increased traffic/ increased congestion?

- Currently working with Wake County Transportation to make sure that the plan addresses that

3. Will there be plantings on the main cell (large cell)?

- Possible mix of native grasses- encourages/ attracts wildlife

4. Seating in Amphitheater? Could it be relocated, worried about noise.

- The amphitheater would be very small and would just use graded lawn for seating, could be relocated, if that was a problem

Meeting Minutes

Fourth Public Meeting, Durant Middle School, Tuesday, October 25, 2005, 7pm-9pm

5. Why another elementary school?
 - Large demand for an elementary school- accommodate children in Falls River and Bedford
6. Top of the large cell doesn't appear to be able to handle buses, and what about restrooms?
 - Busses can be accommodated, the top is 4 acres, and could be designed to accommodate a bus Turn around. Restrooms would be possible, perhaps a composting toilet.
7. Library on site?
 - 2 are proposed for the area
8. Green roof, why only one structure? Could you have all structures be green roofs?
 - Any of the buildings could be green roofs, and even the environmental building could be.
9. Would there be lighting on the site? What areas would be?
 - The school and premier football field would have lighting; there would also be security lighting In the park, but the park would be open dawn to dusk unless there was a program going on.
10. How much will change between now and December 6th final meeting?
 - There will be some changes based on this meeting's comments and meeting with the city officials

Meeting ended at 9.00pm

ACTION ITEMS:

1. OBS will send Tim Maloney a cd of the slide presentation to be available on the web.

Meeting Minutes

Sixth Core Team Meeting, November 4, 2005, 9am-10.30am

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager*, Larry Sherrill- *Wake County Public School System*, Dan La Montagne- *Wake Solid Waste*, Robert Hinson- *Wake County Parks and Recreation*, Rick Rowe- *Wake Solid Waste*

Representative from the City of Raleigh: Shanna Davis- *Raleigh Parks and Recreation*, Vic Lebsock- *Raleigh Parks and Recreation*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Kate Work- *OBS Landscape Architects, Project Planner*, John Boyer- *CDM, Project Manager*

Citizen Representative- Beau Mills

Meeting began at 9am.

Brian Starkey introduced the enlargement drawings that OBS had presented at the Forth Public Meeting.

Vic Lebsock mentioned that OBS will need to check the amount of parking spaces at the Aquatic Center (may need more)

Tim Maloney mentioned the concern from the neighbors about the amphitheater. He will take pictures of other amphitheaters around Raleigh to send to the concerned neighbors. The amphitheater size is for a small outdoor classroom, not a large concert.

Robert Hinson mentioned that he had done some research about the track and that there is not a need for it at this facility. The track will be omitted and OBS will review the location of the premier football field vs. the elementary school play area. Larry Sherrill mentioned the need for about 2-4 acres for outdoor play space at the elementary school.

OBS will look at areas to add Tennis and Basketball courts. Perhaps near the skate park area. Tennis Courts will need to have 6 for league play (Horseshoe Farms may be providing that)

Baseball area will need batting cages, warm-up areas, etc. This can be added into the Baseball Complex area.

OBS will need to meet with Jim Reynolds, Dan LaMontagne, and Dave Goodwin to design the Field Services and Solid Waste area. OBS will need to coordinate with Tim Maloney and Field Services to add a Police Substation.

Rick Rowe- Coordinate meeting with Mallinckrodt

There will need to be a presentation to the Parks and Open Space Advisory Board- Staff and Brian to present.

Meeting ended at 10.30am

*Next meetings: City Council Meeting- November 15
NCDENR Meeting- November 17 at 9.00am
Field Services/Solid Waste Meeting- November 18, 8.30am
CORE Team meeting Review Master Plan- November 21, 9.30am
Final Public Master Plan Meeting- December 6, 7.00pm

Meeting Minutes

NCDENR Meeting, November, 17, 2005 9am-10.00am

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager*, Jim Reynolds- *Wake Solid Waste*, Dan La Montagne- *Wake Solid Waste*, Rick Rowe- *Wake Solid Waste*

Representative from State of North Carolina: DENR: Ed Mussler, *Division of Waste Management*, Dexter Matthews, *Division Director*, James Coffey, *Section Chief- Solid Waste Section*, Mark Poindexter, *SW Field Operations Branch*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Kate Work- *OBS Landscape Architects, Project Planner*, John Boyer- *CDM, Project Manager*, Robert Brossoie- *CDM*

Meeting began at 9am.

Introductions were made

Tim presented to Mr. Mussler, Mr. Matthews, Mr. Coffey, and Mr. Poindexter the history of the master plan process

Brian went through each component of the draft master plan, the borrow area, entry area, landfill cells, etc.

Tim explained that there would be a more detailed phasing plan in the master plan summary as the process continues. This will include understanding NCDENR's role with the landfill.

Jim mentioned that Solid Waste has contractors that will continue to monitor the landfill after the closure - the design team understands that anything proposed for the site has the potential to be interrupted should there be a need to add a well on the site.

Comments:

1. This landfill will set a precedent for the whole state, need to be aware of that
2. Need to maintain the 300' buffer from the edge of the waste out towards the property line- will need to adjust the Aquatic Center to accommodate for that.
3. Will need to explain that some wells will need to be buried underground with a vault in areas such as a parking lot or trail
4. No closed structure within the 300' Buffer

Deliverables:

1. Bob Brossoie from CDM will provide OBS with the distances from the edge of waste to the road
2. OBS will provide NCDENR with a revised entry with the adjusted Aquatic Center area (obs will email a draft to them for comment)

Meeting ended at 10.00am

*Next meetings: Field Services/Solid Waste Meeting- November 18, 8.30am
CORE Team meeting Review Master Plan- November 21, 9.30am
Final Public Master Plan Meeting- December 6, 7.00pm

Meeting Minutes

Field Services and Solid Waste Meeting, November 18, 2005, 8.30am-10am

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager*, Dan LaMontagne- *Wake Solid Waste*, Johnny Beal- *Wake Solid Waste*, Dave Goodwin- *Wake County General Services Administration*, James Bailey- *Wake County General Services Administration/Field Services*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Kate Work- *OBS Landscape Architects, Project Planner*

Meeting began at 8.30am.

Introductions were made

Tim and Brian reviewed the plan with Mr. Goodwin.

Dave Goodwin recommended removing the police substation from the plan. He also wanted the Field Services area to be presented as a long term plan. OBS will show in the master plan a maximum build out for the Field Services area.

OBS will present to Mr. Goodwin two concepts of the Field Services area:

1. Maximum Build out without the existing facilities in the areas already developed
2. Maximum Build out utilizing the facilities already developed

The flag lot will be subject to City of Raleigh review. Utilize that area for expansion of Field Services, move the Fueling station to its existing location and enlarge it.

Mr. Goodwin had a comment about the proposed Park Entry Road and its proximity to the tower. He thought that there may be a need for a wall to protect the wires from someone running into them. OBS will review the plan and adjust as needed.

OBS will check if the stream indicated between the maintenance building and the fueling building at Field Services is a blue line stream, if not, could possibly increase the space for that area of development.

Solid Waste:

Will need to increase the lanes and redevelop the Convenience area, the Multi materials area, as well as the Household Hazardous Waste. Tim, Brian, and Dan will need to meet with Joyce (engineers who are currently working on the Convenience Center sketches) this will assist OBS in designing an appropriate area for these facilities.

Dan mentioned that OBS will need to stay clear of the communications tower when developing the buildings for HHW, Multi materials, etc.

Deliverables:

1. OBS will provide Dan LaMontagne a copy of the transportation map and greenway map to send to Mallinckrodt for discussion
2. OBS will provide Tim Maloney and Dan LaMontagne the layout of the existing Field Services/ Solid Waste for Joyce to review before meeting with them.
3. Tim will make arrangements to meet with Joyce before the next public meeting
4. Dan will make arrangements if needed to meet with Mallinckrodt
5. OBS will send Dave Goodwin 2 concepts for review of the Field Services area

Meeting ended at 10.00am

*Next meetings: CORE Team meeting Review Master Plan- November 21, 9.30am

Parks Board meeting- November 28, 11.00am

Final Public Master Plan Meeting- December 6, 7.00pm

Meeting Minutes

Fifth Public Meeting, Durant Middle School, Tuesday, December 6, 2005, 7pm-8pm

Representatives from Wake County: Tim Maloney- *Wake County Facilities Design & Construction, Project Manager* - Jim Reynolds- *Wake County Solid Waste*, Dan LaMontagne- *Wake County Solid Waste*, Robert Hinson- *Wake County Parks and Recreation*, James Bailey- *Wake County Field Services*, Meghan O'Connor- *Wake County Solid Waste*

Representative from the City of Raleigh: Shanna Davis- *Raleigh Parks and Recreation*

Design Team: Brian Starkey- *OBS Landscape Architects, Project Manager/Landscape Architect*, Kate Work- *OBS Landscape Architects, Project Designer*, Jeff Claus- *OBS Landscape Architects, Project Designer*, John Boyer- *CDM, Project Manager*, Joe Wiseman- *CDM, Senior Professional*, Robert Brossoie- *CDM*

Meeting began at 7.00 pm.

Tim introduced the Final Master Plan and spoke about how this is still an ongoing process and will continue to be throughout the development of the park. He mentioned that it will take many supporters and collaborators to make this master plan implementation occur.

Brian presented the North Wake Landfill Master Plan by providing a brief history of the process of the project, and explaining each area of the landfill and the program elements associated with the areas.

After the Power Point presentation Brian took questions and comments from the public.

Comments:

1. Cost? ~20-30 million
2. Process / planning involved for future grading/paving? Those factors have been taken into consideration, and there will not be a need for grading except for fill on the landfill cells.
3. Fishing Pond for youth? Possibility
4. Lighting near the houses in the back of the landfill? Lighting will be located at the premier athletic field, and the school. The park would be run like all parks: Dawn to Dusk
5. Will the fence around the perimeter come down? No
6. There is a need for a public bus stop at the park.
7. Can the design team provide environmental information showing the borrow area will be safe for a school? The design team will continue to research the area as well as the school system will do their research before committing to the site for development.
8. If there isn't a school on the borrow site, what would go there? There would be a need to reevaluate with the public would want to see there.
9. What will the leadership be to continue this process? Wake County will continue to lead the project, but will work with others to implement the programs in the park.
10. Would the school own their portion of land? Yes, the money would go to the enterprise fund that will close the landfill and could potentially be used in some way towards the park.

ACTION ITEMS:

1. OBS will send Tim Maloney a cd of the slide presentation to be available on the web.
2. OBS will send Tim Maloney a cd of 100 scale, 200 scale, and 8.5 x11 drawings for his use.
3. Tim will provide a 100 scale and 200 scale board to Jim Reynolds
- 4. Tim will provide a 200 scale board to Louis Watts**
- 5. OBS will provide Louis Watts with a CD of the Master Plan**
- 6. OBS will provide CDM with a copy of the Master Plan**
- 7. OBS will provide Solid Waste with 8.5 x 11 copy of the Master Plan**

Next Meetings:

CORE Team meeting: December 14th 3.30pm

County Commissioners Meeting: February 6



Appendix 1: Construction Cost Estimate Spreadsheet: Area 1

Line No.	CSI No.	Item Description	Quantity	U/M	Material Cost		Labor Cost		Subcontractor Cost		Total Cost
					Unit	Total	Unit	Total	Unit	Total	
1											
2											
3		Site Work Cost Summary									
4											
5	02	Site Preparation								738,400	738,400
6	02	Site Utilities								504,500	504,500
7	02	Site Paving								1,178,430	1,178,430
8	02	Site Improvements								3,657,200	3,657,200
9	02	Site Landscaping								300,400	300,400
10	02	Elementary School								18,000,000	18,000,000
11	01	General Requirements								1,950,314	1,950,314
12	01	G.C. Overhead & Fee								1,579,755	1,579,755
13	01	Performance Bonding / Insurance								558,180	558,180
14	01	Design / Estimating Contingency								5,693,436	5,693,436
15											
16		Total Probable Construction Cost								34,160,615	\$34,160,615
17											
18											
19	02	Site Work									
20											
21		Site Preparation									
22		- clearing & grubbing (minimal)	42	AC					1000	42,000	42,000
23		- grading (avg 2' depth)									
24		asphalt trail	2,500	CY					5	12,500	12,500
25		concrete paving	9,700	CY					5	48,500	48,500
25		school building	12,750	CY					5	63,750	63,750
26		parking lots	26,450	CY					5	132,250	132,250
26		playing fields	60,000	CY					5	300,000	300,000
27		stormwater ponds	1	EA					15000	15,000	15,000
28		- silt fence	4,850	LF					4	19,400	19,400
29		- final grading	42	AC					2500	105,000	105,000
30		Site Utilities									
31		- storm drain	2,900	LF					45	130,500	130,500
32		- water line	2,000	LF					85	170,000	170,000
33		- sanitary sewer	3,400	LF					60	204,000	204,000
34		Site Paving									
35		- asphalt paving (light duty)									
36		10' asphalt trail	2,950	SY					16	47,200	47,200
37		parking lot	19,850	SY					23	456,550	456,550
38		striping	8,820	LF					1.5	13,230	13,230
39		- concrete									
40		24" wide curb / gutter	13,600	LF					15	204,000	204,000
41		walks - 4" tk.	130,700	SF					3.5	457,450	457,450
42		Site Improvements									
43		- buildings									
44		maintenance	1,500	SF					120	180,000	180,000
45		concessions / restrooms	2,500	SF					250	625,000	625,000
46		- picnic shelters									
47		small	6	EA					56000	336,000	336,000
48		large	2	EA					80000	160,000	160,000
49		- playground equipment	1	LS					100000	100,000	100,000
50		- fencing									
51		fencing 5' h.	1,670	LF					10	16,700	16,700
52		baseball field fence	3,200	LF					12	38,400	38,400
53		backstop fence	3	EA					7000	21,000	21,000
54		- bleachers									
55		football	4,800	SF					20	96,000	96,000
56		baseball	6	EA					5000	30,000	30,000

Appendix 1: Construction Cost Estimate Spreadsheet: Area 1 continued

57	- skate park							
58	paving / walls / ramps / steps	21,000	SF			40	840,000	840,000
59	- public art	1	LS			50000	50,000	50,000
60	- bollards	133	EA			500	66,500	66,500
61	- irrigation	496,000	SF			0.6	297,600	297,600
62	- lighting							
63	soccer / football fields	4	EA			80000	320,000	320,000
64	tennis courts	2	EA			20000	40,000	40,000
65	- 10' retaining wall	11,000	SF			40	440,000	440,000
66	Landscaping							
67	- trees	267	EA			450	120,150	120,150
68	- shrubs	95	EA			50	4,750	4,750
69	- ground cover	180,000	SF			0.5	90,000	90,000
70	- grassing	21	AC			2500	52,500	52,500
71	- mulch	36,000	SF			0.5	18,000	18,000
72	- misc.	1	LS			15000	15,000	15,000
73	Elementary School							
74	- school / community center	98,128	SF			183.43	18,000,000	18,000,000
75								
76	Subtotal						24,378,930	24,378,930
77	General Requirements	8%					1,950,314	1,950,314
78	Subtotal							26,329,244
79	G.C. Overhead & Fee	6%					1,579,755	1,579,755
80	Subtotal							27,908,999
81	Performance Bonding / Insurance	2%					558,180	558,180
82	Subtotal							28,467,179
83	Design / Estimating Contingency	20%					5,693,436	5,693,436
84	Total Probable Construction Cost						34,160,615	\$ 34,160,615



Appendix 1: Construction Cost Estimate Spreadsheet: Area 2

Line No.	CSI No.	Item Description	Quantity	U/M	Material Cost		Labor Cost		Subcontractor Cost		Total Cost
					Unit	Total	Unit	Total	Unit	Total	
1											
2											
3		Site Work Cost Summary									
4											
5	02	Site Preparation								257,100	257,100
6	02	Site Paving								128,720	128,720
7	02	Site Improvements								726,250	726,250
8	02	Site Landscaping								319,800	319,800
9	01	General Requirements								114,550	114,550
10	01	G.C. Overhead & Fee								92,785	92,785
11	01	Performance Bonding / Insurance								32,784	32,784
12	01	Design / Estimating Contingency								334,398	334,398
13											
14		Total Probable Construction Cost								2,006,387	\$ 2,006,387
15											
16											
17	02	Site Work									
18											
19		Site Preparation									
20		- clearing & grubbing (minimal)	48	AC					1000	48,000	48,000
21		- grading (avg. 2' depth)									
22		asphalt trail	5,960	CY					5	29,800	29,800
23		bike trail	3,160	CY					5	15,800	15,800
24		concrete paving	1,620	CY					5	8,100	8,100
25		stormwater ponds	1	EA					15000	15,000	15,000
26		- silt fence	5,100	LF					4	20,400	20,400
27		- final grading	48	AC					2500	120,000	120,000
28		Site Paving									
29		- asphalt paving (light duty)									
30		10' asphalt trail	7,450	SY					16	119,200	119,200
31		- concrete									
32		6' concrete trail - 4" tk.	2,720	SF					3.5	9,520	9,520
33		Site Improvements									
34		- buildings									
35		maintenance	1,500	SF					120	180,000	180,000
36		restrooms	675	SF					250	168,750	168,750
37		- picnic shelters									
38		large	2	EA					80000	160,000	160,000
39		- public art	1	LS					50000	50,000	50,000
40		- bollards	335	EA					500	167,500	167,500
41		Landscaping									
42		- trees	188	EA					450	84,600	84,600
43		- shrubs	136	EA					50	6,800	6,800
44		- ground cover	206,800	SF					0.5	103,400	103,400
45		- grassing	44	AC					2500	110,000	110,000
46		- misc.	1	LS					15000	15,000	15,000
47											
48		Subtotal								1,431,870	1,431,870
49		General Requirements	8%							114,550	114,550
50		Subtotal									1,546,420
51		G.C. Overhead & Fee	6%							92,785	92,785
52		Subtotal									1,639,205
53		Performance Bonding / Insurance	2%							32,784	32,784
54		Subtotal									1,671,989
55		Design / Estimating Contingency	20%							334,398	334,398
56		Total Probable Construction Cost								2,006,387	\$ 2,006,387



Appendix 1: Construction Cost Estimate Spreadsheet: Area 3

Line No.	CSI No.	Item Description	Quantity	U/M	Material Cost		Labor Cost		Subcontractor Cost		Total Cost
					Unit	Total	Unit	Total	Unit	Total	
1											
2											
3		Site Work Cost Summary									
4											
5	02	Site Preparation								76,300	76,300
6	02	Site Utilities								153,750	153,750
7	02	Site Paving								110,095	110,095
8	02	Site Improvements								444,250	444,250
9	02	Site Landscaping								91,925	91,925
10	01	General Requirements								70,106	70,106
11	01	G.C. Overhead & Fee								56,786	56,786
12	01	Performance Bonding / Insurance								20,064	20,064
13	01	Design / Estimating Contingency								204,655	204,655
14											
15		Total Probable Construction Cost								1,227,930	\$1,227,930
16											
17											
18	02	Site Work									
19											
20		Site Preparation									
21		- clearing & grubbing (minimal)	11	AC					1000	11,000	11,000
22		- grading (avg. 2' depth)									
23		asphalt trail	1,160	CY					5	5,800	5,800
24		bike trail	900	CY					5	4,500	4,500
25		concrete paving	1,600	CY					5	8,000	8,000
26		parking lot / drive	3,100	CY					5	15,500	15,500
27		- silt fence	1,000	LF					4	4,000	4,000
28		- final grading	11	AC					2500	27,500	27,500
29		Site Utilities									
30		- septic tank system	1	EA					5000	5,000	5,000
31		- water line	1,750	LF					85	148,750	148,750
32		Site Paving									
33		- asphalt paving (light duty)									
34		10' asphalt trail	1,450	SY					16	23,200	23,200
35		parking lot	2,100	SY					23	48,300	48,300
36		striping	2,000	LF					1.5	3,000	3,000
37		- concrete									
38		6' concrete trail - 4" tk.	2,670	SF					3.5	9,345	9,345
39		24" wide curb / gutter	1,750	LF					15	26,250	26,250
40		Site Improvements									
41		- buildings									
42		restrooms	675	SF					250	168,750	168,750
43		- picnic shelters									
44		small	1	EA					56000	56,000	56,000
45		- foot bridges (400 SF)	1	EA					16000	16,000	16,000
46		- public art	1	LS					50000	50,000	50,000
47		- playground equipment	1	LS					100000	100,000	100,000
48		- dog park fence 5' h.	2,100	LF					10	21,000	21,000
49		- bollards	65	EA					500	32,500	32,500
50		Landscaping									
51		- trees	37	EA					450	16,650	16,650
52		- shrubs	38	EA					50	1,900	1,900
53		- ground cover	48,750	SF					0.5	24,375	24,375
54		- grassing	10	AC					2500	25,000	25,000
55		- mulch	18,000	SF					0.5	9,000	9,000
56		- misc.	1	LS					15000	15,000	15,000

Appendix 1: Construction Cost Estimate Spreadsheet: Area 3 continued

58	Subtotal								876,320	876,320
59	General Requirements	8%							70,106	70,106
60	Subtotal									946,426
61	G.C. Overhead & Fee	6%							56,786	56,786
62	Subtotal									1,003,211
63	Performance Bonding / Insurance	2%							20,064	20,064
64	Subtotal									1,023,275
65	Design / Estimating Contingency	20%							204,655	204,655
66	Total Probable Construction Cost								1,227,930	\$ 1,227,930



Appendix 1: Construction Cost Estimate Spreadsheet: Area 4

Line No.	CSI No.	Item Description	Quantity	U/M	Material Cost Unit	Material Cost Total	Labor Cost Unit	Labor Cost Total	Subcontractor Cost Unit	Subcontractor Cost Total	Total Cost
1											
2											
3		Site Work Cost Summary									
4											
5	02	Site Preparation								668,950	668,950
6	02	Site Utilities								348,500	348,500
7	02	Site Paving								353,170	353,170
8	02	Site Improvements								1,632,750	1,632,750
9	02	Site Landscaping								739,100	739,100
10	01	General Requirements								299,798	299,798
11	01	G.C. Overhead & Fee								242,836	242,836
12	01	Performance Bonding / Insurance								85,802	85,802
13	01	Design / Estimating Contingency								875,181	875,181
14											
15		Total Probable Construction Cost								5,246,087	\$5,246,087
16											
17											
18	02	Site Work									
19											
20		Site Preparation									
21		- clearing & grubbing (minimal)	121	AC					1000	121,000	121,000
22		- grading (avg. 2' depth)									
23		asphalt trail	8,750	CY					5	43,750	43,750
24		bike trail	3,400	CY					5	17,000	17,000
25		concrete paving	4,200	CY					5	21,000	21,000
26		asphalt drive	1,500	CY					5	7,500	7,500
27		fill existing pond	5,700	CY					10	57,000	57,000
28		stormwater ponds	4	EA					15000	60,000	60,000
29		- silt fence	9,800	LF					4	39,200	39,200
30		- final grading	121	AC					2500	302,500	302,500
31		Site Utilities									
32		- water line	4,100	LF					85	348,500	348,500
33		- septic tank system	1	EA					5000	5,000	5,000
34		- leachate tank	1	EA						N.I.C.	N.I.C.
35		Site Paving									
36		- asphalt paving (light duty)									
37		10' asphalt trail	9,350	SY					16	149,600	149,600
38		12' asphalt drive	1,900	SY					16	30,400	30,400
39		parking lot	3,120	SY					16	49,920	49,920
40		striping	4,300	LF					1.5	6,450	6,450
41		- concrete paving									
42		6' concrete trail - 4" tk.	7,100	SF					3.5	24,850	24,850
43		24" wide curb / gutter	5,400	LF					15	81,000	81,000
44		striping	7,300	LF					1.5	10,950	10,950
45		Site Improvements									
46		- buildings									
47		maintenance	1,500	SF					120	180,000	180,000
48		restrooms	675	SF					250	168,750	168,750
49		- picnic shelters									
50		small	7	EA					56000	392,000	392,000
51		- fabric shelters	5	EA					80000	400,000	400,000
52		- foot bridges (400 SF)	3	EA					16000	48,000	48,000
53		- playground equipment	1	LS					100000	100,000	100,000
54		- site fencing 5' h.	1,100	LF					10	11,000	11,000
55		- parking lot fence 5' h.	1,100	LF					10	11,000	11,000
56		- gates	2	EA					1000	2,000	2,000
57		- public art	1	LS					50000	50,000	50,000
58		- simulated landfill exhibit	1	LS					25000	25,000	25,000
59		- bollards	490	EA					500	245,000	245,000

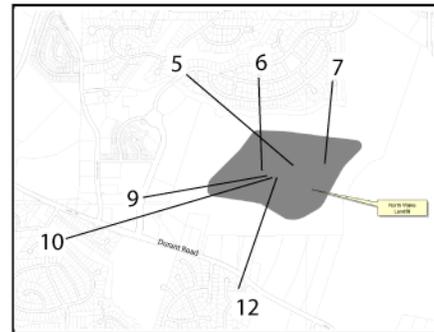
Appendix 1: Construction Cost Estimate Spreadsheet: Area 4 continued

60	Landscaping								
61	- trees	542	EA				450	243,900	243,900
62	- shrubs	352	EA				50	17,600	17,600
63	- ground cover	525,000	SF				0.5	262,500	262,500
64	- grassing	74	AC				2500	185,000	185,000
65	- mulch	30,200	SF				0.5	15,100	15,100
66	- misc.	1	LS				15000	15,000	15,000
67									
68	Subtotal							3,747,470	3,747,470
69	General Requirements	8%						299,798	299,798
70	Subtotal								4,047,268
71	G.C. Overhead & Fee	6%						242,836	242,836
72	Subtotal								4,290,104
73	Performance Bonding / Insurance	2%						85,802	85,802
74	Subtotal								4,375,906
75	Design / Estimating Contingency	20%						875,181	875,181
76	Total Probable Construction Cost							5,251,087	\$ 5,251,087

Appendix 1

Before and After Images of the Landfill

Note: The view towards the landfill cell from this area of the neighborhood of Falls River Subdivision would see an increase in the elevation of the cell. The goal of the master plan for this cell is to create a pleasing feature that does not hinder the neighborhood. Site 6, view looking South on Sornills Creek Lane.



Vicinity Map



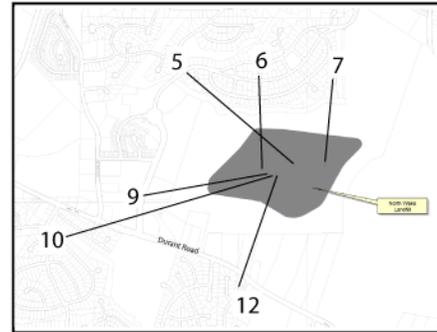
Images and information provided by Olver Incorporated and Miller & Associates

Appendix 1

Before and After Images of the Landfill

The following images depict a rough estimate of what the final topography of the largest cell would look like from the neighborhoods that surround the landfill. This study was done to understand how the large cell would impact the residents and to study how to use the top of the large cell.

Note: Final Closure of the landfill would not be seen from this point of view. The ground elevation at this location is approximately 13 feet lower than the top of the final landfill closure. The horizon and development beyond this viewpoint would hinder the visibility of the closed landfill. This is Site 5, Summertown Drive and Falls River Avenue looking Southeast across Riverston Place Intersection.



Vicinity Map

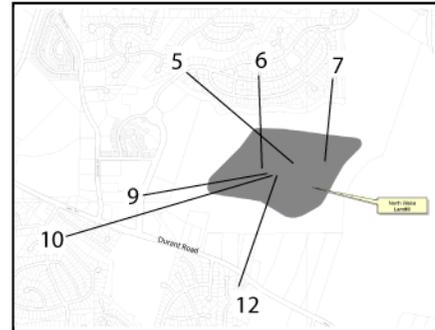


Images and information provided by Olver Incorporated and Miller & Associates

Appendix 1

Before and After Images of the Landfill

Note: The view towards the landfill cell from this area of the neighborhood of Falls River Subdivision would see an increase in the elevation of the cell. Site 7, view of Smith Basin Lane looking South toward the large cell.



Vicinity Map

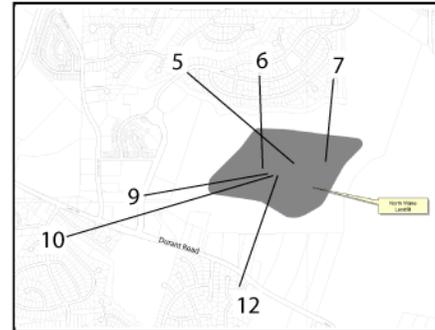


Images and information provided by Olver Incorporated and Miller & Associates

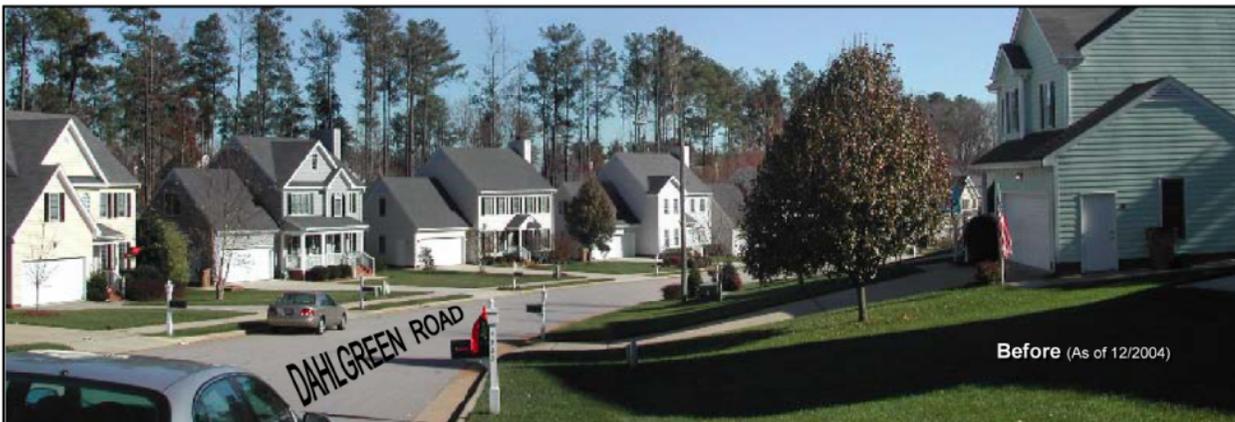
Appendix 1

Before and After Images of the Landfill

Note: The final closure of the landfill is barely visible from this point of view. The ground elevation at this location is approximately 32 feet higher than the top of the final landfill closure. The horizon and development beyond this viewpoint would minimize the visibility of the closed landfill. Site 10, view looking Northeast across Dahlgreen Road.



Vicinity Map

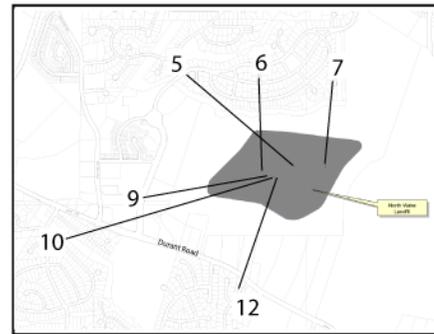


Images and information provided by Olver Incorporated and Miller & Associates

Appendix 1

Before and After Images of the Landfill

Note: The final closure of the landfill would not be seen from this point of view. The ground elevation at this location is approximately 40 feet higher than the top of the final landfill closure. The horizon and development beyond this viewpoint would hinder the visibility of the closed landfill. Site 9, view looking East-Northeast across Falls River Avenue, approximately 640 feet North of the intersection of Falls River Avenue and Durant Road.



Vicinity Map

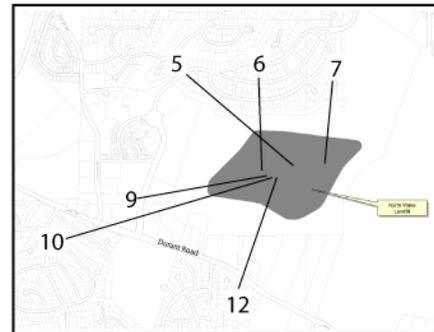


Images and information provided by Olver Incorporated and Miller & Associates

Appendix 1

Before and After Images of the Landfill

Note: The final closure of the landfill is barely visible from this point of view. The ground elevation at this location is approximately 19 feet lower than the top of the final landfill closure. The horizon and development beyond this viewpoint would minimize the visibility of the closed landfill. Site 12, view looking North at the intersection of Spring Willow Place and Deerland Grove Drive.



Vicinity Map

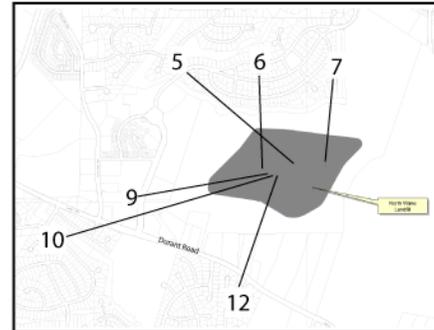


Images and information provided by Olver Incorporated and Miller & Associates

Appendix 1

Before and After Images of the Landfill

Note: The final closure of the landfill is barely visible from this point of view. The ground elevation at this location is approximately 19 feet lower than the top of the final landfill closure. The horizon and development beyond this viewpoint would minimize the visibility of the closed landfill. Site 12, view looking North at the intersection of Spring Willow Place and Deerland Grove Drive.



Vicinity Map



Images and information provided by Olver Incorporated and Miller & Associates

Appendix A: News and Observer Articles

From The News & Observer's North Raleigh News section on Aug. 5, 2005:

"Public gets look at landfill options"

By Javier Serna

Staff writer

RALEIGH -- For Eric Hunt, North Wake Landfill can't close soon enough.

The smell. Oh, the smell. "Depending on how the wind blows, you know it's there," said Hunt. Wind or no, he can see the brownfield from his front porch.

Wake County held the first of five public meetings Tuesday that will culminate in a master plan for the 260-acre landfill scheduled to close at the end of 2007, granting Hunt's long-awaited wish. A county-contracted landscape architect led the discussion before about 70 people at the Durant Middle School Auditorium.

Brian Starkey, with OBS Landscape Architects, said the concept of redeveloping a landfill is something some northeastern states and California have pioneered.

"It's a very exciting project for us," he said. "This is a little cutting-edge for North Carolina." Starkey hopes public opinion will be the deciding factor in the future of the landfill. "I hope that we come out of here with consensus," he said.

The master plan, scheduled to be presented at the final meeting near the end of November, will need the approval of the Wake County commissioners to be implemented.

Starkey pent much of the meeting describing the landfill and allowed citizens a round of questions at the end. He delayed a brainstorming session until the next meeting on Aug. 23. Still, some took the opportunity to air their ideas.

Linda Butler asked about the possibility of a building a school. She laughed aloud when Starkey said there would have to be a determination on "whether there are needs for future schools in this area."

Tim Maloney, a project manager for Wake County, confirmed there has already been discussions with Wake County school officials.

Dennis Dupre, who lives in the neighboring Bedford at Falls River subdivision, agreed with Butler. He's also hoping a feasibility study will be done to see if Dunn Road could be extended through the property to Durant Road.

"It would cut time tremendously for emergency vehicles trying to get from the fire station (on Durant) to our subdivision."

But it may not be likely. Starkey said there's the matter of three piles of garbage, which take up almost 115 acres. Starkey said nothing can be built on the "cells," which are spread out on the property.

In fact, for the foreseeable future, the landfill's gas extracting and management system will continue to operate. A private company has a lease with the county to collect and sell the gas privately.

"They'll continue as long as there's gas to extract," said Bob Brossoie, a designer with CDM. Maintenance will continue indefinitely, Brossoie said.

There's also three creeks with Neuse River buffers that run through the property. Little can be disturbed near their banks.

Starkey said the largest chunk of land with the most possibilities is 43 acres Wake County owns bordering the property -- land the county borrowed dirt from to cover up waste. "Basically, anything can happen here," said Starkey, who said the next meeting will include a brief report on how other landfills have been redeveloped across the county.

As for the smell, it will go away as more and more of the gases are collected, Brossoie said, adding that some of the wells haven't been tapped yet. "That will alleviate the odor," said Brossoie. "But there's no immediate fix to make the smell go away 100 percent."

Hunt, who was told the landfill would be closed in 2005 when he bought his house seven years ago, is more concerned with the when rather than how the land is used. "Anything but what it is right now," said Hunt.

Appendix A: News and Observer Articles

From The News & Observer's North Raleigh News section on Aug. 26, 2005:

"Athletic facilities pushed for landfill after it closes."

By Javier Serna

Staff writer

Mentioning athletic facilities was like scoring a touchdown.

At least the reaction was similar from parents who filled an auditorium at Durant Road Middle School for a planning session on what to do with the North Wake Landfill when it closes in 2007.

It was the second of five public master planning meetings held by Wake County staff for the 166-acre facility, which the county owns.

The final meeting is scheduled for November when a final master plan will be presented. Any plans will need the approval of the county commissioners.

Half of the near-capacity crowd wore red shirts to bring attention to their cause: the North Raleigh Athletic Association needs more playing fields.

Troy Taylor, president of the group, said more than 400 families are involved in their programs. The group's supporters were the most in number and most vocal.

Others to speak to the crowd, which peaked at more than 300, were the North Wake County Baseball Association, the Triangle Off Road Cyclists and the Falls River Homeowners Association.

The North Wake Landfill Citizen's Committee gave a presentation. The committee has no official say on how the landfill will be used, but had been meeting monthly since early 2004 to study possible uses.

"We took the initiative," said William "Beau" Mills, who chaired the citizen's committee. The committee ranked a dog park, trails, athletic fields, habitat for wildlife, and extreme sports facilities as possible future uses for the landfill.

"This is a great opportunity to turn a negative into a positive," Mills said.

He presented the committee's official report to Brian Starkey, the project's lead consultant for the county. Starkey thanked Mills and the committee for their work and said their suggestions will be taken into account.

While the North Raleigh Athletic Association clamored hardest for athletic fields, they weren't the only ones.

Greg Burnell, whose sons play baseball, recalled his anxiety last spring when the North Wake County Baseball Association sent out a letter saying some kids would be cut because there weren't enough fields.

"There's nothing worse," said Burnell. "You ask yourself, 'Is my kid going to make the cut?'"

Meeting attendees were also shown slides of other redeveloped landfills, mostly from Massachusetts. One memorable landfill is called Mt. Trashmore in Virginia Beach, Va.

In the final part of the meeting, participants broke down into 10 groups and wrote down their ideas onto sticky notes, which were later compiled. Each yellow piece of paper had only one idea, according to the rules.

In the end, more sticky notes urged athletic fields. Trails came in close second. Other uses garnering support included environmental education, wildlife, extreme sports facilities and educational facilities.

Julie Kaplan, a mother of three, seemed a little surprised more people didn't bring up the idea of an elementary school; While most of the 260 acres can't be built on, there is an area of about 46 acres where a school could be constructed.

"All you see is trailers," said Kaplan, referring to modular classrooms. "I would love to see a school put on that land."

Appendix A: News and Observer Articles

From The News & Observer's North Raleigh News section on Oct. 28, 2005:

"School still in plans for landfill"

By Javier Serna
Staff writer

RALEIGH -- It's not a sure thing, but an elementary school is looking likely for the North Wake Landfill.

A school is among a list of uses, mostly recreational, for the 260 acres on top of and surrounding the landfill's cells, the area used to dump trash. The school would rise on a portion of the landfill that supplies dirt.

The new uses could be phased in once the landfill closes near the end of 2007.

The landfill was discussed Tuesday, part of the North Wake Landfill master planning process that's been going on since July.

OBS Landscape Architects has produced a final draft of a master plan, and consultant Brian Starkey of OBS will present it Dec. 6, the final meeting of the process. For now, the public comment period is still open.

Also planned are: a dog park, an amphitheater, an aquatic center, a skate park, baseball diamonds and football fields, an environmental center, playgrounds, public art displays, picnic shelters and paved and unpaved trails for hiking and cycling.

Starkey showed new sketches, paring down three different schemes presented at the September meeting into one plan.

During the public comment period, one young boy wondered, among other things, why another school was needed across the street from the Durant Road Middle School, where the meeting was taking place.

"You live in a county with a school problem," said Starkey.

Although Wake County owns the property, a portion of the land would need to be sold to Wake County Public Schools for a school to rise there.

"The school's a no-brainer," said William "Beau" Mills, who led a citizens committee that gave input into the plan. Most of the committee's suggestions are in the final draft, which still needs Wake commissioners' approval.

The amphitheater drew criticism from an unidentified woman worried about noise.

"The Stones won't be playing there," said Starkey, who told her it was a small facility for events such as poetry readings.

Appendix A: News and Observer Articles

From The News & Observer's North Raleigh News section on Dec. 9, 2005:

"Landfill plan goes to county"

By Javier Serna

Staff writer

At the last master planning meeting for the North Wake Landfill, designers for the county on Tuesday presented final plans for the landfill when it closes in 2007.

Other than an aquatic center being removed, the plan remained largely as it was at the last public meeting. The plan still needs approval from Wake commissioners.

The aquatic center was spearheaded by the City of Raleigh. "That was their baby," said Tim Maloney, landscape architect for Wake County.

The center had to go because only a portion of the 260-acre site can be built on, and the county needs space to expand its recycling center.

The five public meetings held by county-contracted designers seemed to leave most residents satisfied.

"They listened and responded to the citizens," said William "Beau" Mills, who chaired a separate citizens committee that started meeting about the landfill about two years ago. "We came into this thing with a real head start. ... I've only heard positive feedback."