



Limited Reuse Soils (LRS)

Presentation Summary

1. Who is Clean Earth?
2. Using LRS
3. LRS in New Jersey & Pennsylvania
4. LRS in Other NEWMOA States
5. Challenges from Our Perspective
6. An Ideal Program





27
Facilities Nationwide


Our network of full-service treatment, disposal, and recycling locations provides the best solutions for our customers.

Recently Acquired by:
HARSCO Corporation



About Clean Earth

Treatment & Recycling Facts



~98%

of the material we process is recycled

OVER

4 Million

tons recycled in 2018

OVER

8 Million

pounds of aerosol products recycled in 2018

OVER

7 Million

yd³ dredged material recycled since 1996

25

reclaimed industrial brownfields & former landfills

ENR

ENGINEERING NEWS-RECORD

TOP 200

ENVIRONMENTAL FIRMS

2018

ENR

ENGINEERING NEWS-RECORD

TOP 600

SPECIALTY CONTRACTORS

2018

ENR

ENGINEERING NEWS-RECORD

NO. 9

TOP 30 ENVIRONMENTAL FIRMS

2018

ENR

ENGINEERING NEWS-RECORD

NO. 7

TOP ENVIRONMENTAL MGMT FIRMS

2018

Using Limited Reuse Soils

Benefits to Using LRS...

- Far less costly than traditional quarry or borrow fill
 - In some cases even brings \$\$\$ to offset other development costs
- Availability of Large volumes of Fill in Relatively Short Timeframe
- Creates Momentum: Allows Sites to be brought to “Pad Ready” state with minimal to no cost
 - Overcomes traditional carry costs
 - Economically prepares site for development during downturns or slower markets
- Sustainability
 - “Green” construction, LEED certification
- Geotechnical Improvement
 - Materials can be engineered to meet difficult specifications
 - Eliminate/Reduce costly ground improvement programs (e.g., pilings)

Using Limited Reuse Soils

What types of projects are candidates?

- Projects requiring large amounts of fill for grading
 - Raise elevation due to floodplain concerns/compliance
 - Increase visibility from highways
 - Valley fills, former strip pits or quarries
- Brownfields remediation and capping
- Geotechnical Improvement
 - Preload/Surcharge to consolidate unsuitable subsurface
 - Typically desirable versus pilings or dynamic compaction
- Landfill Closure
- For Redevelopment of Pad Sites
- Recreational opportunities (golf course)

LRS in New Jersey

Three Categories

1. Residential Reuse
2. Nonresidential Reuse
3. Alternative Fill on SRP sites with written approval from NJDEP



LRS in New Jersey

Residential Reuse

Residential Reuse material may be used on residential properties, including schools and parks, conforming to an approved Fill Plan;

1. To bring construction site to grade for a future development
2. Raise grades due to change in flood zone (Superstorm Sandy)
3. Must conform to established soil (by Mass) and Impact to Ground water (IGW) Standards (by SPLP)

* ie. TPH < 1,000 mg/kg, BAP < 0.5 mg/kg, As < 19 mg/kg, Pb < 400 mg/kg



LRS in New Jersey

Nonresidential Reuse

Nonresidential Reuse material may be used on industrial or commercial properties conforming to an approved Fill Plan;

1. To bring construction on a previously impacted site to grade for a future Industrial/Commercial development
2. Raise grades due to change in flood zone (Superstorm Sandy)

Like-on-Like Requirement for Impact to Groundwater

- Limited to the contaminants present in GW on site
- Develop acceptance criteria by using 75th Percentile Evaluation

* ie. TPH < 5,000 mg/kg, BAP < 2 mg/kg, As < 19 mg/kg, Pb < 800 mg/kg



LRS in New Jersey

Alternative Fill

Alternative Fill may be used on Site Remediation Program (SRP) sites as;

1. Backfill to bring excavations or sites to grade
2. Raising elevation to preclude flooding
3. Fill for capping needs

Like-on-Like Requirement

- Limited to the contaminants present
- 75th Percentile Evaluation
- Impact to Groundwater (IGW) Evaluation (by SPLP)
- Historic Fill, Dredge Sediment & Recycled Concrete

Fill Use Plan/Material Acceptance Plan (LSRP)

Tracking and Recordkeeping



NJ Project Profiles

Alternative Fill Site - Liberty National Golf Club



200-acre former Tankport site in Jersey City, NJ; 675,000 CYs of recycled soils and dredged materials to grade, cap and develop the site into New Jersey's most expensive golf course ever and host to the USPGA Barclays Tournament.

NJ Project Profiles

Alternative Fill Site - FDP Intermodal Container Facility



100-acre site in Jersey City NJ prepared for development. 775,000 CYs of recycled and direct-imported soils and dredged materials were used to fill, cap and develop the site. Fill revenue offset cost of major wetland enhancement. Site is now FedEx crossdock facility.

LRS in Pennsylvania

Three Categories

1. Clean Fill
2. Regulated Fill
3. Act 2 – Land Recycling Program



LRS in Pennsylvania

Clean Fill

Clean Fill (soil, stone, sediment, used asphalt, brick & concrete) not affected by a release of a regulated substance may be used in an unrestricted or unregulated manner subject to;

1. Certify origin of the fill
2. Analytical testing to qualify as Clean Fill* or Generator certification
3. Complete Form FP-001

Sites receiving Clean Fill must retain FP-001 forms from all fill sources

* ie. BAP < 2.5 mg/kg, As < 12 mg/kg, Pb < 450 mg/kg – No requirement to test for TPH (no objectionable odor)



LRS in Pennsylvania

Regulated Fill

Regulated Fill may not be reused on a greenfield project or for residential use subject to;

1. Soil and Sediment for Commercial or Industrial beneficial reuse on a construction site
2. Complete General Permit for Processing/Beneficial Use of Residual Waste
3. Concentrations below Table GP-1* (Like-on-Like for metals)

Once Regulated Fill is placed on a site, it ceases to be a waste because it has been beneficially reused

* ie. BAP < 11 mg/kg, As < 53 mg/kg, Pb < 450 mg/kg – No requirement to test for TPH (no objectionable odor)

LRS in Pennsylvania

Act 2 – Land Recycling Program

The Act 2 Program was designed to encourage the clean up and redevelopment of Brownfield sites preserving farmland, open spaces and natural areas.

- Voluntary Clean Up to Statewide Health and/or Site Specific Standards based on risk factors, proposed land use and cost effectiveness
- Special Industrial Area Processes by Entity that did not impact the site
- Liability relief for current and future owners after attainment of remediation standards and approval of Final Report

PA Project Profiles

Regulated Fill Site - Bethlehem Earth



Former Beth Steel slag dump site in Bethlehem, PA; 4.5M cyd BU fill site for future Industrial use expansion

PA Project Profiles

Act 2 Site - Harrah's Chester Downs Casino and Racetrack



Former industrial site in Chester, PA; 100,000 tons of Beneficial Reuse soil meeting Site Specific Standards to cap and raise grades to construct casino and racetrack

The Flynn Company

Harrah's Chester Casino & Racetrack 10/25/06 img_5510.jpg

LRS Uses in Other NEWMOA States

Review of November 7, 2018 Presentation "Soil Reuse Across the NEWMOA States"

NY – Regulatory revision in November 2017 – BUD program, 5 types of Fill Material for Reuse (Unrestricted, General, Restricted, Limited Use and Contaminated) with identified "Allowable Use"

ME – BUD program, construction fill, Landfill cover

MA – Reclamation Reuse (Comm-15), Similar Soils Policy

VT – Landfill Cover

NH – Certified Waste Derived Product (CWDP) program, Landfill cover

CT – BUD Program, Reuse with Approval

In most of the States, Owners are encouraged to reuse LRS on the project site.



Challenges Faced in States without Structured LRS Programs

- Limited disposal locations (landfill, treatment facility) with higher costs
- Offsite disposal limited to facility acceptance permit requirements
- Overcapacity issues not meeting market conditions
- Unregulated Reuse
 - Enforcement Resources Strained
 - Choice not to assess chemically



Recommendations for Ideal LRS Program

State to create a clear, implementable soil management policy

- Excess soils removed from sites requires testing (Determine clean or regulated)
- Permitted/regulated reuse locations based on risk factors (residential, commercial/industrial, Brownfield) and community support
- Streamlined approval process for reuse/receiving sites with beneficial reuse/redevelopment objective
- Licensed Professional (LEP, LSP, LSRP, etc.) authorization and verification for reuse reducing Department involvement/ resources



Questions?

Contact Me with Questions

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