

Report prepared for Public Meeting of 10/18/16 by:

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PW Yard Aggregate Pile

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1. Introduction

The Town of Fairfield has processed aggregate material on the southwest portion of Public Works property for several decades. The activities with the most recent contractor (Julian Enterprises, beginning May 2013) have created visual, noise, traffic, and environmental concerns.

The importing of material to blend with Public Works spoils has created an untenable impact on our neighbors.

- The agreement with Julian ends 12/15/16. It will not be renewed. Julian will continue to process material and export until that time. They will have 30 days to demobilize their equipment for the site. The pile will not be eliminated by the 12/15/16 date; there will be material remaining on the site
- A Landscape Berm will be constructed to provide a barrier to neighbors. This design has not been finalized. The berm will need to receive local P&Z and Conservation approval/recommendations, and also to be in accordance with CT DEEP approval/recommendations/standards
- In conjunction with the construction of the berm, the site will be graded to conform to landfill closure standards, with groundwater monitoring wells to be sampled and tested
- Construction of the berm can begin after the 12/15/16 date, pending the obtaining of approvals. This will be performed and managed by Fairfield Public Works personnel and equipment using existing operating budget funding
- Over 30,000 CY of material is expected to be consumed by the construction of berm. If more material is left on site on 12/15/16, the berm can be elongated to the north (made wider) without effecting the outside slope or height of the berm

- Going forward, we will not operate a large scale operation to rid ourselves of the spoils we generate in this manner, and utilize other methods to address these spoils. Public Works will manage this with our own resources. Typically, Public Works does not generate a large amount of spoils from Dec. 1 to March 31 of a given year. A more definitive plan to manage our spoils will be in place before April 1, 2017

2. Status of Operations - to 12/15/16

- Julian Agreement - Ends on 12/15/16
- Julian continues to process and remove material until 12/15/16. Eight weeks at 5,000 tons/week = 40,000 tons (28,500 cubic yards) yet to be removed
- Town will oversee operations through stationing Public Works personnel at Julian Scale, reviewing Julian reports, video surveillance camera, coordinate with Police Traffic Unit
- Town monitoring amount of material brought in at Julian scale
- Town will perform visual inspections of the pile site
- LEP (Logical Environmental) to examine pile weekly for contaminants, collecting samples for testing, focus on new areas of the pile as they are exposed.

Status of Operations - Post 12/15/16

- Julian operation ends; has 30 days to demobilize equipment, scale, and trailer after 12/15/16
- Town will continue to engage LEP to examine remaining pile for contaminants

3. Landscape Berm Design

- Presented at Public Meeting of 10/5/16
- Utilizing UConn Landscape Architect Design
- Engineering plans to be finalized – Site grading, Storm drainage, Erosion & Sedimentation Control
- CT DEEP Waste Engineering & Enforcement Division (WEED) standards of material to be utilized
- Proposed monitoring wells - locations and groundwater testing schedule to be submitted to CT DEEP WEED. Site grading plan to be submitted to CT DEEP WEED for Landfill Closure Plan approval
- CT DEEP expected to have comments regarding Coast Area Management and Stormwater Permit
- Plans submitted to be Town P&Z, Conservation, and CT DEEP
- Criteria for material to be used as part of berm to be approved by CT DEEP WEED.

4. Environmental Considerations

- Engineering Plans will be developed to submit to Fairfield TPZ & Conservation, and CT DEEP WEED, Stormwater, and OLIS (Office of Long Island Sound).
- Meeting with David McKeegan (CT DEEP WEED) on 9/28/16. Buried municipal solid waste (MSW) identified in the Phase I Environmental Assessment. Project will meet standards for landfill closure. Some of the concepts include:
 - Material to be used in the berm to be tested and meet standards of CT DEEP WEED
 - Surfaces designed to avoid water percolation into core below the surface. Land will be graded so that water will not permeate into the MSW below, but instead run off overland
 - Side slopes on the exterior portion of the berm to be stabilized to prevent erosion into Pine Creek. This will “sheet flow” along the perimeter into the tidal wetlands
 - Inside slopes of the berm will be pitched inwards, and storm water will be collected in conventional storm drainage systems. Provides some opportunities for stormwater treatment
- Stormwater Permit will revert back to the Town on Dec. 15, 2016. Permit will have sampling and testing requirements
- The consolidated soils that have been in place for years create a barrier over the MSW. This will serve as a cap to the MSW below. There is not expected to be a requirement for any type of liner system
- The closure will require groundwater monitoring wells
- These wells will be installed around the periphery of the property, in the area below the location of the proposed lower service road

- Purpose is to identify if groundwater from the buried historical landfilled (MSW) in the core is migrating to the tidal wetlands
- Exact location, number of wells, and depths to be determined in conjunction with CT DEEP WEED.
- Monitoring well sampling and testing schedule to be determined in conjunction with CT DEEP WEED.

5. Landscape Berm & Landfill Closure Construction

- Town will use existing Public Works employees
- Work will be performed using existing equipment
- Material to be used in the berm to meet CT DEEP WEED standards, to be inspected by an LEP and tested

Proposed budget for landscaped berm:

Landscape Berm - PHASE 1						
	Unit Cost		Quantity	Unit		Cost
Earthwork						
Fill	0	\$/CY	31,500.0	CY		
Top Soil	15	\$/CY	1,050.0	CY		\$15,750
Planting mix	15	\$/CY	750.0	CY		\$11,250
Structures						
Chain link fence	40	\$/LF	870.0	LF		\$34,800
8' high w/80% opacity fabric						

Planting						
Hydroseed (wildflower mix)	400	\$/Acre	1.5	Acres		\$452
Deciduous trees	190	\$/Each	45.0	Each		\$8,550
Evergreen trees	108	\$/Each	65.0	Each		\$6,988
Shrubs	30	\$/Each	50.0	Each		\$1,500
TOTAL:						\$79,290

Interior Wall (blocks 2' x 2' x 6')	40		665.0	Each		\$26,600
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Notes:

Monitoring well costs to be determined following finalization of design

The interior block wall is to provide a large square footage space for future operations, and is not a necessity as part of the landscaped berm construction.

Topsoil and Planting mix costs may be reduced depending on the amount available from Harvest New England.

Public Works labor and equipment for tasks are not direct costs, and thus not included as part of this estimate.

6. Future Operations – Handling of Public Works Spoils

The Town generates material through our daily construction activities. These include work associated with road improvements, sidewalk work, parking lots, town buildings & grounds, parks, athletic fields, and beaches. Our maintenance activities such as road sweeping and cleaning of storm drainage systems also generate material.

We will maintain separate smaller spoils piles of like material. We will create separate areas for concrete, asphalt, general fill, sweeping, topsoil, clay, etc. This will avoid need for separating material and screening at a later date.

Spoils will be reused in appropriate locations where possible, and as soon as possible, to limit future growth of pile.

We may have to pay to have some spoils hauled and disposed of out of Town (street sweeping, catch basin cleaning, drainage outlets). There are limited opportunities to utilize these for future construction activities. These are some of the spoils that are most difficult to handle, and require too much ‘additive’ material to be blended with it.

The Town will be able to re-use some of the material that is brought in.

The Town may need to haul material away or crush/screen on a limited basis in the future

7. Financial

The usage of the area as a location for Public Works aggregates dates back approximately three decades. The intent of the RFP issued in May 2013 was to address operational and cost factors associated with the existing pile and the processing of new Town spoils coming in. A contractor would provide these services based on the non-Town revenue that they obtained from the operations. All of the equipment and personnel is non-Town.

As Julian began operations, a challenge was to convert the material in the existing pile to a viable product that was able to be used for other construction projects. To have value in the market place, Julian had to produce a material that met the same standards as one would purchase from another source, such as O&G, Tilcon, etc. To produce this type of product, the importing of material was necessary, and Julian was allowed to continue to import material. The intent of the RFP could not be realized without import of material. However the amount of material imported cause too much of an impact, and has created the issues at hand.

The financial incentive to the Town in issuing the RFP had four components: to obtain a reduction of the pile with no cost to the Town; to provide a method for disposing of our spoils at no cost to the Town; to allow us to purchase aggregates at below market rates; and to obtain a rental fee.

A. Reduction of the pile

Prior to the start of the Julian agreement, the Public Works Department was faced with a potential million dollar plus project to remove the material in the pile. The 2013 RFP was a method to address this project without a Town expenditure.

To date, there has not been either a capital appropriation for the removal of the material, or a subsidy from the Operating Budget, as part of the Julian Operations. These costs have thus far been avoided.

A summary of the growth and reduction of the Pile during Julian Operations:

This is updated to 8/31/16:

	Inbound Julian (Tons)	Inbound Fairfield (Tons)	Inbound Total (Tons)	Outbound (Tons)	Increase/ (Reduction) (Tons)	Pile Size (Tons)	Pile Size (CY)	
May 2013						70,000	50,000	*
12/2013 - 6/30/2014	11,826	5,045	16,871	1,154	15,717	85,717	61,226	
7/1/2014- 12/31/2014	15,950	2,281	18,231	1,784	16,447	102,164	72,974	
1/1/2015 - 6/30/2015	34,196	5,451	39,647	11,873	27,774	129,938	92,813	
7/1/2015 - 12/31/2015	30,655	5,255	35,910	27,930	7,980	137,918	98,513	
1/1/2016 - 6/30/2016	4,263	2,490	6,753	60,996	(54,244)	83,674	59,767	
7/1/2016 - 8/30/16	<u>1,100</u>	<u>1,372</u>	<u>2,472</u>	<u>20,213</u>	<u>(17,741)</u>	65,934	47,096	
Totals:	97,990	21,894	119,884	123,950	(4,066)			

NOTE: All quantities provided by Julian
 * Amount of material in pile based on original estimate, not from survey data.

At the conclusion of the Julian agreement, a final elevation survey will determine how much reduction was realized, if any, from the pre-2013 size of the pile. This will ultimately be the best measure of the success of this portion of the RFP.

B. Disposal of spoils

The amount of spoils the Town has brought to the Julian operations is below:

TOWN SPOILS DUMPED AT JULIAN

	12/1/13 to	7/1/14 to	1/1/15 to	7/1/15 to	1/1/16 to
TONS	6/30/14* (Tons)	12/31/14* (Tons)	6/30/15* (Tons)	12/31/15 (Tons)	Present (Tons)
Asphalt/concrete		8	0	200	203
Broken asphalt / curb	882	515	992	1637	1059
Asphalt millings	76	50	210	0	0
Broken concrete	67	533	78	357	281
CB debris				928	59
CB tops concrete				0	20
CB tops steel				0	40
Clay & fill				18.00	26
Concrete & fill				0.00	28
Concrete w/ rebar				16	667
Dredgings			1272	0	0
Fill	1857	624	885	1431	420
Fire pit ash				5	2
Rock/fill	34			43	189
Sand		8	24	100	38
Sweepings	1845	501	1965	434	778
Topsoil	284	42	25	86	51
Totals	5045	2281	5451	5255	3862

Grand Total: 21,894 Tons

* Original data measured in Cubic Yards, converted to tons using 1.4 ratio

Cost Savings

The Public Works Department has thus far dumped approximately 21,900 tons of various spoils from our various activities at the Julian Yard. Some of this material is more of a liability than others. Assuming that 2/3 of this

material could have been reused, that leaves 7,227 tons of material to be disposed of. The costs of disposal can vary from an estimate of \$50 to \$80 per ton (depending on any contaminants or pollutants in the material). Thus the costs of hauling and disposal of this material would have been somewhere in the range of \$361,350 to \$578,160.

Future Costs

For planning purposes, I will assume that the amount of spoils the Public Works Department produces is 6,000 tons

Asphalt, concrete, fill, rock, will still need to be brought to the site. I will assume this amount is 4,000 tons. Whatever cannot be processed into usable material will be stockpiled. At some point, a small crusher will need to be rented, or a contractor hired, to process whatever is accumulated. The cost of hauling the material out vs. the cost of crushing – value it produces will be evaluated on a case by case basis. The scale of the procedure will be minimal compared to the current operations.

The material which is the most difficult to reuse are catch basins and drainage outlet cleanings, and road sweepings. There are limited opportunities to reuse this material in appropriate locations for future construction projects. If we must haul out and dispose of the entire 2,000 tons of this material per year, using the same \$50 to \$80 per ton costs as above, this can total from \$100,000 to \$160,000 per year

C. Purchasing of Aggregates

Cost Savings – The Town has obtained products totaling \$82,929.10 worth from Julian from 2014 to present (none was purchased in 2013). Based on an estimate that this was at 40% of the market value we would have paid for the product from another off site vendor, there was a saving of \$124,393.65 over the three years to date.

Future Value – The Town can produce some usable material from future construction spoils. This would displace the amount of new construction aggregate we would otherwise purchase. I would estimate the value of the

material we can produce is approximately \$20,000 per year. This amount does not account for the personnel and labor to make this material.

D. Rental Amount

Financial Benefit – The agreement with Julian called for a rental payment of \$9,000 per year to the Town of Fairfield, as per the bid amount in the RFP.

Future Benefits– the Town will not receive any rental income after the current agreement ends.

8. Future Considerations

Other portions of the Town Complex along Richard White Way may be considered in the future – Harvest New England, Fire Training Center, tidal marshlands in conjunction with Conservation Dept.

9. Time Line – See Attached