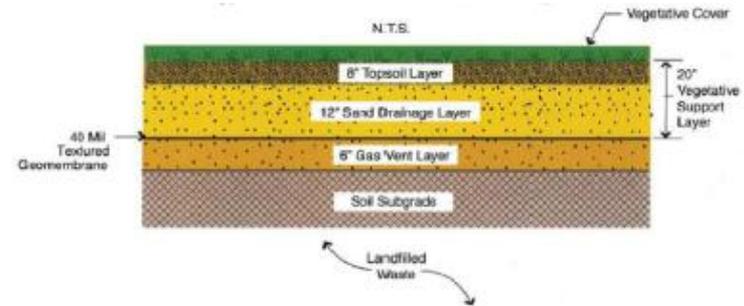


Potential Post-Closure Uses of Ledge Road Landfill Site

June 1, 2015

Introduction

- Final environmental assessment report for Landfill submitted to MassDEP
 - Recommended corrective actions are standard MassDEP cap with wetland remediation
 - Addresses arsenic in downstream wetland sediments
- Next Steps
 - Prepare design and MassDEP permit application for final cap
 - Incorporate proposed post-closure use for Landfill



Capped Southern Mound
of Haverhill Landfill

Overview of Process to Select Use of Ledge Road Landfill Site

- Identify options for future site uses.
- Evaluated for:
 - Technical feasibility
 - Meeting MassDEP regulations
 - Addressing Town needs and preferences
 - Incremental costs above cap construction

Present initial set of potential site uses to start selection process for preferred alternative with public input.



Existing Little League Fields



Capped Front Landfill,
Brookline – Recreational Field

Schedule for Cap Construction

Task Item	Start Date	Completion Date
Initial Design Preparation Tasks	May 1, 2015	October 1, 2015
Selection of Post Closure Use	June 1, 2015	October 1, 2015
Design of Cap and Selected Use	October 1, 2015	February 2016
MassDEP and Other Agency Permitting Review	February 2016	August 2016
Construction Bidding and Contractor Selection	August 2016	October 2016
Construction	October 2016	December 2017

*Schedule assumes minimal requirements under state MEPA regulations
Existing fields would remain in-place through Fall 2016 season..*

Town has committed to MassDEP that cap construction will begin in late 2016 and continue through 2017.

Post-Closure Use of Landfills in Massachusetts Communities

Municipality	Site Name	Post-Closure Use
Brookline	Front Landfill	Recreational field, passive recreation
	Back Landfill	Public works operational area
Cambridge	Danehy Park	Recreational Field Complex
Boston	Millennium Park (Gardner Street Landfill)	Recreational Field Complex
Boston	Pope John Paul II Park (Hallet Street Landfill)	Recreational complex including walking trails. Passive open space.
Newton	Rumford Avenue Landfill	Public Work Operational Area- storage, stockpiling and processing. Leaf composting and residential recycling drop-off
Lowell	Westford Street Landfill	Solar Photovoltaic Array
Methuen	Huntington Avenue Landfill	Solar Photovoltaic Array
Yarmouth	Yarmouth Landfill	Golf Course
Salisbury	Salisbury Landfill	Passive Open Space
Easton	Prospect Street Landfill	Solar Photovoltaic Array
Lexington	Hartwell Avenue Landfill	DPW Stockpiling, Storage and Processing; Regional Leaf and Yard Waste Composting; Regional Household Hazardous Waste Facility; Emergency Management Operations Area
Reading	Walker Brook Landfill	Commercial Development (Jordan's Furniture, Home Depot)

Landfill Site Overview



- 25 acres parcel with 22 acres historically landfilled
- Current uses
 - Recreational fields
 - Public works storage and processing
- Residential areas to south and northwest
- Access off Greenwood Road and inactive Ledge Road driveway
- Capping and remediation cost estimated at \$8.4M

Relevant Considerations for Post-Closure Use of Landfill Site

- Protective of human health, safety and the environment
- Able to integrate with final cap and allow its continued function and maintenance
- Public acceptance
- Accommodate settlement and subsidence of underlying landfilled ash
- Steeper side slopes decrease usable flat plateau area
- Incremental additional costs for alternative uses



Construction of Final Cap at
Front Landfill, Brookline

Post-Closure Uses Evaluated

Potential Post-Closure Use	Technically Feasible?	Description
Passive/Open Space	Yes	Baseline alternative
DPW Material Handling Area	Yes	Required use
Recreational Fields	Yes	Replacement of existing recreational facility on-site
Solar Photovoltaic (PV) Array	Yes	Potential for revenue generation.

Required DPW Material Handling Area



Public works material storage bin at closed Brookline Landfill

- Construct storage bins and open areas for:
 - General construction materials
 - Excess soils
 - Asphalt and concrete
 - Street sweepings
 - Catch basin cleanings
 - Miscellaneous construction materials and supplies
 - Seasonal equipment storage
- Requires 6 acres of operating surface plus access road
- Provide adequate controls for stormwater, views and noise.

Considerations - DPW Material Handling Area



Existing Public Works Material Storage Area at Landfill

- Continue to utilize existing driveway off inactive Ledge Road
- Size storage areas to cost-effectively manage generated materials
- Incorporate additional stormwater and drainage controls
- Incremental Costs
 - Estimated incremental cost of \$765,000

Recreation Fields – Replace Existing Fields and DPW Material Handling Area



Considerations – Recreational Fields

- Common use of capped landfills throughout Massachusetts
- Can be constructed with appropriate controls to be protective of public health and safety.
- Incremental Costs for Recreational Fields
 - Driven by need for additional fill to flatten cap
 - Incremental cost for replacement fields, parking area including lighting between \$3.3M and \$4.6M
 - Additional cost for artificial field of \$1.7M
 - Potential for additional future costs for maintenance due to settlement of underlying waste

Solar Photovoltaic Installation and DPW Materials Handling Area



Considerations – Solar PV System

- Historically driven by availability of subsidies
 - Net metering credits – very limited
 - Federal Investment Tax Credit – higher value expire at end of 2016
- Future revenues uncertain but likely significantly lower
- Typical model requires long-term lease to private developer



Solar PV System at Scituate Landfill (from Brightfields LLC)

Next Steps



Solar PV System at Scituate Landfill (from Brightfields LLC)

- Continue pre-design steps concurrent with public process for selection of post-closure use
- Commence process for selection of preferred post-closure use
 - Select preferred site use – October 1st
- Submit permits and design plans to implement MassDEP required corrective actions with selected post-closure use
 - Identify funding mechanism for selected post-closure uses.