FOCUSED FEASIBILITY STUDY REPORT
SARANAC LAKE GAS COMPANY, SITE # 516008
OPERABLE UNIT NO. 03

WORK ASSIGNMENT NO. D007619-23

Prepared for:

New York State Department of Environmental Conservation
Ray Brook, New York

Prepared by:

MACTEC Engineering and Consulting, P.C.
Portland, Maine

MACTEC: 3612132271

JANUARY 2015

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GLOSSARY OF ACRONYMS AND ABBREVIATIONS

AWQS	Ambient Water Quality Standards
BTEX	benzene, toluene, ethylbenzene, and xylene
CAMP	Community Air Monitoring Program
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COCs	contaminants of concern
cy	cubic yard
DNAPL	dense non-aqueous phase liquid
EC	engineering control
FFS	Focused Feasibility Study
FS	Feasibility Study
IC	institutional control
ISS	In-Situ Solidification
ITRC	Interstate Technology Regulatory Council
MACTEC	MACTEC Engineering and Consulting, P.C.
MGP	manufactured gasification plant
NAPL	non-aqueous phase liquid
NYCRR	New York Codes, Rules, and Regulations
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
O&M	operation and maintenance

GLOSSARY OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

OMB	Office of Management and Budget
OU	operable unit
PAHs	polycyclic aromatic hydrocarbons
ppm	part(s) per million
PW	present worth
QA	quality assurance
RAO	Remedial Action Objective
RI	Remedial Investigation
SCGs	standards, criteria, and guidance values
SF	square feet
SGV	Sediment Guidance Value
Site	Saranac Lake Gas Company site
SVOC	semivolatile organic compound
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound
WA	work assignment

1.0 INTRODUCTION

This Focused Feasibility Study (FS [FFS]) Report (FFS Report) has been prepared by MACTEC Engineering and Consulting, P.C. (MACTEC), in response to Work Assignment (WA) No. D007619-23 from the New York State (NYS) Department of Environmental Conservation (NYSDEC) for Operable Unit (OU) 03 (Pontiac Bay of Lake Flower) of the former Saranac Lake Gas Company site (Site) in the Village of Saranac Lake of North Elba, Essex County, New York (Figure 1.1).

The FFS has been conducted in accordance with the WA, as well as with applicable portions of the following documents:

- NYSDEC Draft DER-10 "Technical Guidance for Site Investigation and Remediation"(NYSDEC, 2002a)
- 6 New York Codes, Rules and Regulations (NYCRR) Part 375 "Environmental Remediation Programs"
- United States Environmental Protection Agency (USEPA) "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (USEPA, 1988)

The NYSDEC determined that the Site posed a potential significant threat to public health and the environment as defined in 6 NYCRR 375 (NYS, 2006) based on Site Characterization performed in 2007 which documented soil, sediment and groundwater contamination. A remedial investigation (RI) was performed to further assess the extent of site-related contamination associated with the former gas company and to provide the data needed to evaluate remediation alternatives. Results from the RI have been incorporated into this FFS for OU03. OU03 includes manufactured gasification plant (MGP)-impacted sediments in Lake Flower, primarily within Pontiac Bay (Figure 1.2).

1.1 PURPOSE

The purpose of this FFS Report is to develop and evaluate alternatives for MGP-related contaminated sediment remedial action for OU03.

The approach to the FFS involves integration of data and conclusions presented in the Draft RI Report (MACTEC, 2014), with development, screening, and evaluation of proposed remedial alternatives from engineering, environmental, public health, and economic perspectives. This FFS Report is organized into the following sections.

- Section 1.0 – Introduction
- Section 2.0 – Summary and Conclusions of OU03 Remedial Investigation
- Section 3.0 – Development of Remedial Action Goals and Objectives
- Section 4.0 – Identification of General Response Actions and Extent of Contamination Requiring Remedial Action
- Section 5.0 – Identification and Screening of Technologies
- Section 6.0 – Development and Screening of Alternatives
- Section 7.0 – Detailed Analysis of Alternatives
- Section 8.0 – Comparative Analysis
- Section 9.0 – References

2.0 SUMMARY AND CONCLUSIONS OF THE REMEDIAL INVESTIGATION

The RI Report (MACTEC, 2015) documents the investigation activities completed from August 2013 through October 2014 at the Site for all OUs (as shown in Figure 1.2):

- OU01 - Site property (the former MGP property);
- OU02 - Brandy Brook (the section of brook from OU01 to Pontiac Bay in Lake Flower); and
- OU03 – Pontiac Bay of Lake Flower.

The former Saranac Lake Gas Company manufactured lighting gas through the coal gasification process for the Village of Saranac Lake. According to Sanborn insurance maps and photos obtained from the town library, the MGP likely operated until the 1930s or 1940s and included two above ground gas holders, a building housing the purifier and retort (heating) operations, as well as additional areas for coal storage and offices.

Based on the operational age of this MGP site, the most likely method of gas manufacturing was via the Carbureted Water Gas process. In general, this method involved:

- Coal heated in closed retorts in which the coal was prevented from combusting by limiting the oxygen.
- During the heating process steam was injected into the retort and a chemical reaction occurred that produced a flammable gas mixture.
- Liquid petroleum hydrocarbons were sprayed into the hot gas mixture creating additional methane.
- The gas was collected, cooled, and purified before being used.
- Condensed tar (coal-tar) was produced as a by-product.

Investigations conducted between 2007 and 2014 revealed the presence of MGP-related contamination within OU01 soil and groundwater; OU02 sediment in Brandy Brook east and to a much lesser extent to the west of the Adirondack Scenic Railroad; and OU03 sediment within Pontiac Bay and extending further into Lake Flower.

Contaminants of Concern: The by-products resulting from manufacturing of coal gas contain a number of different chemical constituents that are a cause for concern when left untreated in the environment. The following contaminants of concern (COCs) are a result of the coal tar producing MGP process:

- Coal-tar includes two predominant contaminant classifications, volatile organic compounds (VOCs) and semi-VOCs (SVOCs).
- MGP-related VOCs are specifically characterized by four compounds; benzene, toluene, ethyl benzene and xylene, (BTEX compounds). BTEX compounds often represent a small percentage of the mass of MGP-related waste, but are the most soluble and therefore are the most likely to migrate in groundwater. BTEX are also the most volatile and are thus the most likely to migrate through subsurface soils as vapors or soil gas.
- SVOCs found in coal-tar are known as polycyclic aromatic hydrocarbons (PAHs). Naphthalene, a PAH, is present in coal-tar in relatively high concentrations and was used as an indicator compound for detecting MGP-related waste in media.

OU03 Sediment Results: Section 4.3 of the RI Report (MACTEC, 2014) presents the findings of the OU03 RI. OU03 sediment throughout Pontiac Bay and extending further into Lake Flower show evidence of impact from MGP-related contamination. PAH concentrations in OU03 exceed both the Class A and B Sediment Guidance Values (SGVs) and meet the definition of Class C sediments. Class C sediments are "considered highly contaminated and likely to pose a risk to aquatic life" as set forth in NYSDEC Guidance Document titled “Screening and Assessment on Contaminated Sediment”, issued June 24, 2014. As discussed in the RI report, samples were collected and analyzed prior to NYSDEC’s adoption of the contaminated sediment guidance document and SVOC samples were not analyzed for the complete list of t(34)PAHs on which the SGVs are based; rather samples were analyzed for the Target Compound List of PAHs which includes 16 of these compounds. The USEPA method described in the guidance document was used to calculate the correction factor of 9.3 for the t(16)PAHs. This correction factor was applied to samples with total PAH values less than the Class A SGV.

Dense non-aqueous phase liquid (DNAPL), product and/or staining was present in 11 of the 30 borings advanced into the lake bed during the RI. The vertical extent of MGP-impacted sediment within OU03 ranges between one to seven feet bgs. Based on the visual and analytical findings, an interpretation of the volume of MGP-impacted sediment within OU03 is estimated to be approximately 16,900 cubic yards (cy).

OU03 Surface Water Results: Two surface water samples were collected from Pontiac Bay (OU03) as part of the OU03 RI. These samples were collected within the area of contamination and at the bottom of the water column in order to target the areas that would likely have the highest concentrations of MGP-related compounds in surface water. No Site related compounds were detected in OU03 surface water at concentrations exceeding their chemical-specific standards, criteria and guidance values (SCGs), specifically NY State Class AA Surface Water Quality Standard (Class AA SW Criteria). Iron and manganese were detected exceeding the Class AA standard, however, as discussed in the RI these are not COCs related to the Site. However, remedial alternatives identified and described herein will include measures to ensure that surface water conditions are not impacted during implementation of a sediment remedy.

3.0 DEVELOPMENT OF REMEDIAL ACTION GOALS AND OBJECTIVES

The RI concluded that under current and projected future use scenarios, complete exposure pathways for sediment include:

1. Direct contact with the MGP waste in sediments in the Lake (primarily Pontiac Bay) for area residents and tourists who may visit or access the area for recreational use; and
2. Potential significant impacts to fish and wildlife resources are likely from sediment-related exposures to MGP waste.

As previously described, there are currently no MGP-impacts to surface water within the Lake and therefore surface water does not require remediation. However, given that the Lake is used for fishing and is a Secondary Drinking Water Source, and that it has been observed that when sediments are disturbed oil sheens are apparent at the surface, the presence of the MGP-impacted sediment could impact surface water quality if not addressed. Therefore, the Remedial Action Objectives (RAOs) for sediment at OU03 are:

- Restore lake sediments to pre-disposal/pre-release conditions, to the extent practicable
- Prevent or eliminate direct exposure to MGP waste and contaminated sediments by human receptors
- Prevent or eliminate, to the extent practicable, exposure of fish and wildlife to MGP tar and contaminated sediments
- Prevent or eliminate, to the extent practicable, impacts to biota from ingestion/direct contact with MGP tar and contaminated sediments causing toxicity or impacts from bioaccumulation through aquatic food chain
- Prevent surface water contamination from MGP tar and contaminated sediments that would increase contaminant concentrations in surface water that may result in fish advisories, or prevent use of the Lake as an alternate drinking water source
- Prevent releases of contaminants from sediments that would result in surface water levels in excess of NY State Class AA Surface Water Quality Standard (Class AA SW Criteria)

Further, the remediation goals for OU03 include attaining to the extent practicable the following chemical-specific SCGs:

- Class A SGVs for freshwater sediment, specifically a maximum of 4 ppm of total PAHs (NYSDEC, 2014)
- Maintain surface water concentration below the Class AA SW Criteria

4.0 IDENTIFICATION OF GENERAL RESPONSE ACTIONS AND EXTENT OF CONTAMINATION REQUIRING REMEDIAL ACTION

General response actions describe those actions that will satisfy the RAOs (USEPA, 1988). General response actions may include treatment, containment, excavation, disposal, institutional actions, or a combination of these. Like RAOs, general response actions are medium-specific. The general response actions presented in the following subsections have been developed to address sediment contamination at the Site, which has been identified as a threat to human health and the environment. Site-specific RAOs were developed to address the contamination requiring remedial action for sediment.

4.1 GENERAL RESPONSE ACTIONS

The following general response actions would address the RAOs identified for sediment:

- Access Restrictions
- Monitored Natural Recovery
- In-Situ Treatment
- Containment
- Removal

These general response actions are appropriate for sediment contamination requiring remediation. No Action will also be evaluated for the use of comparing baseline conditions to general response actions and remedial alternatives.

4.2 CONTAMINATION REQUIRING REMEDIAL ACTION

This subsection identifies the distribution of contaminated media to which the RAOs and general response actions will apply. Figure 4.1 presents the distribution of visually impacted MGP-related sediment contamination within OU03. As discussed in the RI Report, visual evidence of MGP tar or stained sediment is typically indicative of total PAH concentrations exceeding the Class A SGVs (4 ppm). Therefore, in order to meet the Class A SGVs, remediation will be required within 76,000 square feet of the Lake, which for the most part is within Pontiac Bay. Based upon RI sample

results, the thickness of impacted sediments within OU03 varies within the remediation area from 1 to 7 feet, which results in a total volume of impacted sediments of approximately 16,900 cy. This volume of sediment would be equivalent to an average depth of approximately 6 feet throughout the impacted area.

4.3 ASSUMPTIONS FOR THE FOCUSED FEASIBILITY STUDY

Given that this is an FFS for OU03, and that ongoing sources of contamination from OU01 and OU02 have not been remediated, assumptions were made to streamline the FFS. The following is a list of assumptions made that are carried through from the screening of technologies phase to the comparison of remedial alternatives.

- RI results for OU03 surface water meet applicable SCGs; therefore, remedial action for surface water is not necessary. However, it is possible that the selected remedy to address the sediments may cause suspension of contaminants into the surface water. Therefore, it is assumed surface water within the working area will either be dewatered, stored temporarily and treated prior to discharge, or sedimentation curtains and/or booms will be used to prevent mobilization of suspended contaminants. Monitoring requirements to ensure water quality violations are prevented will be included in the remedial design.
- Remedial actions for OU01 and OU02 will be conducted prior to remedial action at OU03 to prevent potential recontamination of OU03. If remedial activities at OU01 and OU02 occur after remedial activities at OU03, sedimentation controls will need to be used to prevent potential recontamination. This will be addressed during remedial design of the various OUs.
- Sediment cleanup levels will need to meet the definition of Class A SGVs within the upper two feet of sediment to prevent exposure to humans, fish, and biota. Regardless of the chosen remedy, the top two feet of the lakes bathymetry will be restored with in-kind habitat substrate.
- Remedial objectives include recreational use of the lake. In the event of redevelopment activities, use restrictions may be required depending on the chosen remedy (example: if capping is part of the chosen remedy institutional controls will need to be in-place to ensure that the cap integrity is maintained during future construction).
- A contingency of 20 percent has been added to the total quantity of impacted sediment to address potential for MGP-impacted soil being present within adjacent banks of the Lake.
- Confirmation sampling would be conducted at a rate of one sample per 50-foot by 50-foot grid for remedial alternatives that do not include capping.

- Waste characterization sampling would be conducted at a rate of one sample per 1,000 cy, or more frequently if required by the disposal facility
- The remedial activities will take place during the fall and winter seasons when recreational use of the lake is low and odors will be less pronounced. The timing of the activities will need to be coordinated with the Division of Fish, Wildlife and Marine Resources during the design phase of the project.
- Air monitoring and odor control will be conducted as part of the chosen remedial alternative, which will be described in detail in a Community Air Monitoring Program (CAMP).
- The department will coordinate with the public and adjacent landowners to provide access to areas adjacent to the Bay for storage of construction equipment, temporary treatment systems, and stockpiling areas.

5.0 IDENTIFICATION AND SCREENING OF TECHNOLOGIES

This section presents the identification and screening of potential remedial technologies. Technologies are identified for the purpose of attaining the RAOs established in Section 4.

Following identification, candidate technologies are screened based on their applicability to site- and contaminant-limiting characteristics. The purpose of the screening is to produce an inventory of suitable technologies that can be assembled into remedial alternatives capable of mitigating actual or potential risks at the Site. Potential technologies representing a range of general response actions are considered. The result of technology screening is a list of potential remedial technologies that may be developed into candidate remedial alternatives.

5.1 TECHNOLOGY IDENTIFICATION

Table 5.1 lists remedial technologies and associated process options identified for screening. These technologies were identified based on USEPA's guidance for Conducting RI/FS (USEPA, 1988), Interstate Technology Regulatory Council's (ITRC) guidance for Remedy Selection for Contaminated Sediments (ITRC, 2014) and on experience preparing FS documents and performing site remediation.

5.2 TECHNOLOGY SCREENING

The technology screening process reduces the number of potentially applicable technologies and process options by evaluating factors that may influence process-option effectiveness and implementability. This overall screening is consistent with guidance for conducting an FS under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (USEPA, 1988). Effectiveness and implementability are incorporated into two screening criteria: waste- and site-limiting characteristics. Waste-limiting characteristics consider the suitability of a technology based on contaminant types, individual compound properties (e.g., volatility, solubility, specific gravity, adsorption potential, and biodegradability), and interactions that may occur between mixtures of compounds. Site-limiting characteristics consider the effect of site-specific physical features on the implementability of a technology, such as site topography and geology, the location

of buildings and underground utilities, available space, and proximity to sensitive operations. Technology screening serves a two-fold purpose of screening out technologies whose applicability is limited by site-specific waste or site considerations, while retaining as many potentially applicable technologies as possible.

Table 5.1 presents the technology-screening process. Technologies and process options judged ineffective or prohibitively difficult to implement were eliminated from further consideration. The technologies retained following screening represent an inventory of technologies considered most suitable for remediation of sediment at the Site and may be used alone or integrated with other technologies to develop remedial alternatives. Pilot-scale treatability studies may be required prior to final technology selection to confirm the effectiveness of a given technology.

The technologies that have been retained for further evaluation for the remediation of sediment through the technology-screening process are:

- No Action – Required as a baseline condition to compare to other technologies
- In-Situ Solidification (ISS) – Retained to be included for further evaluation along with excavation.
- Amended Sediment Capping – Retained for further screening as a stand-alone remedy and combined with sediment removal.
- Excavation – Retained as a stand-alone remedy or in combination with other technologies.
- Mechanical or Hydraulic Dredging – Retained as a stand-alone remedy or in combination with other technologies.

6.0 DEVELOPMENT AND SCREENING OF ALTERNATIVES

The retained technologies are considered technically feasible and applicable to the waste types and physical conditions at OU03. These technologies were assembled into potential Site-specific remedial alternatives capable of achieving the RAOs for the contaminated media requiring remediation.

6.1 DEVELOPMENT OF REMEDIAL ALTERNATIVES FOR THE SITE

Table 6.1 presents a screening of the remedial alternatives described above. Consistent with DER-10, the developed medium-specific remedial alternatives were screened on the basis of whether they are technically implementable for OU03 (Implementability) and whether they have the ability to meet the RAOs (Effectiveness). Additionally, based upon available information, the relative cost of each remedial alternative is also evaluated. Those remedial alternatives which are not technically implementable, would not achieve RAOs for the Site, or would incur costs significantly higher than other remedial alternatives without providing greater effectiveness or implementability, will not be evaluated further.

6.1.1 No Action

This alternative will be used as a baseline for comparison to other remedial alternatives. No action would be taken to address contaminated sediment at the Site. No Action will be retained as Alternative 1.

6.1.2 Solidification

Solidification of DNAPL from MGP waste has proven to be effective in subsurface soil, but limited data is available regarding the effectiveness of this technology in sediments. For OU03, the best use of this alternative would be combined with excavation. First the area would be dewatered, and then the sediments with free flowing DNAPL would be excavated. The remaining impacted sediments would be solidified with Portland cement creating a hard surface that would minimize exposure and mobility. There are a very limited number of case studies for ISS, in particular for

MGP-impacted sediments, to show that this remedial alternative would effectively eliminate all exposure pathways given that OU03 is used as a recreational area as well as a secondary drinking water source. Therefore, this remedial alternative has not been retained for detailed analysis.

6.1.3 Capping

Sediment capping is often used as a reliable means to stabilize contaminated sediments from re-suspension, isolate contaminated sediments to reduce migration, and to prevent direct human exposure and exposures to benthic communities. A conventional cap generally uses natural, largely inert materials in a loose-placed form to create a physical barrier from the impacted sediments. Sand or similar granular materials are often used. The effectiveness and thickness of a conventional cap is dependent upon the mobility of the contaminants of concern and the upwelling potential of the area. Conventional caps are not very effective at reducing mobility of NAPL. Future uses of OU03 such as navigation, habitat and recreational use which have depth requirements, may necessitate the need for dredging or excavation prior to capping to maintain future use depth requirements. For these reasons a conventional cap is not recommended.

Amended capping is often used to create an impermeable protective layer or to treat upwelling impacted groundwater from below the impacted sediment. Amended caps are often made of low-permeability materials, such as clay, and can typically be thinner than a conventional cap. For this site, the best option for capping would be an amended cap. However, to ensure protectiveness of habitat and to achieve Class A SGV levels, two feet of in-kind habitat substrate would need to be placed over the cap material. This would result in a significant decrease in water depth within the bay. In fact some areas of the bay would be dry. Given this requirement, capping alone has not been retained for detailed analysis. However, capping has been retained as a combined remedy with excavation and dredging as Alternative 2A and Alternative 3A, respectively.

6.1.4 Excavation

Excavation of impacted sediments in the bay would involve placement of a cofferdam, dewatering, excavation, and likely some ex-situ solidification prior to transportation and disposal. Restoration would also be required. Excavation alternatives retained for detailed analysis include:

- Alternative 2A – Excavation with Capping.

- Alternative 2B – Excavate to Meet Class A SGVs.
- Alternative 2C – Excavate to Meet Pre-Release Conditions.

6.1.5 Dredging

Dredging of impacted sediments in the bay would require placement of a silt curtain to prevent mobilization of impacted sediments further into the lake. Sediment would be dredged with hydraulic equipment. Sediment would then be placed in Geotubes® to slowly dewater and reduce the volume of material for transportation and disposal. Water removed during dewatering would require temporary storage prior to transporting offsite for disposal. Following dredging, restoration would be required. Dredging alternatives retained for detailed analysis include:

- Alternative 3A – Dredging with Capping.
- Alternative 3B – Dredging to Meet Class A SGVs.
- Alternative 3C – Dredging to Pre-Disposal Conditions.

7.0 DETAILED ANALYSIS OF ALTERNATIVES

The detailed analysis of each remedial action alternative for OU03 sediment was performed using the evaluation criteria identified in DER-10 (NYSDEC, 2002a) and Subpart 375-1.8(f) (NYS, 2006). The evaluation includes, where appropriate, a discussion of limitations, assumptions, and uncertainties for each evaluation criteria and provides a conceptual design of each alternative to support an alternatives-comparison and cost-estimation. Evaluation criteria include:

- Compliance with Standards, Criteria and Guidance
- Overall Protection of Public Health and the Environment
- Short-term Impacts and Effectiveness
- Long-term Effectiveness and Permanence
- Reduction of Toxicity, Mobility, or Volume with Treatment
- Implementability
- Cost-Effectiveness
- Land Use

Compliance with Standards, Criteria, and Guidance. Compliance with standards, criteria, and guidance values (SCGs) addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidance. SCGs for the Site will be listed along with a discussion of whether or not the remedy will achieve compliance. For those SCGs that will not be met, there will be a discussion and evaluation of the impacts of each, and whether waivers are necessary. Chemical-specific SCGs were previously identified in this FFS Report. Table 7.1 summarizes the list of applicable SCGs used in the evaluation of alternatives. Location- and Action-specific SCGs will be identified for each alternative in this Section.

Overall Protection of Public Health and the Environment. This criterion is an evaluation of the remedy's ability to protect public health and the environment, assessing how risks posed through each existing or potential pathway of exposure are eliminated, reduced or controlled through removal, treatment, engineering controls or institutional controls. The remedy's ability to achieve each of the RAOs will be evaluated.

Short-term Impacts and Effectiveness. The potential short-term adverse impacts and risks of the remedy upon the community, the workers, and the environment during the construction and/or implementation are evaluated. A discussion of how the identified adverse impacts and health risks to the community or workers at the Site will be controlled, and the effectiveness of the controls, will be presented, along with a discussion of engineering controls that will be used to mitigate short term impacts (e.g., contaminant migration/odor control measures). The length of time needed to achieve the remedial objectives will be estimated.

Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedy after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items will be evaluated:

1. magnitude of remaining risks
2. adequacy of the engineering and institutional controls intended to limit the risk
3. reliability of these controls
4. ability of the remedy to continue to meet RAOs in the future

Effectiveness of alternatives in protecting human health and the environment after RAOs are met will be evaluated. This will include an evaluation of the permanence of the alternative, the magnitude of residual risk, and the adequacy and reliability of controls required to manage wastes or residuals remaining at the Site.

Reduction of Toxicity, Mobility, or Volume with Treatment. The remedy's ability to reduce the toxicity, mobility or volume of site contamination will be evaluated. Preference will be given to remedies that permanently and significantly reduce the toxicity, mobility, or volume of the wastes at the Site.

Implementability. The technical and administrative feasibility of implementing the remedy will be evaluated. Technical feasibility includes the difficulties associated with the construction and the ability to monitor the effectiveness of the remedy. For administrative feasibility, the availability of the necessary personnel and material will be evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, or other issues.

Cost-Effectiveness. Capital and Site Management costs, including Operation, Maintenance and Monitoring costs, will be estimated for the remedy and presented on a present worth (PW) basis.

Land Use. The current, intended, and reasonably anticipated future land uses of the Site and its surroundings will be considered in the evaluation of remedial alternatives.

7.1 COST ANALYSIS PROCEDURES

Estimated costs presented in this FFS Report are intended to be within the target accuracy range of minus 30 to plus 50 percent of actual cost (USEPA, 1988). Costs are presented as a PW and as a total cost for up to a 30-year period.

A summary of the costs for each alternative identifying capital and PW costs are included in each alternative's cost description. Each cost estimate includes a PW analysis to evaluate expenditures that occur over different time periods. The analysis discounts future costs to a PW and allows the cost of remedial alternatives to be compared on an equal basis. PW represents the amount of money that, if invested now and disbursed as needed, would be sufficient to cover costs associated with the remedial action over its planned life. A discount rate of 3.1 percent, as published by the Office of Management and Budget (OMB), was used to prepare the cost estimates (OMB, 2008).

Consistent with USEPA FS cost estimating guidance (USEPA, 2000), the remedial alternative cost estimates include costs for project management, remedial design, construction management, technical support, and scope contingency.

Project management includes planning and reporting, community relations support during construction or Operation and Maintenance (O&M), bid or contract administration, permitting (not already provided by the construction or O&M contractor), and legal services outside of institutional controls.

Remedial design applies to capital cost and includes services to design the remedial action. Activities that are part of remedial design include pre-design collection and analysis of field data, engineering survey for design, treatability study/pilot-scale testing, and the various design components such as design analysis, plans, specifications, cost estimate, and schedule. Given that

the differences in direct costs for the remedial alternatives identified herein are mostly due to the overall quantity of sediment to be removed, transportation & disposal costs were subtracted from the direct costs of each alternative prior to assigning the appropriate percentages to remedial design.

Construction management applies to capital cost and includes services to manage construction or installation of the remedial action, except any similar services provided as part of regular construction activities. Activities include review of submittals, design modifications, construction observation or oversight, engineering survey for construction, preparation of O&M manual, documentation of quality control/quality assurance (QA), and record drawings.

Technical support during O&M includes services to monitor, evaluate, and report progress of remedial action. This includes oversight of O&M activities, update of O&M manual, and progress reporting and is generally between 10 percent and 20 percent of total annual O&M costs depending on complexity of the remedial action (USEPA, 2000).

Scope contingency represents project risks associated with the feasibility-level of design presented in this FFS Report. This type of contingency represents costs, unforeseeable at the time of estimate preparation, which are likely to become known as the remedial design proceeds. Scope contingency ranges from 10 to 25 percent, with higher values appropriate for alternatives with greater levels of cost growth potential (USEPA, 2000). A contingency of 20% was added to each of the alternatives described herein.

Project management, remedial design, and construction management costs, related to implementation of the chosen remedial alternative, presented in this FFS Report are based upon the following matrix presented in the USEPA FS cost estimating guidance (USEPA, 2000).

Professional and Technical Costs as Percentage of Direct Costs					
Indirect Cost	< $100K (%)	$100K-$500K (%)	$500K-$2M (%)	$2M-$10M (%)	>$10M (%)
Project Management	10	8	6	5	5
Remedial Design	20	15	12	8	6
Construction Management	15	10	8	6	6

7.2 GENERAL ASSUMPTIONS

Details and assumptions pertaining to the cost estimates are included in each alternative's cost description. In addition to the alternative-specific assumptions, the following assumptions were applied during the costing of each alternative, as applicable:

- RI results for OU03 surface water meet applicable SCGs; therefore, remedial action for surface water is not necessary. However, it is possible that the selected remedy to address the sediments may cause suspension of contaminants into the surface water. Therefore, it is assumed that surface water within the working area will either be dewatered, stored temporarily and treated prior to discharge, or sedimentation curtains and/or booms will be used to prevent mobilization of suspended contaminants. Monitoring requirements ensure water quality violations are prevented will be included in the remedial design.
- Remedial actions for OU01 and OU02 will be conducted prior to remedial action at OU03 to prevent potential recontamination of OU03. If remedial activities at OU01 and OU02 occur after remedial activities at OU03, sedimentation controls will need to be used to prevent potential recontamination. This will be addressed during remedial design of the various OUs.
- Sediment cleanup levels will need to meet the definition of Class A SGVs within the upper two feet of sediment to prevent exposure to humans, fish, and biota. Regardless of the chosen remedy, the top two feet of the lake's bathymetry will be restored with in-kind habitat.
- Remedial objectives include recreational use of the lake. In the event of redevelopment activities, use restrictions may be required depending on the chosen remedy (example: if capping is part of the chosen remedy institutional controls will need to be in-place to ensure that the cap integrity is maintained during future construction).
- A contingency of 20 percent has been added to the total quantity of impacted sediment to address potential for MGP-impacted soil being present within adjacent banks of the Lake.
- Confirmation sampling would be conducted at a rate of one sample per 50-foot by 50-foot grid for remedial alternatives that do not include capping.
- Waste characterization sampling would be conducted at a rate of one sample per 1,000 cy, or more frequently if required by the disposal facility
- The remedial activities will take place during the fall and winter seasons when recreational use of the lake is low and odors will be less pronounced. The timing of the activities will need to be coordinated with the Division of Fish, Wildlife and Marine Resources during the design phase of the project.
- Air monitoring and odor control will be conducted as part of the chosen remedial alternative, which will be described in detail in a CAMP.

- The department will coordinate with the public and adjacent landowners to provide access to areas adjacent to the Bay for storage of construction equipment, temporary treatment systems, and stockpiling areas.

The following subsections present a conceptual design and cost estimate for each of these remedial alternatives and a discussion of each alternative relative to the evaluation criteria as set forth in DER-10 (NYSDEC, 2002a). Figure 4.1 depicts the extent of sediment to be addressed under Alternatives 2 and 3.

7.3 ALTERNATIVE 1: NO ACTION

This alternative would not include any actions to address sediment contamination at the Site.

Compliance with Standards, Criteria, and Guidance. This alternative would not meet Chemical-specific SCGs because it would not address sediment contamination in excess of the Class A SGV for total PAHs of 4 parts per million (ppm). This alternative would not trigger any Location- or Action-specific SCGs.

Overall Protection of Public Health and the Environment. This remedial alternative would not protect public health and the environment through eliminating, reducing, or controlling existing or potential exposure pathways through removal, treatment, engineering controls, or institutional controls. This remedial alternative would not achieve the RAOs for sediment.

Short-term Effectiveness. Because no actions would be taken, this alternative would not result in short-term adverse impacts and risks to the community, site workers, and the environment, but would also not provide any shot-term effectiveness.

Long-term Effectiveness and Permanence. This alternative would not include actions to address contaminated sediments at and in the vicinity of the Site. This remedy does not currently meet RAOs for sediment and, due to the properties of the Site-specific COCs (e.g., longevity of NAPL), would not be expected to meet RAOs in the future.

Reduction of Toxicity, Mobility, or Volume with Treatment. This alternative would not result in the reduction of toxicity, mobility, or volume of sediment contamination through treatment.

Implementability. No actions would be conducted, therefore there are no technical difficulties associated with this alternative. However, obtaining regulatory and/or public approval of this alternative would be difficult.

Land Use. The current and reasonably anticipated future land use of OU03 is for recreation use. Because no actions would be taken as part of this alternative and there would be no restrictions to future use, this alternative would not be protective of recreational users or the environment.

Cost. There are no costs associated with this alternative.

7.4 ALTERNATIVE 2: EXCAVATION

Excavation alternative includes a number of scenarios that would result in variability in costs as well as overall effectiveness:

- Alternative 2A – Excavation with Capping.
- Alternative 2B – Excavate to Meet Class A SGVs.
- Alternative 2C – Excavate to Meet Pre-Disposal Conditions

The primary difference between the three excavation scenarios is the size of the excavation area and overall quantity of excavated sediment. The primary components of each excavation scenario in Alternative 2 include:

- pre-design investigations and studies
- mobilization and temporary facilities and controls
- placement of AquaDams®
- dewater and treatment of surface water as needed prior to discharge to the Lake
- excavate sediment
- mix excavated sediment with amendments to solidify
- transport and dispose of excavated sediment
- place cap (Alternative 2A only)
- restoration
- long-term monitoring

7.4.1 Detailed Description of Alternatives 2A, B, and C

Pre-Design Investigations and Studies. Pre-design investigations and/or studies would be conducted to support the remedial design, and would include, but not be limited to:

- investigation of soil adjacent to lake (soil banks) and confirmation of the extent of contamination;
- full bathymetric survey of the remedial area;
- characterization of the habitat within the lake, collection and analysis of biota samples and habitat substrate and implementation of an ecological risk assessment
- investigate impact from potential groundwater discharge from OU01 or OU02 to the Lake;
- geotechnical investigations;

Investigations of soil adjacent to the lake would be conducted to determine if soils require remediation and to what extent, and would also be conducted to determine the structural stability of the banks of the lake to support staging equipment during the remedial design. Additional sediment samples will also be collected to verify the extent of the impacted area. Much of the sediment samples will be collected for visual characterization only, with a subset of samples sent for laboratory analysis. Laboratory samples submitted for analysis will include the complete list of t(34)PAHs per the sediment screening guidance.

The bathymetric survey and habitat characterization of the impacted portions of the lake will include characterization of existing conditions, including surveying the slope, bank and lake bed characterization, wetland delineation and photo documentation. This survey will also help determine available space for laydown areas of required equipment and supplies. If necessary, wetlands on site will be delineated following the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual (Technical Report Y-87-1), to identify areas that may require protecting during construction.

Characterization of the habitat within the lake, collection and analysis of biota samples and habitat substrate will be conducted to facilitate design of appropriate habitat substrate types and thicknesses for the remediated portion of the lake.

Groundwater seepage investigations along the banks of the lake along with hydrogeological modeling would be conducted to determine if any controls to treat future seepage would be required in support of the design and implementation. For the purpose of the FFS it has been assumed that contaminant movement from groundwater seepage is not an issue.

Geotechnical investigations would also be conducted to support the design of the dewatering system in the event that a traditional sheet-pile cofferdam is installed.

Mobilization and Temporary Facilities and Controls. Site preparation, mobilization, and temporary facilities and controls would include activities required to prepare the Site for construction, including, but not limited to:

- delivery and setup of site trailers
- installation of temporary utilities
- installation stabilized construction entrance
- installation decontamination pad
- set-up AquaDams® surrounding the area of work
- set-up water treatment system
- construction of material stockpile/solidification areas
- implementation of erosion and sediment control measures
- set up staging area for capping material (Alternative 2A only)
- survey layout of the various work extents
- set up odor control and monitoring equipment

For cost estimating purposes, it has been assumed that the excavation remedial alternatives will be conducted during two fall seasons, so as not to preclude use of the bay during the summer recreational period as well as avoiding work during potential extreme cold weather. Therefore the above mobilization activities will occur twice.

Dewatering and Surface Water Treatment. Water in the bay would first need to be removed from the work area to enable excavation activities to take place. Given the shallow depths of water it has been assumed for costing purposes that AquaDams® could be used. A traditional steel sheet-pile wall would require the use of a crane, which could be complicated by the shallow depths of the

bay, and would have significant cost implications. AquaDams® are water filled coffer dams that come in multiple shapes and sizes and are relatively easy to install compared to a sheet-pile coffer dam that requires a crane. The AquaDam® would be installed around half of the bay (north or south pending on access agreements) during the first construction season, and would be moved to the other side during the second construction season. The AquaDams® have internal baffles to prevent rolling under water pressure, and will be placed so that there is an offset from the edge of the excavation to avoid stability issues. Additionally, siltation curtains and oil booms would be used to ensure that DNAPL is not mobilized beyond the remediation area. Once installed, surface water will be pumped from the work area through a treatment system and discharged to the Lake. The treatment system would likely include a holding tank with two treatment trains in parallel that would include activated carbon and bag filters at minimum, and would be able to process water at a rate of 300-400 gpm. Water samples would be tested from the treatment system as per the treatment system's permit.

Excavation. All three excavation alternatives require the use of an excavator to remove MGP-impacted sediment from Pontiac Bay, one half of the bay the first fall season, and the second half the following fall. The excavated material will then need to be stockpiled on-site, solidified, and dewatered. Excavated sediment will be combined with 15% by weight Portland cement or kiln dust to achieve solidification. Any decanted water resulting from stockpiling and solidification will be collected and treated through the on-site water treatment system. MGP-impacted sediment will then be sampled for disposal characterization at a rate of one composite sample per 1,000 cy of material. Following review of laboratory analysis, sediment will be loaded and transported off-site to a thermal desorption facility in accordance with the NYSDEC DER-4, Management of Coal Tar Waste and Coal Tar Contaminated Soils and Sediment form Former Manufactured Gas Plants (NYSDEC, 2002b).

For Alternative 2A, the depth of the excavation will be approximately 2.5 ft on average prior to capping. For Alternative 2B, the depth of the excavation will be approximately 6 ft deep on average or until visual observations of impacted sediment have stopped, at which point periodic test pits will be conducted to ensure that there are no additional lenses of impacted sediment below. The average depth of the excavation for Alternative 2C will be 9 ft deep. For both Alternative 2C and 2B confirmatory samples will be collected and submitted for laboratory analysis of including t(34)PAHs on an approximate 50 ft by 50 ft grid prior to backfilling to ensure that excavation

alternatives have been met (e.g., all samples are below 4 ppm for t(34)PAHs for Alternative 2B or all samples are non-detect for total PAHs for Alternative 2C).

The estimated extents of excavation for Alternatives 2A through 2C are as follows:

Alternative 2A: Approximately 76,000 square feet (SF) within Pontiac Bay, as shown in Figure 4.1, excavated to an average depth of 2.5 ft. Total estimated tonnage of excavation after solidification is approximately 16,250 tons, or 8,125 per season. Based on this estimation, over a 2 month construction period, an average of 180 tons would be transported per day (assuming 5 day work weeks). See Appendix B for sediment quantity calculations.

Alternative 2B: Approximately 76,000 SF within Pontiac Bay, as shown in Figure 4.1, excavated to an average depth of 6 ft to effectively remove all visible MGP-impacted sediment to meet Class A SGVs for total PAHs in freshwater. Total estimated tonnage of excavation after solidification is approximately 40,000 tons, or 20,000 tons per season. Based on this estimation, over a 2 month construction period, an average of 445 tons will need to be transported per day (assuming 5 day work weeks). See Appendix B for sediment quantity calculations.

Alternative 2C: Approximately 147,000 SF extending slightly beyond Pontiac Bay, as shown in Figure 4.1, excavated to an average depth of 9 ft to effectively restore the area to pre-disposal conditions (non-detect for all COCs). Total estimated tonnage of excavation after solidification is approximately 115,000 tons, or 57,500 per season. Based on this estimation, over a 2 month construction period, an average of 1,300 tons will need to be transported per day (assuming 5 day work weeks). See Appendix B for sediment quantity calculations.

Backfilling following excavation and restoration. Once the required MGP-impacted sediment is removed from Pontiac Bay, certified clean sand will be used as backfill. Backfilling for alternatives 2B and 2C will be conducted so that the excavated areas of Pontiac Bay will be an average of 1 foot deeper than pre-excavation.

Backfilling will be done in the following manner:

- Alternative 2A: The excavated area will be capped in dry conditions to provide an approximate 2-foot, 4-inch cap. The cap would include a four-inch layer of synthetic capping material (assume AquaBlok® for cost purposes), which will be sprayed with water while being placed. Two feet of habitat substrate will be placed over the cap material. The two foot habitat layer should suffice to protect the clay from potential anchor damage, however, if chosen restrictions may be needed to limit anchor size and/or encourage use of moorings.
- Alternative 2B: Excavated area will be backfilled with an average of three feet of certified clean sand and two feet of habitat substrate (total of 16,900 cy), effectively deepening the bay area by approximately one foot.
- Alternative 2C: Excavated area will be backfilled with an average of six feet of certified clean sand and two feet of habitat substrate (total of 52,000 cy), effectively deepening the bay area by approximately one foot.

Following backfilling of the excavated area, any additional restoration of the lake bottom, such as aquatic plant life will also be implemented. These requirements will be determined during the pre-design investigation.

Water in the Bay will be restored by slowly deflating the Aquadams®. At the completion of the remedial activities, equipment staging areas will be restored with topsoil and hydroseed as necessary.

Long Term Monitoring. It is assumed that after implementation of the excavation alternative, monitoring would be carried out for a total of up to 30 years. It is assumed that on an annual basis up to three sediment samples would be collected, two from within the remediated area, and one downgradient, as well as one surface water sample. In addition, for Alternative 2A, cores of the cap would be collected for visual inspection of integrity. Results of annual monitoring would be presented in an annual report.

7.4.2 Detailed Evaluation of Alternatives 2A, 2B, and 2C

Compliance with Standards, Criteria, and Guidance.

Alternative 2A: Alternative 2A would meet Chemical-specific SCGs by removing the top 2.5 feet of impacted sediment and capping remaining sediment contamination in excess of the Class A SGV for total PAHs in freshwater of 4 ppm within Pontiac Bay. This area is shown in Figure 4.1.

Alternative 2A would trigger Location-Specific SCGs associated with construction within a flood plain and fresh water body. Action-Specific SCGs for Alternative 2A would be associated with dust and odor control, erosion and sediment control, transportation and disposal of remediation wastes, and lake restoration.

Alternative 2B: Alternative 2B would meet would meet Chemical-specific SCGs by removing the approximately 6 feet (all visible MGP-impacted sediment) to effectively remove sediment contamination in excess of the Class A SGV for total PAHs in freshwater of 4 ppm within Pontiac Bay. The footprint for this work is the same as for Alternative 2A and is shown on Figure 4.1.

Alternative 2B would likely trigger Location-Specific SCGs associated with construction within a flood plain, and Action-Specific SCGs associated with dust control, odor control, erosion and sediment control, transportation and disposal of remediation wastes, and lake restoration.

Alternative 2C: Alternative 2C would meet would meet Chemical-specific SCGs by removing the approximately 9 feet (all sediment with detectable concentrations of PAHs) to effectively remove sediment to restore Pontiac Bay to pre-disposal conditions. The footprint for this work is shown on Figure 4.1.

Alternative 2C would likely trigger Location-Specific SCGs associated with construction within a flood plain, and Action-Specific SCGs associated with dust control, odor control, erosion and sediment control, transportation and disposal of remediation wastes, and lake restoration.

Overall Protection of Public Health and the Environment.

Alternative 2A: This remedial alternative would protect public health and the environment through eliminating, reducing, and controlling existing or potential exposure pathways through excavation and capping. This remedial alternative would achieve the majority of RAOs for sediment at OU03 with the exception of restoring the lake sediments to pre-disposal/pre-lease conditions. Alternative 2A would allow for continued recreational use of the lake. However, given that sediment contaminants would remain in place beneath the cap, a site management plan including an IC/EC plan would be required, and future development including but not limited to constructions of docks and beaches would need to consider impacts to the cap system.

Alternative 2B: This remedial alternative would protect public health and the environment through eliminating, reducing, or controlling existing or potential exposure pathways through excavation. This remedial alternative would achieve the majority of RAOs for sediment at OU03 with the exception of restoring the lake sediments to pre-disposal/pre-lease conditions. Alternative 2B would remove all visible MGP-impacted sediment and all remaining sediment would meet the Class A SGV for total PAHs of 4 ppm. Meeting Class A criteria would mean any remaining sediment would present little or no potential for risk to aquatic life or recreational users of the lake. Alternative 2B would also allow for continued use of the water as a secondary drinking water source.

Alternative 2C: This remedial alternative would protect public health and the environment through eliminating, reducing, or controlling existing or potential exposure pathways through removal. This remedial alternative would achieve all RAOs for sediment. Alternative 2C would meet the Class A SGV for total PAHs by removing all visible MGP-impacted sediment, as well as to the extent that total PAHs are non-detect throughout Pontiac Bay. Meeting Class A criteria would mean any remaining sediment would present little or no potential for risk to aquatic life or recreational users of the lake. Alternative 2C would also allow for continued use of the water as a secondary drinking water source.

Short-term Effectiveness and Impacts.

Alternative 2A: This alternative would result in short-term adverse impacts and risks to the community, site workers, and the environment as a result of implementation. Implementation of this alternative would include preparation of and adherence to a construction work plan and health and safety plan. It is estimated that this alternative would need to be conducted in two phases, during two consecutive fall seasons. Once the excavation and capping are complete, all attainable RAOs for sediment would be achieved; however periodic inspections of the cap would be required to ensure that there are no releases through the cap. Alternative 2A involves the least disturbance of sediment of the Alternative 2 options, but would still require extensive use of odor control foam throughout the dried area of excavation and stockpile areas.

Alternative 2B: This alternative would result in short-term adverse impacts and risks to the community, site workers, and the environment as a result of implementation. Implementation of this alternative would include preparation of and adherence to a construction work plan and health

and safety plan. It is estimated that this alternative would need to be conducted in two phases, during two consecutive fall seasons. Once the excavation is complete, all attainable RAOs for sediment would be achieved. Alternative 2B involves less disturbance of sediment compared to Alternative 2C, but would still require extensive use of odor control foam throughout the dried area of excavation.

Alternative 2C: This alternative would result in short-term adverse impacts and risks to the community, site workers, and the environment as a result of implementation. Implementation of this alternative would include preparation of and adherence to a construction work plan and health and safety plan. It is estimated that this alternative would need to be conducted in two phases, during two consecutive fall seasons. Once the excavation is complete, all RAOs for sediment would be achieved. Alternative 2C involves the most disturbance of sediment compared to all retained alternatives and would require extensive use of odor control foam throughout the dried area of excavation.

Long-term Effectiveness and Permanence.

Alternative 2A: This alternative, although protective of human health and the environment, would leave impacted sediment in place below the cap. The cap would require periodic inspections to ensure that it remains effective and may require maintenance in the future to maintain long-term effectiveness and permanence.

Alternative 2B: This alternative would permanently remove and dispose of all MGP-impacted sediment exceeding the Class A SGV of 4 ppm for total PAHs. Site restoration would return the bay to pre-construction conditions, as determined by the pre-design investigations, with the exception of overall depth of the area of work. Backfilling will be implemented to achieve an overall depth increase of 1 foot to improve conditions for recreational use.

Alternative 2C: This alternative would permanently remove and dispose of all MGP-impacted sediment with any detectable concentrations of total PAHs. Site restoration would return the bay to pre-construction conditions, as determined by the pre-design investigations, with the exception of overall depth of Pontiac Bay. Backfilling will be implemented to achieve an overall depth increase of 1 foot to improve conditions for recreational use.

In addition, in the event that OU03 is remediated before OU01 and OU02, engineering controls may be required to recontamination of the lake in order to ensure permanence for each of the Alternative 2 scenarios, which will need to be considered during the remedial design.

Reduction of Toxicity, Mobility, or Volume with Treatment.

Alternative 2A: This alternative would result in the reduction of mobility of sediment contamination within the Bay through on-site capping. This alternative would also reduce the total volume of contamination; however, it would not reduce the overall toxicity of contamination remaining beneath the cap.

Alternative 2B: This alternative would result in the elimination of mobility and volume of sediment contamination in Pontiac Bay by removing any MGP-impacted sediment measuring above 4 ppm for total PAHs and transporting the sediment off-site for disposal. This alternative would eliminate the toxicity of contamination by transporting all MGP-impacted sediment with total PAH concentration greater than 4 ppm off-site for disposal through thermal desorption.

Alternative 2C: This alternative would result in the elimination of mobility and volume of sediment contamination in Pontiac Bay by removing any MGP-impacted sediment with detectable concentrations of total PAHs and transporting the sediment off-site for disposal. This alternative would eliminate the toxicity of contamination by transporting all excavated MGP-impacted sediment off-site for disposal through thermal desorption.

Implementability.

There would be limited technical issues with implementing Alternatives 2A through 2C, associated primarily with dewatering, excavating and restoring Pontiac Bay. State or Federal regulations for construction within a flood plain may complicate implementation of this alternative. Implementability of this alternative would be contingent upon cooperation of the community and land owners surrounding the bay for use of land for equipment, supplies, and access.

Land Use. The current and reasonably anticipated future land use of OU03 is for recreational use. Alternatives 2A, 2B, and 2C would be compatible with current land use and reasonably anticipated future land use. Additionally, alternatives 2B and 2C result in an increased water depth of 1 ft within the area of work in Pontiac Bay to improve recreational accessibility.

Cost. The capital cost estimate and present worth of the Alternative 2 scenarios are as follows:

Excavation Scenario	Capital Cost	Present Worth
Alternative 2A	$5,943,000	$6,158,000
Alternative 2B	$9,222,000	$9,360,000
Alternative 2C	$21,465,000	$$21,603,000

A summary of the costs associated with these alternatives is presented in Table 7.3. Detailed cost analysis backup is provided in Appendix A.

7.5 ALTERNATIVE 3: DREDGING

Dredging remedial alternative could be conducted in a number of scenarios that would result in variability in costs as well as overall effectiveness.

- Alternative 3A – Dredging with Capping.
- Alternative 3B – Dredging to Meet Class A SGVs.
- Alternative 3C – Dredging to Meet Pre-Disposal Conditions

The primary components of each dredging scenario in Alternative 3 include:

- pre-design investigation and studies
- mobilization and temporary facilities and controls
- set-up of Geotube® staging areas and associated water collection
- dredge sediment
- allow sediment to dewater over time inside the Geotubes®
- transport and dispose of excavated soil and decanted water
- place cap (Alternative 3A only)
- restoration
- long-term monitoring

7.5.1 Detailed Description of Alternative 3A, B, and C

Pre-Design Investigation and Studies. Pre-design investigation and/or studies would be conducted to support the remedial design. Pre-Design investigations would be the same as in

Alternative 2, but would also include a thorough survey of lay-down areas to support Geotube® layout design.

Mobilization and Temporary Facilities and Controls. Site preparation, mobilization, and temporary facilities and controls would include activities required to prepare the Site for construction, including, but not limited to:

- delivery and setup of site trailers
- installation of temporary utilities
- installation of erosion and sediment control measures
- installation stabilized construction entrance
- installation decontamination pad
- set up staging area for capping material (Alternative 3A only)
- Set-up Geotube® laydown areas and associated water collection
- set up odor control and monitoring equipment
- install silt curtains
- install floating platform and setup piping system

For cost estimating purposes, it has been assumed that the dredging remedial alternatives will be conducted during two fall seasons, so as not to preclude use of the bay during the summer recreational period as well as avoiding work during potential extreme cold weather. Therefore the above mobilization activities will occur twice.

Removal of Large Debris. Removal of large debris from the lake bottom within Pontiac Bay would require the use of a miniature excavator placed on the floating platforms. Any visible, large debris would be removed from Pontiac Bay and transported offsite for disposal.

Dredging. All three dredging alternatives require the use of floating platforms, hydraulic dredging equipment and piping to convey sediment to the Geotubes®. It is assumed that MGP-impacted sediment from Pontiac Bay would be dredged over two seasons, one half of the bay the first fall season, and the second half the following fall.

During dredging, a small boat would be used to observe the dredging activities, collect depths of dredging and make visual observations of the bottom of the dredged area.

For Alternative 3A, the depth of dredging would be approximately 2.5 ft on average prior to capping. For Alternative 3B, the depth of the excavation would be approximately 6 ft deep on average or until there are no visual observations of impacted soil. The average depth of the excavation for Alternative 3C would be approximately 9 ft deep. For both Alternative 3C and 3B once no visual impacts are noted, or the pre-determined depth has been reached, dredging equipment would be used to agitate the bottom to ensure that no sheens are visible prior to collecting confirmation samples. Confirmatory samples would be collected and submitted for laboratory analysis including the t(34)PAHs on an approximate 50 ft by 50 ft grid prior to backfilling to ensure that excavation alternatives have been met (i.e., all samples are below 4 ppm for total PAHs for Alternative 3B or all samples are non-detect for total PAHs for Alternative 3C).

The estimated extent of excavation for Alternatives 3A through 3C is as follows:

Alternative 3A: Approximately 76,000 SF within Pontiac Bay, as shown in Figure 4.1, dredged to an average depth of 2.5 ft. Total estimated tonnage of sediment after dewatering in the Geotubes® is approximately 15,625 tons, 7,800 per season. Based on this estimation, after successful dewatering, approximately 175 tons would need to be transported per day (assuming 5 day work weeks) over a 2 month period. See Appendix B for sediment quantity calculations.

Alternative 3B: Approximately 76,000 SF within Pontiac Bay, as shown in Figure 4.1, excavated to an average depth of 6 ft to effectively remove all visible MGP-impacted sediment to meet Class A SGVs for total PAHs in freshwater. Total estimated tonnage of sediment after dewatering in the Geotubes® is approximately 37,000 tons, 18,500 tons per season. Based on this estimation, after successful dewatering, over a 2 month construction period, 400 tons would need to be transported per day (assuming 5 day work weeks). See Appendix B for sediment quantity calculations.

Alternative 3C: Approximately 147,000 SF extending slightly beyond Pontiac Bay, as shown in Figure 4.1, excavated to a depth of 9 ft to effectively restore the area to pre-disposal conditions (non-detect for all COCs). Total estimated tonnage of sediment after dewatering in the Geotubes® is approximately 68,000 tons, 34,000 per season. Based on this estimation, over a 2 month

construction period, 750 tons would need to be transported per day (assuming 5 day work weeks). See Appendix B for sediment quantity calculations.

Backfilling following excavation and restoration. Once the required MGP-impacted sediment is removed from Pontiac Bay, certified clean sand would be used as backfill. Backfilling for alternatives 3B and 3C would be conducted so that the dredged areas of Pontiac Bay will be an average of 1 foot deeper than pre-excavation. Backfilling would be done in the following manner:

- Alternative 3A: The dredged area would be capped using the floating platforms from the dredging activities. The cap would include a four-inch layer of AquaBlok® and 2 feet of habitat substrate. The two foot habitat layer should suffice to protect the clay from potential anchor damage, however, if chosen the restrictions may be needed to limit anchor size and/or encourage use of moorings.
- Alternative 3B: Dredged area would be backfilled with 3 ft of certified clean sand and 2 feet of habitat substrate (total of 14,000 cy).
- Alternative 3C: Dredge area would be backfilled with 6 ft of certified clean sand and 2 feet of habitat substrate (total of 44,000 cy).

Following backfilling of the dredged area, any additional restoration of the lake bottom, such as restoration of aquatic plant life will also be implemented. These requirements will be determined during the pre-design investigation. Silt curtains will also be removed after backfilling.

The dredged material will be stored in Geotubes® for several months and the decanted water will be collected. Dewatered sediments will be sampled for disposal characterization at a rate of one sample per 1,000 cubic yards of material, and water will be tested at a rate of one sample per 20,000 gallons. Following review of laboratory analysis, soil will be loaded and transported off-site to a thermal desorption facility in accordance with NYSDEC DER-4 (NYSDEC, 2002b). Decanted water will be transported off-site for treatment as well. Once the Geotubes® have been removed from the Site, the construction staging area will be restored with topsoil and hydroseed.

Long Term Monitoring. It is assumed that after implementation of the dredging alternative, monitoring would be carried out for a total of up to 30 years. It is assumed that on an annual basis up two three sediment samples would be collected, two from within the remediated area, and one downgradient, as well as one surface water sample. In addition, for Alternative 3A, cores of the

cap would be collected for visual inspection of integrity. Results of annual monitoring would be presented in an annual report.

7.5.2 Detailed Evaluation of Alternative 3

Compliance with Standards, Criteria, and Guidance.

Alternative 3A: Alternative3A would meet Chemical-specific SCGs by removing the top 2.5 feet of impacted sediment and capping remaining sediment contamination in excess of the Class A SGV for total PAHs in freshwater of 4 ppm within Pontiac Bay. This area is shown in Figure 4.1.

Alternative 3A would trigger Location-Specific SCGs associated with construction within a flood plain and fresh water body. Action-Specific SCGs for Alternative 3A would be associated with odor control, erosion and sediment control, transportation and disposal of remediation wastes, and lake restoration.

Alternative 3B: Alternative 3B would meet would meet Chemical-specific SCGs by removing the top 6 ft (all visible MGP-impacted sediment) to effectively remove sediment contamination in excess of the Class A SGV for total PAHs in freshwater of 4 ppm within Pontiac Bay. The footprint for this work is the same as for Alternative 3A and is shown on Figure 4.1.

Alternative 3B would likely trigger Location-Specific SCGs associated with construction within a flood plain, and Action-Specific SCGs associated with odor control, erosion and sediment control, transportation and disposal of hazardous wastes, and lake restoration.

Alternative 3C: Alternative 3C would meet would meet Chemical-specific SCGs by removing the top 6 feet (all visible MGP-impacted sediment) to effectively remove sediment to restore Pontiac Bay to pre-disposal conditions. The footprint for this work is shown on Figure 4.1.

Alternative 3C would likely trigger Location-Specific SCGs associated with construction within a flood plain, and Action-Specific SCGs associated with dust control, erosion and sediment control, transportation and disposal of hazardous wastes, and lake restoration.

Overall Protection of Public Health and the Environment.

Alternative 3A: This remedial alternative would protect public health and the environment through eliminating, reducing, and controlling existing or potential exposure pathways through dredging and capping. This remedial alternative would achieve the majority of RAOs for sediment at OU03 with the exception of restoring the lake sediments to pre-disposal/pre-lease conditions. Alternative 3A would allow for continued recreational use of the lake. However, given that sediment contaminants would remain in place beneath the cap, a site management plan including and IC/EC plan would be required, and future development including but not limited to constructions of docks and beaches would need to consider impacts to the cap system.

Alternative 3B: This remedial alternative would protect public health and the environment through eliminating, reducing, or controlling existing or potential exposure pathways through dredging. This remedial alternative would achieve the majority of RAOs for sediment at OU03 with the exception of restoring the lake sediments to pre-disposal/pre-lease conditions. Alternative 3B would remove all visible MGP-impacted sediment and all remaining sediment would meet the Class A SGV for total PAHs of 4 ppm. Meeting Class A criteria would mean any remaining sediment would present little or no potential for risk to aquatic life or recreational users of the lake. Alternative 3B would also allow for continued use of the water as a secondary drinking water source.

Alternative 3C: This remedial alternative would protect public health and the environment through eliminating, reducing, or controlling existing or potential exposure pathways through dredging. This remedial alternative would achieve all RAOs for sediment. Alternative 3C would meet the Class A SGV for total PAHs by removing all visible MGP-impacted sediment, as well as to the extent that total PAHs are non-detect throughout Pontiac Bay. Meeting Class A criteria would mean any remaining sediment would present little or no potential for risk to aquatic life or recreational users of the lake. Alternative 3C would also allow for continued use of the water as a secondary drinking water source.

Short-term Effectiveness and Impacts.

Alternative 3A: This alternative would result in short-term adverse impacts and risks to the community, site workers, and the environment as a result of implementation. Implementation of this alternative would include preparation of and adherence to a construction work plan and health

and safety plan. It is estimated that this alternative would need to be conducted in two phases, during two consecutive fall seasons. However, it is likely that the Geotubes® would need to remain onsite for dewatering for several months after construction is complete to properly dewater prior to disposal, which would impact the community beyond the work period. Once the dredging and capping are complete, and Geotubes® are removed from the site, all attainable RAOs for sediment would be achieved, however periodic inspections of the cap would be required.

Alternative 3B: This alternative would result in short-term adverse impacts and risks to the community, site workers, and the environment as a result of implementation. Implementation of this alternative would include preparation of and adherence to a construction work plan and health and safety plan. It is estimated that this alternative would need to be conducted in two phases, during two consecutive fall seasons. However, it is likely that the Geotubes® would need to remain onsite for dewatering for several months after construction is complete to properly dewater prior to disposal, which would impact the community beyond the work period. Once the dredging is complete, and Geotubes® are removed from the site, all attainable RAOs for sediment would be achieved.

Alternative 3C: This alternative would result in short-term adverse impacts and risks to the community, site workers, and the environment as a result of implementation. Implementation of this alternative would include preparation of and adherence to a construction work plan and health and safety plan. It is estimated that this alternative would need to be conducted in two phases, during two consecutive fall seasons. However, it is likely that the Geotubes® would need to remain onsite for dewatering for several months after construction is complete to properly dewater prior to disposal, which would impact the community beyond the work period. Once the dredging is complete, and Geotubes® are removed from the site, all attainable RAOs for sediment would be achieved.

Each of the Alternative 3 scenarios would be conducted in wet conditions, and dredged sediments would be placed in Geotubes®, so order issues may be minimal, but will still need to be monitored and controlled.

Long-term Effectiveness and Permanence.

Alternative 3A: This alternative, although protective of human health and the environment, would leave impacted sediment in place below the cap. The cap would require periodic inspections to ensure that it remains effective and may require maintenance in the future to maintain long-term effectiveness and permanence.

Alternative 3B: This alternative would permanently remove and dispose of all MGP-impacted sediment exceeding the Class A SGV of 4 ppm for total PAHs. Site restoration would return the bay to pre-construction conditions, as determined by the pre-design investigations, with the exception of overall depth of the area of work. Backfilling will be implemented to achieve an overall depth increase of 1 foot to improve conditions for recreational use.

Alternative 3C: This alternative would permanently remove and dispose of all MGP-impacted sediment with any detectable concentrations of total PAHs. Site restoration would return the bay to pre-construction conditions, as determined by the pre-design investigations, with the exception of overall depth of Pontiac Bay. Backfilling will be implemented to achieve an overall depth increase of 1 foot to improve conditions for recreational use.

In addition, in the event that OU03 is remediated before OU01 and OU02, engineering controls may be required to prevent recontamination of the lake in order to ensure permanence for each of the Alternative 3 scenarios, which will need to be considered during the remedial design.

Reduction of Toxicity, Mobility, or Volume with Treatment.

Alternative 3A: This alternative would result in the reduction of mobility of sediment contamination within the Bay through on-site capping. This alternative would also reduce the total volume of contamination; however, it would not reduce the overall toxicity of contamination remaining beneath the sediment cap.

Alternative 3B: This alternative would result in the elimination of mobility and volume of sediment contamination in Pontiac Bay by removing any MGP-impacted sediment measuring above 4 ppm for total PAHs and transporting the sediment off-site for disposal. This alternative would eliminate the toxicity of contamination by transporting all MGP-impacted sediment with total PAH concentration greater than 4 ppm off-site for disposal through thermal desorption.

Alternative 3C: This alternative would result in the elimination of mobility and volume of sediment contamination in Pontiac Bay by removing any MGP-impacted sediment with detectable concentrations of total PAHs and transporting the sediment off-site for disposal. This alternative would eliminate the toxicity of contamination by transporting all excavated MGP-impacted sediment off-site for disposal through thermal desorption.

Implementability.

There would be some technical issues with implementing Alternatives 3A through 3C. Dredging in shallow areas of the bay would be from the shore since a traditional barge would not be a viable option due to shallow water depth in the Bay. Depths of dredging and visual observations of the bottom are difficult in comparison to traditional excavation. Sediment in the Geotubes® would require a significant amount of time to dewater prior to transporting off-site for disposal, and the water would also need to be collected for off-site disposal. Similarly to other alternatives, State or Federal regulations for construction within a flood plain may complicate implementation of this alternative. Implementability of this alternative would be contingent upon cooperation of the community and land owners surrounding the bay for use of land for equipment, supplies, and access.

Land Use. The current and reasonably anticipated future land use of OU03 is for recreational use. Alternatives 3A, 3B, and 3C would be compatible with current land use and reasonably anticipated future land use. Alternatives 3B and 3C increase the depth of water by 1 ft within the area of work in Pontiac Bay to improve recreational accessibility.

Cost. The capital cost estimate and present worth of the Alternative 3 scenarios are as follows:

Excavation Scenario	Capital Cost	Present Worth
Alternative 3A	$6,514,000	$6,729,000
Alternative 3B	$9,872,000	$10,010,000
Alternative 3C	$23,293,000	$23,431,000

A summary of the costs associated with these alternatives is presented in Table 7.4. Detailed cost analysis backup is provided in Appendix A.

8.0 COMPARATIVE ANALYSIS OF ALTERNATIVES

The comparative analysis evaluates the relative performance of each alternative using the same criteria by which the detailed analysis of each alternative was conducted. The purpose of the comparative analysis is to identify the advantages and disadvantages of each alternative relative to one another to aid in selecting an overall remedy for the Site.

The comparative analysis includes a narrative discussion of the strengths and weaknesses of the alternatives relative to one another with respect to each criterion, and how reasonable variations of key uncertainties could change the expectations of their relative performance, as applicable. The comparative analysis presented in this document uses a qualitative approach to comparison, with the exceptions of comparing alternative costs and the required time to implement each alternative.

A comparison of the capital and long-term costs associated with the remedial alternatives is presented in Table 8.1. Detailed cost analysis backup is provided in Appendix A.

Compliance with Standards, Criteria, and Guidance. Alternative 1 would not meet Chemical-specific SCGs because it would not address contamination at and in the vicinity of the Site which exceeds applicable SCG values.

Alternatives 2A through 2C, and 3A through 3C would meet Chemical-specific SCGs by capping or removing sediment contamination in excess of the Class A SGV for total PAHs in freshwater of 4 ppm.

All alternatives would trigger Location-Specific SCGs associated with construction within a flood plain and fresh water body. Action-Specific SCGs for all alternatives would be associated with dust and odor control, erosion and sediment control, transportation and disposal of remediation wastes, and lake restoration. Alternative 2A and 3A would maintain current flood plain storage capacity, where alternatives 2B, 2C, 3B and 3C would increase the overall depth of the work area by approximately 1 foot. Therefore, Alternatives 2B, 2C, 3B and 3C rate highest for Compliance with Standards, Criteria and Guidance.

Overall Protection of Public Health and the Environment. Alternative 1 would not protect public health and the environment through eliminating, reducing, or controlling existing or potential exposure pathways through removal, treatment, or engineering controls. This remedial alternative would not achieve the RAOs for OU03 sediment.

Alternatives 2A and 3A would protect public health and the environment through eliminating, reducing, and controlling existing or potential exposure pathways through combined excavation and capping. These remedial alternatives would achieve the majority of RAOs for sediment at OU03 with the exception of restoring the lake sediments to pre-disposal/pre-release conditions. Alternatives 2A, and 3A would allow for continued recreational use of the lake. However, given that sediment contaminants would remain in place beneath the cap, a site management plan including an IC/EC plan would be required.

Alternatives 2B and 3B would protect public health and the environment through eliminating, reducing, or controlling existing or potential exposure pathways through removal. These remedial alternatives would achieve the majority of RAOs for sediment at OU03 with the exception of restoring the lake sediments to pre-disposal/pre-lease conditions. Alternatives 2B and 3B would remove all visible MGP-impacted sediment and all remaining sediment would meet the Class A SGV for total PAHs of 4 ppm. Meeting Class A criteria would mean any remaining sediment would present little or no potential for risk to aquatic life or recreational users of the lake. Alternatives 2B and 3B would also allow for continued use of the water as a secondary drinking water source and would not require periodic inspections and possible maintenance for continued protection.

Alternatives 2C and 3C would protect public health and the environment to the greatest extent through eliminating, reducing, or controlling existing or potential exposure pathways through removal of impacted sediment. These remedial alternatives would achieve all RAOs for sediment. Alternatives 2C and 3C would meet the Class A SGV for total PAHs by removing all visible MGP-impacted sediment, as well as to the extent that total PAHs are non-detect throughout Pontiac Bay. Meeting Class A criteria would mean any remaining sediment would present little or no potential for risk to aquatic life or recreational users of the lake. Alternatives 2C and 3C would also allow for continued use of the water as a secondary drinking water source.

Therefore, Alternatives 2C and 3C rate highest for Overall Protection of Public Health and the Environment, followed closely by Alternatives 2B and 3B.

Short-term Effectiveness & Impacts. Because no action would be taken, Alternative 1 would not result in short-term adverse impacts and risks to the community, site workers, and the environment, but would also not be effectiveness in the short term.

Alternatives 2A, 2B, 2C, 3A, 3B, and 3C have significant short-term impacts due to the large amount of construction equipment and traffic required, a two-year construction duration, as well as the need for odor control measures.

Alternatives 3A, 3B, and 3C also include additional impacts to the community because of the duration beyond the construction phase that the Geotubes® will need to remain on-site.

Alternatives 2 and 3 will all be effective upon completion of constructions activities.

Therefore, Alternatives 2, having an overall shorter construction period rate higher than Alternatives 3 for Short-term Effectiveness & Impacts.

Long-term Effectiveness and Permanence. Alternative 1 would not include actions to address contaminated sediments at and in the vicinity of the Site. This remedy does not currently meet RAOs for sediment and would not be expected to meet RAOs in the future.

Alternatives 2A and 3A have the lowest long-term effectiveness and permanence of the retained remedial alternatives. Each capping alternative would leave contaminated sediment in place and requires periodic inspections for the foreseeable future to verify and maintain the effectiveness of the sediment cap and to inspect for seepage through the cap, which may occur over time. Each will also require a site management plan to be prepared and followed and future construction activities will need to incorporate impacts to the cap.

Alternatives 3B and 3C have higher long-term effectiveness than the capping alternatives, but contaminated sediment will remain on-site once dredging is complete in order to dewater with

Geotubes®. Once the sediment has been effectively dewatered, the Geotubes® will be transported off-site for disposal.

Alternatives 2B and 2C have the highest long-term effectiveness because all excavated sediment will be transported and disposed of off-site following excavation and would not limit future use of Pontiac Bay.

Reduction of Toxicity, Mobility, or Volume with Treatment. Alternative 1 would not result in the reduction of toxicity, mobility, or volume of sediment contamination through treatment.

Alternatives 2A and 3A would reduce both the mobility and volume of contamination through excavation or dredging, respectively, combined with a sediment cap. These alternatives would not, however, reduce the overall toxicity of the remaining sediment contamination.

Alternatives 2B and 3B would reduce the toxicity, mobility, and volume of on-site MGP-impacted sediment by removing and disposing of any MGP-impacted sediment with a total PAH concentration exceeding the Class A SGV of 4 ppm. Any remaining sediment within Pontiac Bay would present little or no potential for risk to aquatic life or recreational users of the lake.

Alternatives 2C and 3C would most effectively reduce the toxicity, mobility, and volume of site contamination. This would be achieved through excavation or dredging, respectively, all sediment with detectable concentrations of total PAHs and as a result returning the site to pre-disposal conditions.

Implementability. Alternative 1 requires no action, therefore there are no technical difficulties associated with this alternative. However, obtaining regulatory approval of this alternative would be difficult.

Alternatives 3A, 3B, and 3C would present some technical issues, primarily with dredging and restoring Pontiac Bay. Due to the large area of work, the work must be divided into two seasons, which will require two separate mobilization and demobilization phases. Dredging activity will require the use of siltation curtains to contain any potentially re-suspended contamination. Using dredging for sediment removal will temporarily impact visibility of the bottom of the bay. Both

confirmatory sampling and visual observation are intended to determine the extent of sediment removal, and additional time and effort would be required to allow for improved visibility while dredging. In order to backfill or apply a cap in the area of work, additional barges will be required to access offshore portions of the bay. On-site storage and dewatering via Geotubes® for an extended period of time may be difficult to implement, considering both public access and space restriction issues.

Alternative 2A and 3A would present few technical issues, but there would be some involving the successful application of the sediment cap. The application of the AquaBlok® material would be made easier in the dry conditions of Alternative 2A, compared to 3A, but additional effort will be required to wet the AquaBlok® prior to placing the habitat substrate. The final cap thickness would need to be determined during the pre-design investigations and take into consideration the pre-construction survey of the lakes bathymetry.

Alternatives 2B and 2C present the fewest technical issues. Alternative 2B presents fewer technical issues than 2C due to the smaller area of work and therefore smaller volume of sediment to handle. Technical issues with Alternatives 3B and 3C would involve the excavation, backfilling, and restoration of Pontiac Bay. Due to the large area to be excavated, the work would need to be divided into two seasons, which would require two mobilization and demobilization phases. Space for stockpiling and construction equipment will be limited and will require cooperation of the community and surrounding landowners.

Therefore Alternative 2B rates highest for implementability.

Land Use. The current and reasonably anticipated future land use of OU03 is for recreational use. Alternative 1 would not allow for safe future recreational use because no remedial actions would be taken. The remaining alternatives would be compatible with current land use and reasonably anticipated future land use. All excavation and dredging alternatives that do not include capping would increase the depth by 1 ft within the area of work in Pontiac Bay to improve recreational accessibility. Alternatives 2A and 3A would require a site management plan and periodic cap inspections to ensure that the cap remains effective. Alternative 3B and 3C would require use of staging areas beyond the construction phase of the remedy while sediment continues to dewatering in the Geotubes®.

Therefore Alternatives 2B and 2C rate highest for Land Use.

Cost. A comparison of the capital and long-term costs associated with the remedial alternatives is presented in Table 8.1.

Green Remediation (DER-31). Alternative 1, no action rates highest for green remediation since it does not require any resources to implement. Alternatives 2A, 2B and 2C as well as 3A, 3B and 3C all rate low for green remediation given that they all incorporate a significant amount of sediment removal that will require transportation to a facility for thermal desorption. Alternatives 3 would also include a significant amount of decant water that would require transportation for off-site treatment or disposal. Based on comparison of alternatives against other criteria, in is apparent that Alternatives 2B, 2C, 3B and 3C are more protective to human health and the environment in comparison to alternatives that include capping. However, in comparing 2B to 2C and 3B to 3C, other than meeting pre-disposal, pre-release conditions, there is no indication that options 2C and 3C are more protective than 2B and 3B. Therefore, the additional resources required to transport and dispose of more than twice the amount of sediment for alternatives 2C and 3C compared to 2B and 3B are not justifiable.

9.0 REFERENCES

The Interstate Technology & Regulatory Council, 2014. Contaminated Sediments Remediation: Remedy Selection for Contaminated Sediments. August 2014.

MACTEC Engineering and Consulting, P.C. (MACTEC), 2015. *Remedial Investigation Report – Saranac Lake Gas Company Site*. Prepared for New York State Department of Environmental Conservation, Albany, New York. January 30, 2015.

New York State, 2006. New York Codes, Rules, and Regulations, Title 6, Part 375- Inactive Hazardous Waste Disposal Sites Remedial Program. Amended 2006.

New York State Department of Environmental Conservation (NYSDEC), 2014. Screening and Assessment of Contaminated Sediment; Division of Fish, Wildlife and Marine Resources. June 2014.

NYSDEC, 2002a. Draft DER-10, Technical Guidance for Site Investigation and Remediation. December 2002.

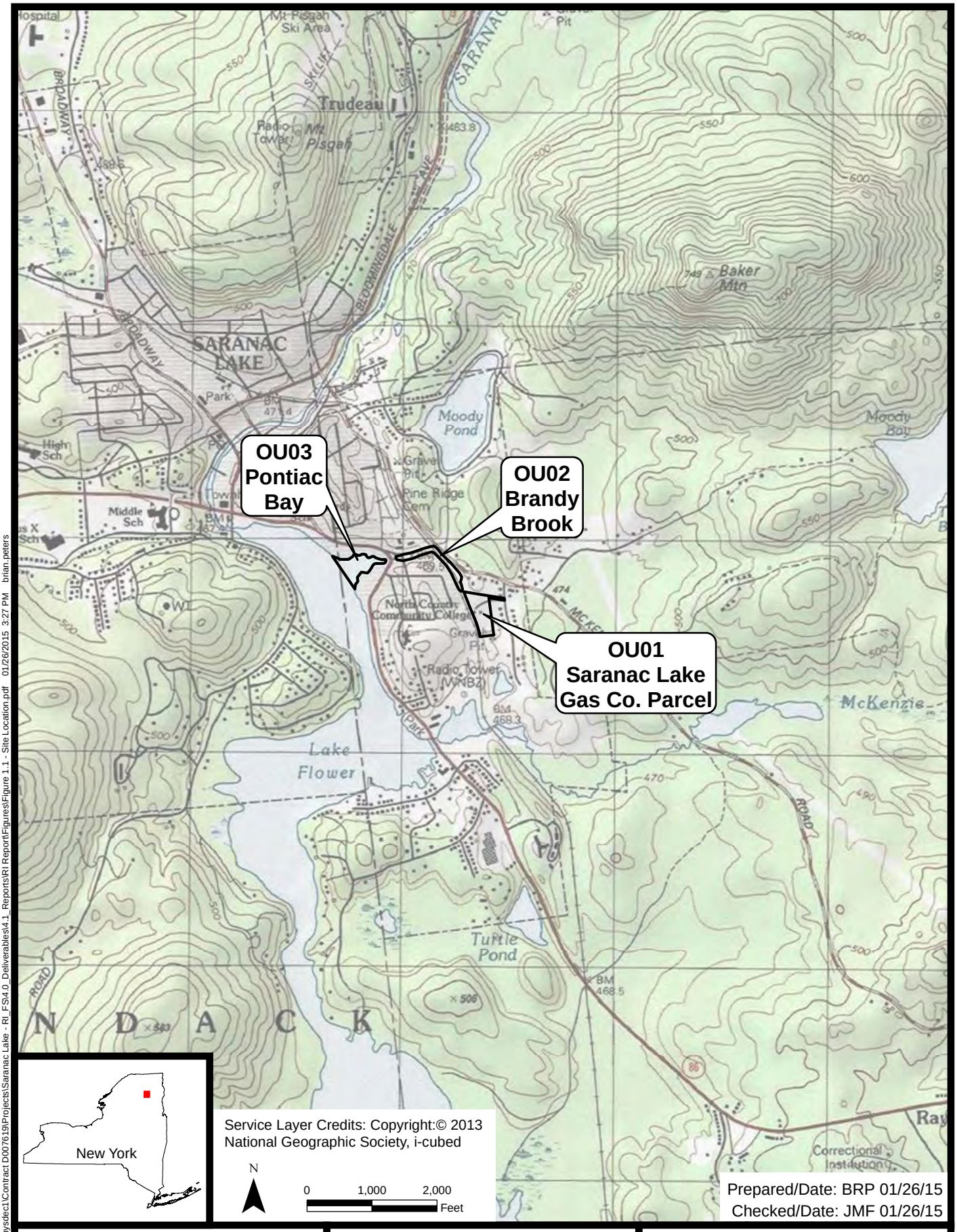
NYSDEC, 2002b. DER-4, Management of Coal Tar Waste and Coal tar Contaminated Soils and Sediment from Former Manufactured Gas Plants ("MGP"s). January 2002.

Office of Management and Budget (OMB), 2008. Circular No. A-94, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs, Appendix C: Discount Rates for Cost-Effectiveness, Lease-Purchase, and Related Analyses, Office of Management and Budget, The Executive Office of the President, January.

United States Environmental Protection Agency (USEPA), 2000. "A Guide for Developing and Documenting Cost Estimates During the Feasibility Study"; EPA 540-R-00-002, OSWER 9355.0-75; U.S. Environmental Protection Agency; Washington, D.C., July 2000.

USEPA, 1988. Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA (Interim Final); EPA/540/G-89/004; October 1988.

FIGURES



NYSDEC Site # 516008
Saranac Lake Gas Co., Inc.
Saranac Lake, New York

MACTEC

Site Location Map

Project 3612132271 Figure 1.1

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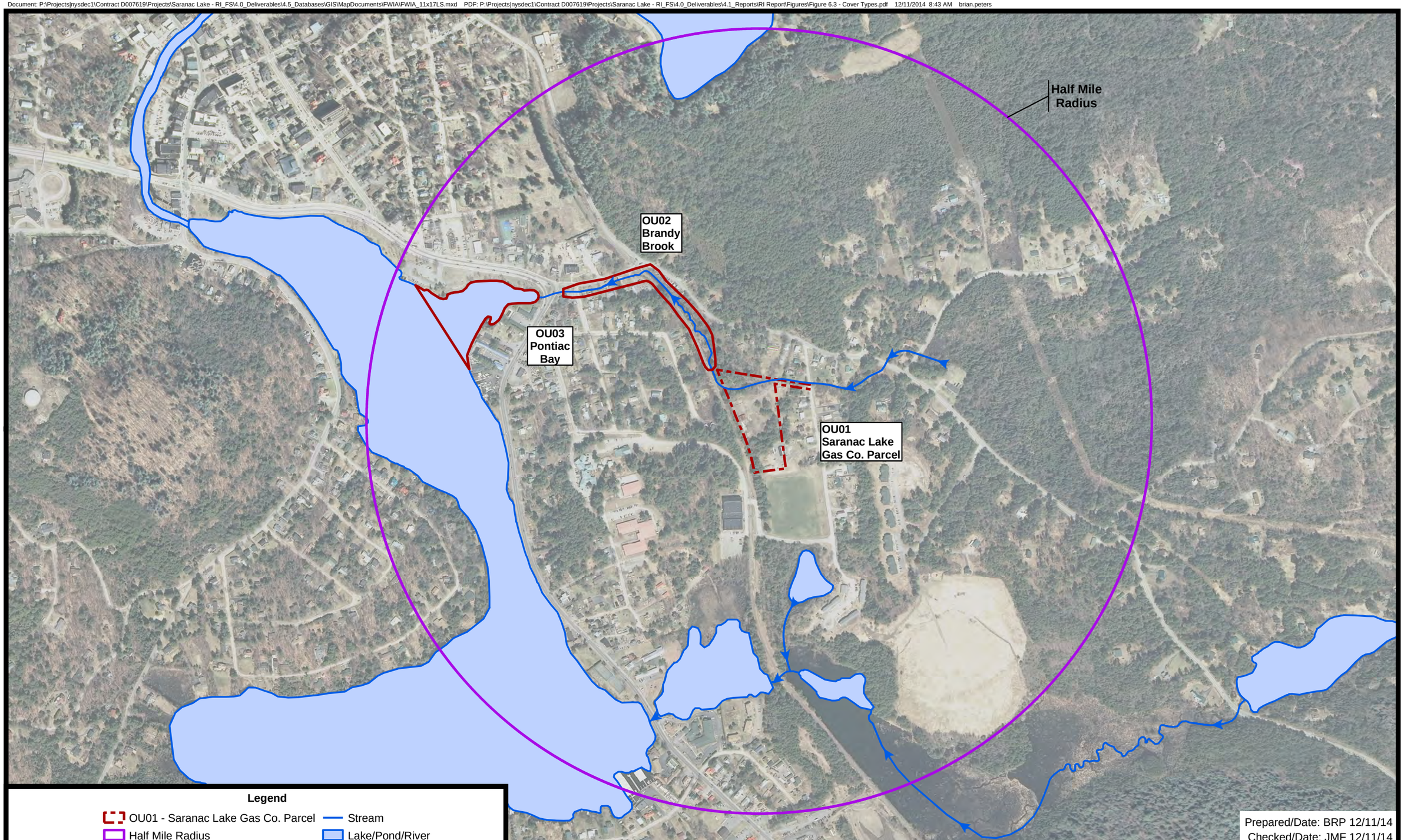


Legend

- OU01 - Saranac Lake Gas Co. Parcel
- Half Mile Radius
- OU - Operable Unit
- Stream
- Lake/Pond/River

N

0 300 600 Feet

Essex and Franklin County color digital orthoimagery (2009) obtained from New York State GIS Clearinghouse at: http://www.nysgis.state.ny.us

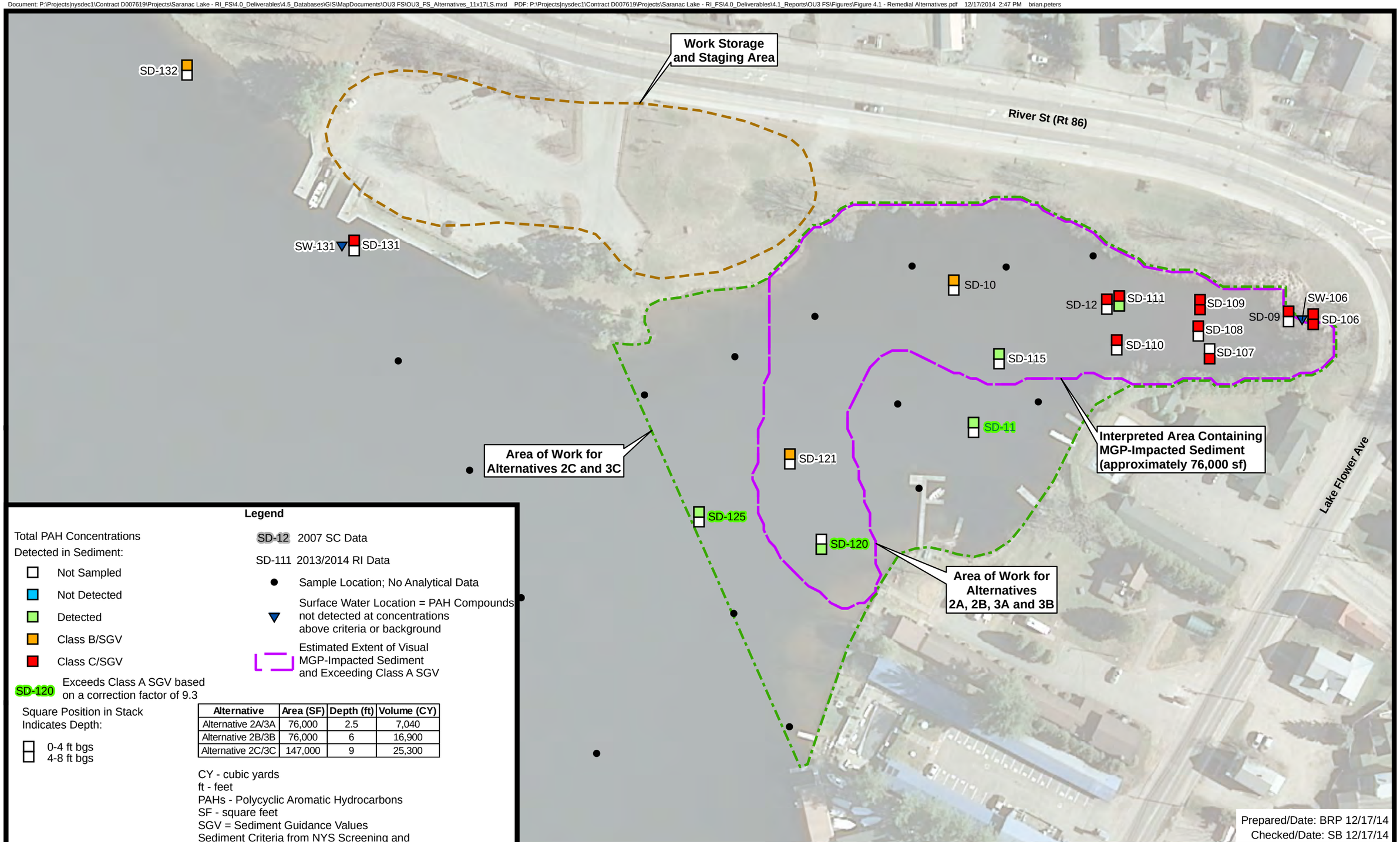
Prepared/Date: BRP 12/11/14
Checked/Date: JMF 12/11/14

NYSDEC Site # 516008
Saranac Lake Gas Co., Inc.
Saranac Lake, New York

MACTEC

Site Features

Project 3612132271 Figure 1.2



Legend

Total PAH Concentrations Detected in Sediment:

- Not Sampled
- Not Detected
- Detected
- Class B/SGV
- Class C/SGV

SD-120 Exceeds Class A SGV based on a correction factor of 9.3

Square Position in Stack Indicates Depth:

- 0-4 ft bgs
- 4-8 ft bgs

SD-12 2007 SC Data

SD-111 2013/2014 RI Data

- Sample Location; No Analytical Data
- Surface Water Location = PAH Compounds not detected at concentrations above criteria or background
- Estimated Extent of Visual MGP-Impacted Sediment and Exceeding Class A SGV

Alternative	Area (SF)	Depth (ft)	Volume (CY)
Alternative 2A/3A	76,000	2.5	7,040
Alternative 2B/3B	76,000	6	16,900
Alternative 2C/3C	147,000	9	25,300

CY - cubic yards
ft - feet
PAHs - Polycyclic Aromatic Hydrocarbons
SF - square feet
SGV = Sediment Guidance Values
Sediment Criteria from NYS Screening and Assessment of Contaminated Sediment Table 5

N

0 40 80 Feet

Essex County color digital orthoimagery (2013) obtained from New York State GIS Clearinghouse at: http://www.nysgis.state.ny.us

Prepared/Date: BRP 12/17/14
Checked/Date: SB 12/17/14

NYSDEC Site # 516008
Saranac Lake Gas Co., Inc.
Saranac Lake, New York

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Extent of Remedial Alternatives

Project 3612132271 Figure 4.1

TABLES

Table 5.1: Identification and Screening of Potential Remedial Technologies and Process Options

Environmental Media	General Response Action	Remedial Technology	Process Option	Applicability to		Screening Status	Comments
				Site-Limiting Characteristics	Waste-Limiting Characteristics		
Sediment	No Action			Not Applicable	Not Applicable	Retained	Retained to be carried through detailed analysis of alternatives.
	Monitored Natural Recovery	Monitored Natural Recovery	Conventional Or Enhanced Monitored Natural Recovery	Access to the remedial area by watercraft with the ability to apply amendments for this option may be limited by the shallow water and small remedial area.	Monitored and Enhanced Monitored Natural Recovery are not effective methods for remediating DNAPL.	Eliminated	
	In-Situ Treatment	Biological Treatment	Bioaugmentation	Biological and Chemical In-situ treatment for sediment has best results in shallow streams or wetlands. Debris (e.g. logs) would need to be removed from the bottom of the lake prior to implementation. Slope stability may be negatively impacted pending on amendment used. Amendments used may negatively impact the use of the lake as a alternative drinking water supply.	Limited data is available regarding the effectiveness of Biological and Chemical in-situ treatment of DNAPL. The vertical extent of impacted sediment is likely to make implementation difficult, as in-situ treatment is usually most effective at the surface.	Eliminated	
		Chemical Treatment	Chemical Transformation			Eliminated	
		Physical Treatment	Solidification	Debris would need to be removed from the bottom of the lake prior to implementation. Access to the remedial area by watercraft with the ability to implement this option may be limited by the shallow water and small remedial area.	Solidification of DNAPL from MGP waste has proven to be effective in subsurface soil, but limited data is available regarding the effectiveness of this technology in sediments.	Retained	May be a viable option to address residual contamination in sediments if not all of the impacted sediments are removed.

Table 5.1: Identification and Screening of Potential Remedial Technologies and Process Options

Environmental Media	General Response Action	Remedial Technology	Process Option	Applicability to		Screening Status	Comments
				Site-Limiting Characteristics	Waste-Limiting Characteristics		
Sediment (Continued)	Containment	Capping	Conventional sediment capping	Capping alone would result in a decrease in depth of Pontiac Bay which would impact recreational use of the area and decrease overall flood storage. Debris would need to be removed from the bottom of the lake prior to implementation. Access to the remedial area by watercraft with the ability to implement this option may be limited by the shallow water and small remedial area.	Low viscosity DNAPL is likely to be mobilized during implementation of traditional capping (sand & gravel cap). Sand and gravel cover systems may not prevent potential upwelling of contaminants, and could potentially be impacted by changes in water flows in the bay. Capping would not reduce the volume of contaminants.	Eliminated	Traditional sand & gravel cap would not be an effective long term remedy as the material could be displaced with water flow, and impacted groundwater may upwell through the cap.
			Amended sediment capping		Capping with amendments (using AquateGate™ or AquaBlok® type of cap) can help to treat potential upwelling contaminated groundwater and/or provide a low-permeability protection to the contaminated media that will remain in place. This type of capping system may be difficult to implement over low viscosity DNAPL.	Retained	To be evaluated as a stand-alone remedy and combined with sediment removal GRA.
	Removal	Excavation	Dewater and Excavate	Space is limited for implementing the activities required for this option (staging equipment for dewatering, mixing sediments with stabilizing agents and storing sediment prior to disposal). Odor control will also be necessary because the site is located in a commercial/recreational area of Town.	None	Retained	Retained to be carried through detailed analysis of alternatives.
		Dredging	Mechanical or Hydraulic Dredging	Access to the remedial area by watercraft with the ability to dredge may be limited by the shallow water and small remedial area. Space is limited for implementing the activities required for this option (staging equipment for mixing sediments with stabilizing agents and storing sediment prior to disposal). Odor control will also be necessary because the site is located in a commercial/recreational area of Town.	None	Retained	Retained to be carried through detailed analysis of alternatives.

Notes:
DNAPL - Dense Non-Aqueous Phase Liquid
RGs - Remedial Goals
GRA - General Response Action

Table 6.1: Screening of Remedial Alternatives

Remedial Alternative	Effectiveness	Implementability	Relative Cost	Screening Result
No Action	This alternative would not be effective at reducing contamination concentrations or addressing the identified exposure pathways.	There would not be any technical issues with implementing this alternative; however, it is unlikely that the NYSDEC or the public will approve of this alternative.	No cost associated with this alternative.	Retained as: **Alternative 1 -** No Action. Use as a base-line for comparison to other alternatives.
Solidification	There is limited data available regarding case studies for the use of in-situ sediment solidification. Therefore uncertainties exist related to its effectiveness. Would be effective as ex-situ process once the sediment has been excavated to stabilize the MGP waste and water prior to transportation and disposal.	There would be some technical issues with implementing this alternative. Shallow water depth in Pontiac Bay may preclude use of watercraft to implement the in-situ solidification. Debris and mobile NAPL would need to be removed via excavation or dredging prior to stabilization. In-situ solidification would likely be more time consuming than other alternatives.	Relative costs for this alternative would be medium-high. The primary items contributing to cost include excavation, transportation and disposal of sediment with mobile NAPL prior to in-situ solidification, as well as equipment and materials required to conduct the solidification.	Eliminated as an in-situ remedial alternative. Will be incorporated as part of the excavation alternative prior to transportation and disposal (ex-situ solidification).
Capping	This alternative would address identified exposure pathways at OU03, but would not remove or treat contamination in Pontiac Bay and would require institutional controls to allow for continued recreational use and to be considered a secondary drinking water source.	There would be some technical issues with implementing this alternative. Shallow water depth in Pontiac Bay may preclude use of watercraft post-capping. Removal of large debris and leveling of the lake bottom would be required. Capping would significantly reduce the overall depth of Pontiac Bay due to the two feet of habitat substrate required. Therefore, this would require excavation or dredging to accommodate the addition of the habitat substrate to reduce overall impact to recreational uses and/or habitat.	Costs for this alternative would be medium. The primary items contributing to cost include debris removal and smoothing the bottom of Pontiac Bay, equipment and materials for capping.	Retained as a combined alternatives with excavation and dredging (see below). Prepared by: SLB 11/24/2014 Revised by: JDW 1/21/2015 Checked by: JPC 1/29/2014

Table 6.1: Screening of Remedial Alternatives

Remedial Alternative	Effectiveness	Implementability	Relative Cost	Screening Result
Excavation	Excavation would be an effective way to remove contamination from OU03. The effectiveness of excavation depends on how much of the contaminated media is removed. Excavation could be conducted in conjunction with capping to remove the top 2 feet (approximately) of impacted sediment while eliminating the direct exposure pathway to remaining contaminated sediments. Alternatively excavation could be conducted throughout the Bay area where sediment contamination exceeds Class A SGVs to effectively eliminate potential impacts to humans and the environment. Excavation could also be conducted in the entire Bay area that has any detected concentrations of contaminants of concern (pre-disposal conditions). Each of these scenarios would be effective provided that there are no ongoing sources of contamination being introduced to Pontiac Bay.	There would be some technical difficulties with implementing this alternative. A coffer dam would be required to dewater the area to be excavated and water from the brook entering Pontiac Bay would need to be redirected during the work. Excavated sediment would likely need to be solidified prior to transportation and disposal and water removed during excavation would need to be treated prior to disposal/discharge. There is also potential for significant odors of excavated material that would need to be managed. Space limitations may be an issue for staging of all the necessary equipment.	Costs for this alternative would be high. Excavation to pre-disposal conditions (i.e., removal of all detected contaminants of concern) will be the most expensive, excavating to meet Class A SGVs will be the second most expensive, and excavating and capping will be the least expensive of the excavation alternatives. The primary items contributing to cost include installation and removal of the cofferdam, dewatering and water treatment, excavation, solidification of excavated sediment, and transportation and disposal of MGP waste-impacted sediment. Capping materials would be a significant cost as well but would be off-set by significant less quantity of sediment for transportation and disposal.	Retained as the following: **Alternative 2A -** Excavation with Capping **Alternative 2B -** Excavation to Class A SGVs **Alternative 2C-** Excavation to Pre-Disposal Conditions

Prepared by: SLB 11/24/2014
Revised by: JDW 1/21/2015
Checked by: JPC 1/29/2014

Table 6.1: Screening of Remedial Alternatives

Remedial Alternative	Effectiveness	Implementability	Relative Cost	Screening Result
Dredging	Dredging would be an effective way to remove contamination from OU03. The effectiveness of dredging depends on how much of the contaminated media is removed. Dredging could be conducted in conjunction with capping to remove the top 2 feet (approximately) of impacted sediment while eliminating the direct exposure pathway to remaining contaminated sediments. Alternatively dredging could be conducted throughout the Bay area where sediment contamination exceeds Class A SGVs to effectively eliminate potential impacts to humans and the environment. Dredging could also be conducted in the entire Bay area that has any detected concentrations of contaminants of concern. Each of these scenarios would be effective provided that there are no ongoing sources of contamination being introduced to Pontiac Bay.	There would be some technical difficulties with implementing this alternative. Dredging sediments results in very wet soil. The most effective way at dealing with this without resulting in transportation and disposal of an excessive amount of water or additives to solidify the sediment, would be to use Geotubes. Removal based on visual observations of the bay bottom during dredging will be difficult; therefore, confirmatory sampling using core samples will be required to verify effectiveness of removal of contaminated material. An additional technical difficulty for the implementation of dredging is preventing the potential resuspension of contamination. In order to prevent the potential spread of contamination outside of OU03, a siltation curtain would need to be installed to contain contamination within the area of work. Hydraulic dredging would need to be used instead of mechanical to better contain contaminated sediment while it is being removed.	Costs for this alternative would be medium-high. Dredging to pre-disposal conditions would be the most expensive, dredging to meet Class A SGVs would be the second most expensive, and dredging and capping would be the least expensive dredging option. The primary costs items include dredging and handling of dredged sediments, off-site transportation and disposal of MGP-impacted sediment. Capping materials would be a significant cost as well but would be off-set by significant less quantity of sediment for transportation and disposal. In general, costs for dredging is likely to be less than excavation since it would not require installation of a coffer dam and dewatering, and because the use of geotubes is likely to reduce the overall weight of sediments for transportation and disposal.	Retained as follows: **Alternative 3A** - Dredging with Capping **Alternative 3B** - Dredging to Meet Class A SGVs **Alternative 3C** - Dredging to Pre-Disposal Conditions
Notes:				
MGP - manufactured gas plant				
NAPL - non-aqueous phase liquid				
SGVs - Sediment Guidance Values				

Prepared by: SLB 11/24/2014
Revised by: JDW 1/21/2015
Checked by: JPC 1/29/2014

Table 7.1: Applicable Location- and Action-Specific Standards, Criteria, and Guidance

Requirement	Consideration in the Remedial Response Process
NYSDEC Division of Fish, Wildlife and Marine Resources - Freshwater Sediment Guidance Values (June 2014)	Applicable to the determination of toxicity of sediment contamination in Pontiac Bay.
29 CFR Part 1910.120 - Hazardous Waste Operations and Emergency Response	Applicable to implementation of Health and Safety implementation, enforcement, and emergency response.
6 NYCRR Part 175 - Special Licenses and Permits-Definitions and Uniform Procedures	Applicable to implementation of biota sampling as part of pre-design investigation
6 NYCRR Part 371 - Identification and Listing of Hazardous Wastes (November 1998)	Applicable to the characterization, handling, transportation, and treatment/disposal of soils, sediments, and debris to be removed from the Site.
6 NYCRR Part 372 - Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities (November 1998)	Applicable to the handling, transportation, and treatment/disposal of soils, sediments, and C&D debris to be removed from the Site.
6 NYCRR Part 375 - Environmental Remediation Programs (as amended December 2006)	Applicable to the development and implementation of remedial programs.
6 NYCRR Part 376 - Land Disposal Restrictions	Applicable to disposal of hazardous wastes. Identifies those wastes that are restricted from land disposal.
19 NYCRR Part 600 - Waterfront Revitalization and Coastal Resources	Applicable as part of restoration.
19 NYCRR Part 622 - Freshwater Wetlands - Interim Requirements	Applicable as part of construction and restoration activities.
19 NYCRR Part 622 - Freshwater Wetlands - Permit Requirements	Applicable as part of construction and restoration activities.
6 NYCRR Parts 700-706 - Water Quality Standards (June 1998)	Applicable to construction within and adjacent to Pontiac Bay, temporary diversion of Brandy Brook, and discharge of treated wastewater.
6 NYCRR Part 750 through 758 - Implementation of NPDES Program in NYS (“SPDES Regulations”)	Applicable to construction in and adjacent to water bodies, temporary diversion of Brandy Brook, and discharge of treated wastewater.
DER-10 Technical Guidance for Site Investigation and Remediation	Applicable to the development and implementation of remedial programs.
Citizen Participation in New York’s Hazardous Waste Site Remediation Program: A Guidebook (June 1998)	Applicable to the development and implementation of remedial programs.
TOGS 1.1.1 - Ambient Water Quality Standards & Guidance Values and Groundwater Effluent Limitations	Applicable to construction in and adjacent to Pontiac Bay, temporary diversion of Brandy Brook and discharge of treated wastewater.
Solidification/Stabilization and its Application to Waste Materials	Applicable to disposal of wastes generated during implementation of remedial program.

Prepared by: JW 12/8/2014
Checked by: JC 12/15/2014

Table 7.2: Cost Summary for Alternative 2-Excavation

ITEM	COST 2A	2B	2C
DIRECT CAPITAL COSTS			
Pre-Design Investigation	$ 150,000	$ 150,000	$ 150,000
Full-Scale Excavation: Alternative 3A - Excavation with Capping	$ 4,273,000	$ 6,965,000	$ 16,740,000
Contingency (@ 20 Percent)	$ 885,000	$ 1,423,000	$ 3,378,000
Direct Cost Subtotal	$ 5,308,000	$ 8,538,000	$ 20,268,000
INDIRECT CAPITAL COSTS			
Project Management (@ 8 Percent)	$ 167,000	$ 180,000	$ 315,000
Remedial Design (@ 15 Percent)	$ 267,000	$ 288,000	$ 504,000
Construction Management (@ 8 Percent)	$ 201,000	$ 216,000	$ 378,000
Indirect Cost Subtotal	$ 635,000	$ 684,000	$ 1,197,000
TOTAL CAPITAL COSTS	**$ 5,943,000**	**$ 9,222,000**	**$ 21,465,000**
ANNUAL OPERATION AND MAINTENANCE COSTS			
Annual Site Inspection and Reporting (years 1-30)	$ 14,000	$ 9,000	$ 9,000
PRESENT WORTH OF ANNUAL COSTS (30 yrs)	**$ 138,000**	**$ 138,000**	**$ 138,000**
TOTAL PRESENT WORTH OF ALTERNATIVE 3 (30 yrs)	**$ 6,158,000**	**$ 9,360,000**	**$ 21,603,000**
TOTAL NON-DISCOUNTED COST OF ALTERNATIVE 3 (30 yrs)	**$ 6,363,000**	**$ 9,492,000**	**$ 21,735,000**

NOTES:

*Costs include additional 10 percent for bid contingency and 15 percent for scope contingency unforeseen project complexities, including insurance, taxes, and licensing costs (USEPA 2000).
Costs have been rounded to the nearest thousand.

Prepared By/Date: SB 12/11/14
Revised By/Date: JW 1/30/15

Table 7.3: Cost Summary for Alternative 3 - Dredging

ITEM	COST 3A	3B	3C
DIRECT CAPITAL COSTS			
Pre-Design Investigation	$ 150,000	$ 150,000	$ 150,000
Full-Scale Dredging	$ 4,849,000	$ 7,757,000	$ 18,865,000
Contingency (@ 20 Percent)	$ 750,000	$ 1,187,000	$ 2,853,000
Direct Cost Subtotal	$ 5,749,000	$ 9,094,000	$ 21,868,000
INDIRECT CAPITAL COSTS			
Project Management (@ 6 Percent)	$ 201,000	$ 205,000	$ 375,000
Remedial Design (@ 12 Percent)	$ 322,000	$ 327,000	$ 600,000
Construction Management (@ 8 Percent)	$ 242,000	$ 246,000	$ 450,000
Indirect Cost Subtotal	$ 765,000	$ 778,000	$ 1,425,000
TOTAL CAPITAL COSTS	**$ 6,514,000**	**$ 9,872,000**	**$ 23,293,000**
ANNUAL OPERATION AND MAINTENANCE COSTS			
Annual Site Inspection and Reporting (years 1-30)	$ 14,000	$ 9,000	$ 9,000
PRESENT WORTH OF ANNUAL COSTS (30 yrs)	**$ 215,000**	**$ 138,000**	**$ 138,000**
TOTAL PRESENT WORTH OF ALTERNATIVE 4 (30 yrs)	**$ 6,729,000**	**$ 10,010,000**	**$ 23,431,000**
TOTAL NON-DISCOUNTED COST OF ALTERNATIVE 4 (30 yrs)	**$ 6,934,000**	**$ 10,142,000**	**$ 23,563,000**

NOTES:
Costs have been rounded to the nearest thousand.
* - Costs include additional 10 percent for technical support and 15 percent contingency for unforeseen project complexities, including insurance, taxes, and licensing costs.

Prepared By/Date: SB 12/11/14
Revised By/Date: JW 1/30/15

Table 8.1: Summary of Remedial Alternative Costs

Item	Description	Alternative 1	Alternative 2			Alternative 3		
			A	B	C	A	B	C
1	Capital Costs	$ -	$ 5,943,000	$ 9,222,000	$ 21,465,000	$ 6,514,000	$ 9,872,000	$ 23,293,000
2	Present Worth of Annual Costs	$ -	$ 138,000	$ 138,000	$ 138,000	$ 215,000	$ 138,000	$ 138,000
3	**Total Present Worth (Item 1 plus 2)**	**$ -**	**$ 6,158,000**	**$ 9,360,000**	**$ 21,603,000**	**$ 6,729,000**	**$ 10,010,000**	**$ 23,431,000**
4	Annual Costs (1-30 years)	$ -	$ 14,000	$ 9,000	$ 9,000	$ 14,000	$ 9,000	$ 9,000
6	Remedial Timeframe (yrs)	>30	2	2	2	2	2	2

Notes:

1. Present Worth costs shown above are based upon the assumed Remedial Timeframe.
2. Annual and Periodic Costs (Item 4 - 6) presented are non-discounted (future) costs.
3. Estimated costs presented in this table are intended to be within the target accuracy range of minus 30 to plus 50 percent of actual cost.
4. The remedial timeframe is for the construction portion of the remedy, monitoring would continue for 30 years.

Alternative Descriptions:

1 = No Further Action
2 = Excavation
  2A = Combined Excavation and Capping
  2B = Excavate to meet Class A SGVs
  2C = Excavate to remove all detected concentrations of PAHs
3 = Dredging
  3A = Combined Dredging and Capping
  3B = Dredge to meet Class A SVGs
  3C = Dredge to remove all detected concentrations of PAHs

Prepared By/Date: SB 12/14/14
Revised By/Date: JW 1/30/14

APPENDIX A

DETAILED COST ESTIMATE BACKUP

Estimate Summary
AMEC ENVIRONMENT & INFRASTRUCTURE, INC.
Job Code: NYS-POR-141203
Description: Saranac Lake FS

From Cost Item: 3 **To Cost Item: 3.14**

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
3	1.00	LS	Alternative 2A - Excavation with Capping	Detail	U.S. Dollar	5,080,443.94	5,080,443.94
3.1	1.00	LS	Work Plans, Schedules and Permits	Detail	U.S. Dollar	67,284.97	67,284.97
3.1.1	1.00	Each	Detailed Construction Plan	Detail	U.S. Dollar	15,302.21	15,302.21

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-PE101-B	Project Engineer	24.00	0.25	Each (hourly)	U.S. Dollar	79.83	1,915.81
L-A-PM201	Project Manager	72.00	0.75	Each (hourly)	U.S. Dollar	32.20	2,318.14
L-A-QC101	QC Officer	12.00	0.13	Each (hourly)	U.S. Dollar	43.19	518.27
L-A-HS103	Safety Officer	12.00	0.13	Each (hourly)	U.S. Dollar	59.33	711.96
L-A-AA102	Project Contol /Scheduler	48.00	0.50	Each (hourly)	U.S. Dollar	47.31	2,270.93
L-A-AA101	Admisistrative Assistant	48.00	0.50	Each (hourly)	U.S. Dollar	37.91	1,819.66
L-A-SS101	Site Superintendent	72.00	0.75	Each (hourly)	U.S. Dollar	79.83	5,747.44

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
3.1.2	1.00	Each	H&S Plan project	Detail	U.S. Dollar	11,698.23	11,698.23

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant	96.00	1.00	Each (hourly)	U.S. Dollar	37.91	3,639.32
L-A-HS103	Safety Officer	16.32	0.17	Each (hourly)	U.S. Dollar	59.33	968.27
L-A-PE101-A	Project Engineer	32.00	0.33	Each (hourly)	U.S. Dollar	27.50	879.77
L-A-PM201	Project Manager	16.00	0.17	Each (hourly)	U.S. Dollar	32.20	515.15
L-A-HS104	Safety Tech	96.00	1.00	Each (hourly)	U.S. Dollar	59.33	5,695.72

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
3.1.3	1.00	Each	Contingency Plan	Detail	U.S. Dollar	11,463.99	11,463.99

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-PE101-B	Project Engineer	80.00	1.00	Each (hourly)	U.S. Dollar	79.83	6,386.05
L-A-PM201	Project Manager	20.00	0.25	Each (hourly)	U.S. Dollar	32.20	643.93
L-A-QC101	QC Officer	10.00	0.13	Each (hourly)	U.S. Dollar	43.19	431.89
L-A-HS103	Safety Officer	10.00	0.13	Each (hourly)	U.S. Dollar	59.33	593.30
L-A-AA102	Project Contol /Scheduler	40.00	0.50	Each (hourly)	U.S. Dollar	47.31	1,892.44
L-A-AA101	Admisistrative Assistant	40.00	0.50	Each (hourly)	U.S. Dollar	37.91	1,516.38

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
3.1.4	1.00	Each	QA/QC Plan	Detail	U.S. Dollar	4,229.73	4,229.73

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant	40.00	1.00	Each (hourly)	U.S. Dollar	37.91	1,516.38
L-A-PE101-B	Project Engineer	4.00	0.10	Each (hourly)	U.S. Dollar	79.83	319.30
L-A-PM201	Project Manager	4.00	0.10	Each (hourly)	U.S. Dollar	32.20	128.79
L-A-QC101	QC Officer	16.00	0.40	Each (hourly)	U.S. Dollar	43.19	691.02
L-A-QC102	QC Tech	40.00	1.00	Each (hourly)	U.S. Dollar	39.36	1,574.24

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
3.1.5	1.00	Each	Traffic Control Plan	Detail	U.S. Dollar	6,689.11	6,689.11

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant	24.00	0.50	Each (hourly)	U.S. Dollar	37.91	909.83
L-A-PE101-B	Project Engineer	48.00	1.00	Each (hourly)	U.S. Dollar	79.83	3,831.63
L-A-PM201	Project Manager	16.00	0.33	Each (hourly)	U.S. Dollar	32.20	515.09
L-A-HS103	Safety Officer	8.00	0.17	Each (hourly)	U.S. Dollar	59.33	474.65
L-A-SS101	Site Superintendent	12.00	0.25	Each (hourly)	U.S. Dollar	79.83	957.91

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
3.1.6	1.00	Each	Storm Water Management Plan	Detail	U.S. Dollar	5,901.71	5,901.71

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost

CBS Position Code	Quantity	UM	Description	Cost Item			Cost Source	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant			9.60	0.20	Each (hourly)	U.S. Dollar		37.91	363.93
L-A-PE101-A	Project Engineer			48.00	1.00	Each (hourly)	U.S. Dollar		27.50	1,319.79
L-A-PM201	Project Manager			12.00	0.25	Each (hourly)	U.S. Dollar		32.20	386.36
L-A-SS101	Site Superintendent			48.00	1.00	Each (hourly)	U.S. Dollar		79.83	3,831.63
3.1.7	1.00	Each	Permits (other than listed in Summary of Work)				Detail	U.S. Dollar	12,000.00	12,000.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U-C&E-10.20	Fees & Permits		2.00	LS	U.S. Dollar	5,000.00	10,000.00
U-PERMITS -00	Permits - Demo, road opening, Etc.		4.00	Each	U.S. Dollar	500.00	2,000.00

3.2	1.00	LS	Mobilization			Detail	U.S. Dollar	272,978.81	272,978.81
3.2.1	1.00	LS	Mobilization (1st year of construction)			Detail	U.S. Dollar	170,469.41	170,469.41
3.2.1.1	1.00	LS	Personel and equipment			Detail	U.S. Dollar	7,884.17	7,884.17

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SF102	Site Foreman	8.00	1.00	Each (hourly)	U.S. Dollar	30.37	242.99
L-O-LHC001 D	Heavy Constr Skilled Laborer	48.00	6.00	Each (hourly)	U.S. Dollar	48.54	2,329.83
L-O-E002	Equipment Operator B	16.00	2.00	Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	105.52	844.18
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	95.07	760.58
UM-D-10.03	Mobe Demobe equipment >50,000 < 100,000		1.00	LS	U.S. Dollar	750.00	750.00
UM-D-10.02	Mobe Demobe equipment >25,000 < 50,000		1.00	LS	U.S. Dollar	450.00	450.00
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly	16.00	2.00	Each (hourly)	U.S. Dollar	97.64	1,562.21

3.2.1.2	1.00	LS	Temporary facilities			Detail	U.S. Dollar	6,551.30	6,551.30
3.2.1.2.1	1.00	LS	Office trailer			Detail	U.S. Dollar	1,849.80	1,849.80

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UZ-ST-08x32-5	8x32 Trailer Tear Down		1.00	Each	U.S. Dollar	166.00	166.00
UZ-ST-08x32-1	8x32 Trailer		2.00	Month	U.S. Dollar	342.40	684.80
UZ-ST-08x32-4	8x32 Trailer Skirting		1.00	Each	U.S. Dollar	80.00	80.00
UZ-ST-08x32-2	8x32 Trailer Set up		1.00	Each	U.S. Dollar	179.00	179.00
UZ-ST-08x32-6	8x32 StrorageTrailer Freight		2.00	1/way	U.S. Dollar	320.00	640.00
UZ-ST-08x32-3	8x32 Trailer Anchor		1.00	Each	U.S. Dollar	100.00	100.00

3.2.1.2.2	1.00	LS	Job boxes			Detail	U.S. Dollar	1,121.50	1,121.50

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UZ-STS-08X32-3	8x32 StrorageTrailer Rental		1.00	Month	U.S. Dollar	481.50	481.50
UZ-STS-08X32-2	8x 20 or32 StrorageTrailer Freight		2.00	1/way	U.S. Dollar	320.00	640.00

3.2.1.2.3	1.00	LS	Utilities			Detail	U.S. Dollar	3,580.00	3,580.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USERV-10.12	Elect'n, truck, plus mate, connecting and installing Temp power pole incl Mats		2.00	Day	U.S. Dollar	1,250.00	2,500.00
USERV-20.12	4/5 cy Garbage Container. Including Changing weekly		2.00	Month	U.S. Dollar	450.00	900.00
USERV-10.50	Portable Toilets incl freight.		2.00	Month	U.S. Dollar	90.00	180.00

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
3.2.1.3	300.00	LF	Sedimentation and erosion control	Detail	U.S. Dollar	3.88	1,164.06

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
SS-1-102-001	Silt fencing 3ft high including posts		3.00	Roll	U.S. Dollar	26.75	80.25
SS-1-103-000	Hay Bales		100.00	Each	U.S. Dollar	6.96	695.50

3.2.1.4	1.00	LS	Site prep	Detail	U.S. Dollar	12,682.80	12,682.80
3.2.1.4.1	1.00	LS	Stabilized construction entrance	Detail	U.S. Dollar	1,673.35	1,673.35

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
L-O-E002	Equipment Operator B	8.00	2.00	Each (hourly)	U.S. Dollar	59.02	472.19
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	4.00	1.00	Each (hourly)	U.S. Dollar	105.52	422.09
L-O-DR4	Dump truck Level D driver	4.00	1.00	Each (hourly)	U.S. Dollar	49.31	197.24
E1H-DUMP TRK 0014	14CY Dump Truck	4.00	1.00	Each (hourly)	U.S. Dollar	34.41	137.63
MG-1-10-22	Class A Geofabric as Spec.		55.00	SY	U.S. Dollar	1.02	55.91

3.2.1.4.2	1.00	LS	Minor site clearing	Detail	U.S. Dollar	4,011.50	4,011.50

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	32.00	4.00	Each (hourly)	U.S. Dollar	48.54	1,553.22
L-O-E002	Equipment Operator B	16.00	2.00	Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	105.52	844.18
L-O-DR4	Dump truck Level D driver	8.00	1.00	Each (hourly)	U.S. Dollar	49.31	394.47
E1H-DUMP TRK 0014	14CY Dump Truck	8.00	1.00	Each (hourly)	U.S. Dollar	34.41	275.25

3.2.1.4.3	1.00	LS	Stockpile areas	Detail	U.S. Dollar	6,997.94	6,997.94
3.2.1.4.3.1	5,000.00	SF	1 to 1 slopes Non Haz/contaminated material	Detail	U.S. Dollar	1.40	6,997.94

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
MF-1-10.108	1 1/2'" Stone /Aggregates		210.33	Ton	U.S. Dollar	17.65	3,713.43
SG-1-10.12SF	6oz Non-woven geo-fabric		7,333.33	SF	U.S. Dollar	0.10	706.20
E1C5006.1001	- Wheeled Loader 928G 149hp a-Monthly	5.33	1.00	Each (hourly)	U.S. Dollar	65.68	350.30
L-O-LHC001	Heavy Constr Skilled Laborer	10.67	2.00	Each (hourly)	U.S. Dollar	79.11	843.82

3.2.1.5	1.00	LS	Survey	Detail	U.S. Dollar	11,820.00	11,820.00
3.2.1.5.1	1.00	LS	Pre-construction survey	Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00	Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00	Day	U.S. Dollar	850.00	2,550.00

3.2.1.5.2	1.00	LS	As-built survey	Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00	Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00	Day	U.S. Dollar	850.00	2,550.00

3.2.1.6	900.00	LF	Construction fencing	Detail	U.S. Dollar	12.00	10,800.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost

CBS Position Code	Quantity	UM	Description	Cost Item	Cost Source	Currency	Unit Cost	Total Cost
U-TEMP FENCE 100	6ft High Chain link fencing with post set in ground (not concreted in)			900.00 LF		U.S. Dollar	12.00	10,800.00
3.2.1.7	1.00	LS	General Conditions		Detail	U.S. Dollar	119,567.09	119,567.09
3.2.1.7.1	1.00	LS	Site overhead		Detail	U.S. Dollar	100,271.26	100,271.26

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SS102	Site Superintendent D	480.00	1.00	Each (hourly)	U.S. Dollar	52.13	25,021.17
L-A-QC101	QC Officer	480.00	1.00	Each (hourly)	U.S. Dollar	43.19	20,730.64
L-A-PE101-B	Project Engineer	480.00	1.00	Each (hourly)	U.S. Dollar	79.83	38,316.28
E-PICK UP F150-001	F150 Standard Pick up	1,440.00	3.00	Each (hourly)	U.S. Dollar	11.25	16,203.17

3.2.1.7.2	1.00	LS	Home office support	Detail	U.S. Dollar	19,295.83	19,295.83

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-CM101	Construction Manager	160.00	1.00	Each (hourly)	U.S. Dollar	46.27	7,403.14
L-A-AE101	Senior Estimator	160.00	1.00	Each (hourly)	U.S. Dollar	36.42	5,827.17
L-A-AA101	Admisistrative Assistant	160.00	1.00	Each (hourly)	U.S. Dollar	37.91	6,065.53

3.2.2	1.00	LS	Mobilization (2nd year of construction)	Detail	U.S. Dollar	102,509.40	102,509.40
3.2.2.1	1.00	LS	Personel and equipment	Detail	U.S. Dollar	8,120.70	8,120.70

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SF102	Site Foreman	8.00	1.00	Each (hourly)	U.S. Dollar	30.37	242.99
L-O-LHC001 D	Heavy Constr Skilled Laborer	48.00	6.00	Each (hourly)	U.S. Dollar	48.54	2,329.83
L-O-E002	Equipment Operator B	16.00	2.00	Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	105.52	844.18
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	95.07	760.58
UM-D-10.03	Mobe Demobe equipment >50,000 < 100,000		1.00	LS	U.S. Dollar	750.00	750.00
UM-D-10.02	Mobe Demobe equipment >25,000 < 50,000		1.00	LS	U.S. Dollar	450.00	450.00
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly	16.00	2.00	Each (hourly)	U.S. Dollar	97.64	1,562.21

3.2.2.2	1.00	LS	Temporary facilities	Detail	U.S. Dollar	6,750.55	6,750.55
3.2.2.2.1	1.00	LS	Office trailer	Detail	U.S. Dollar	1,905.29	1,905.29

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UZ-ST-08x32-5	8x32 Trailer Tear Down		1.00	Each	U.S. Dollar	166.00	166.00
UZ-ST-08x32-1	8x32 Trailer		2.00	Month	U.S. Dollar	342.40	684.80
UZ-ST-08x32-4	8x32 Trailer Skirting		1.00	Each	U.S. Dollar	80.00	80.00
UZ-ST-08x32-2	8x32 Trailer Set up		1.00	Each	U.S. Dollar	179.00	179.00
UZ-ST-08x32-6	8x32 StrorageTrailer Freight		2.00	1/way	U.S. Dollar	320.00	640.00
UZ-ST-08x32-3	8x32 Trailer Anchor		1.00	Each	U.S. Dollar	100.00	100.00

3.2.2.2.2	1.00	LS	Job boxes	Detail	U.S. Dollar	1,157.86	1,157.86

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UZ-STS-08X32-3	8x32 StrorageTrailer Rental		1.00	Month	U.S. Dollar	481.50	481.50
UZ-STS-08X32-2	8x 20 or32 StrorageTrailer Freight		2.00	1/way	U.S. Dollar	320.00	640.00
	escalation		1.00	Each	U.S. Dollar	36.36	36.36

3.2.2.2.3	1.00	LS	Utilities	Detail	U.S. Dollar	3,687.40	3,687.40

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
			Cost Item				

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USERV-10.12	Elect'n, truck, plus mate, connecting and installing Temp power pole incl Mats		2.00	Day	U.S. Dollar	1,250.00	2,500.00
USERV-20.12	4/5 cy Garbage Container. Including Changing weekly		2.00	Month	U.S. Dollar	450.00	900.00
USERV-10.50	Portable Toilets incl freight.		2.00	Month	U.S. Dollar	90.00	180.00

3.2.2.3	300.00 LF	Sedimentation and erosion control	Detail	U.S. Dollar	3.88	1,164.06

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
SS-1-102-001	Silt fencing 3ft high including posts		3.00	Roll	U.S. Dollar	26.75	80.25
SS-1-103-000	Hay Bales		100.00	Each	U.S. Dollar	6.96	695.50

3.2.2.4	1.00 LS	Site prep	Detail	U.S. Dollar	10,677.05	10,677.05

3.2.2.4.1	1.00 LS	Stabilized construction entrance	Detail	U.S. Dollar	1,673.35	1,673.35

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
L-O-E002	Equipment Operator B	8.00	2.00	Each (hourly)	U.S. Dollar	59.02	472.19
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	4.00	1.00	Each (hourly)	U.S. Dollar	105.52	422.09
L-O-DR4	Dump truck Level D driver	4.00	1.00	Each (hourly)	U.S. Dollar	49.31	197.24
E1H-DUMP TRK 0014	14CY Dump Truck	4.00	1.00	Each (hourly)	U.S. Dollar	34.41	137.63
MG-1-10-22	Class A Geofabric as Spec.		55.00	SY	U.S. Dollar	1.02	55.91

3.2.2.4.2	1.00 LS	Minor site clearing	Detail	U.S. Dollar	2,005.75	2,005.75

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	16.00	4.00	Each (hourly)	U.S. Dollar	48.54	776.61
L-O-E002	Equipment Operator B	8.00	2.00	Each (hourly)	U.S. Dollar	59.02	472.19
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	4.00	1.00	Each (hourly)	U.S. Dollar	105.52	422.09
L-O-DR4	Dump truck Level D driver	4.00	1.00	Each (hourly)	U.S. Dollar	49.31	197.24
E1H-DUMP TRK 0014	14CY Dump Truck	4.00	1.00	Each (hourly)	U.S. Dollar	34.41	137.63

3.2.2.4.3	1.00 LS	Stockpile areas	Detail	U.S. Dollar	6,997.94	6,997.94

3.2.2.4.3.1	5,000.00 SF	1 to 1 slopes Non Haz/contaminated material	Detail	U.S. Dollar	1.40	6,997.94

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
MF-1-10.108	1 1/2'" Stone /Aggregates		210.33	Ton	U.S. Dollar	17.65	3,713.43
SG-1-10.12SF	6oz Non-woven geo-fabric		7,333.33	SF	U.S. Dollar	0.10	706.20
E1C5006.1001	- Wheeled Loader 928G 149hp a-Monthly	5.33	1.00	Each (hourly)	U.S. Dollar	65.68	350.30
L-O-LHC001	Heavy Constr Skilled Laborer	10.67	2.00	Each (hourly)	U.S. Dollar	79.11	843.82

3.2.2.5	1.00 LS	Survey	Detail	U.S. Dollar	11,820.00	11,820.00

3.2.2.5.1	1.00 LS	Pre-construction survey	Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00	Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00	Day	U.S. Dollar	850.00	2,550.00

3.2.2.5.2	1.00 LS	As-built survey	Detail	U.S. Dollar	5,910.00	5,910.00

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
			Cost Item				

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00	Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00	Day	U.S. Dollar	850.00	2,550.00

3.2.2.6	200.00	LF	Construction fencing	Detail	U.S. Dollar	12.00	2,400.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U-TEMP FENCE 100	6ft High Chain link fencing with post set in ground (not concreted in)		200.00	LF	U.S. Dollar	12.00	2,400.00

3.2.2.7	1.00	LS	General Conditions	Detail	U.S. Dollar	61,577.05	61,577.05

3.2.2.7.1	1.00	LS	Site overhead	Detail	U.S. Dollar	51,639.70	51,639.70

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SS102	Site Superintendent D	240.00	1.00	Each (hourly)	U.S. Dollar	52.13	12,510.59
L-A-QC101	QC Officer	240.00	1.00	Each (hourly)	U.S. Dollar	43.19	10,365.32
L-A-PE101-B	Project Engineer	240.00	1.00	Each (hourly)	U.S. Dollar	79.83	19,158.14
E-PICK UP F150-001	F150 Standard Pick up	720.00	3.00	Each (hourly)	U.S. Dollar	11.25	8,101.58

3.2.2.7.2	1.00	LS	Home office support	Detail	U.S. Dollar	9,937.35	9,937.35

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-CM101	Construction Manager	80.00	1.00	Each (hourly)	U.S. Dollar	46.27	3,701.57
L-A-AE101	Senior Estimator	80.00	1.00	Each (hourly)	U.S. Dollar	36.42	2,913.58
L-A-AA101	Admisistrative Assistant	80.00	1.00	Each (hourly)	U.S. Dollar	37.91	3,032.76

3.3	1.00	LS	Dewatering of Excavation Area	Detail	U.S. Dollar	632,032.69	632,032.69

3.3.1	1.00	LS	Year 1	Detail	U.S. Dollar	365,957.89	365,957.89

3.3.1.1	1.00	LS	Install aquadams at start of 1st year of construction	Detail	U.S. Dollar	114,553.17	114,553.17

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	96.00	6.00	Each (hourly)	U.S. Dollar	48.54	4,659.67
L-O-E002	Equipment Operator B	32.00	2.00	Each (hourly)	U.S. Dollar	59.02	1,888.76
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	32.00	2.00	Each (hourly)	U.S. Dollar	95.07	3,042.30
E1XD-1000.1003	100 GPM Deisel Self Priming Pump 3 inch dia	16.00	1.00	Each (hourly)	U.S. Dollar	49.44	791.07
E1XD-1000.2014	Piping 20f Lenghts 4 inch dia	64.00	4.00	Each (hourly)	U.S. Dollar	0.02	1.37
U-DEW -504	Field support from Aquadam		2.00	Day	U.S. Dollar	2,300.00	4,600.00
U-DEW -506	8' Aquadam purchase		700.00	LF	U.S. Dollar	125.00	87,500.00
U-DEW -507	Shipping of Aquadams to site		1.00	LS	U.S. Dollar	10,600.00	10,600.00
U-DEW -505	Aquadam rep travel		1.00	LS	U.S. Dollar	1,470.00	1,470.00

3.3.1.2	1.00	LS	Dewater excavation area	Detail	U.S. Dollar	13,223.27	13,223.27

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	192.00	6.00	Each (hourly)	U.S. Dollar	48.54	9,319.33
U-P 004	Suction hose 10' length		20.00	EA	U.S. Dollar	27.29	545.70
U-P 002	Aquadam delivery/return		4.00	Each	U.S. Dollar	500.00	2,000.00
U-P 005	6-inch x 50' discharge hose		6.00	Each	U.S. Dollar	59.71	358.24
U-P 003	Godwin CD103 100 gpm (rental)		2.00	Each	U.S. Dollar	500.00	1,000.00

3.3.1.3	1.00	EA	Setup water treatment area	Detail	U.S. Dollar	119,381.36	119,381.36

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U-TEMP GWT10-04	Pumps / piping / fittting bypas and connections		1.00	EA	U.S. Dollar	10,000.00	10,000.00

CBS Position Code	Quantity	UM	Description			Cost Source	Currency	Unit Cost	Total Cost
			Cost Item						
U-TEMP GWT60-00	Temp Treatment Unit Bag Filter 600gpm Unit delivered in Concex Box ready to connect			1.00	Month	U.S. Dollar		6,045.50	6,045.50
U-TEMP GWT60-10	Temp Treatment Unit Bag Filter 600gpm Mobilization			1.00	LS	U.S. Dollar		11,500.00	11,500.00
U-TEMP GWT60-12	Temp Treatment Unit Bag Filter 600gpm Demobilization			1.00	LS	U.S. Dollar		3,000.00	3,000.00
U-P 007	GAC Units			2.00	Each	U.S. Dollar		26,750.00	53,500.00
U-P 008	Oil Water Separator			1.00	Each	U.S. Dollar		24,075.00	24,075.00
U- FRAK -001	Frak Tank			8.00	Month	U.S. Dollar		802.50	6,420.00
U- FRAK -FRGHT. 001	Delivery or Pick Up			2.00	EA	U.S. Dollar		200.00	400.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	64.00		4.00	Each (hourly)	U.S. Dollar		48.54	3,106.44
L-O-E002	Equipment Operator B	16.00		1.00	Each (hourly)	U.S. Dollar		59.02	944.38
E2C0102.0001	Backhoe 420-2WD+IT 15772 lb 85 hp a-Monthly	16.00		1.00	Each (hourly)	U.S. Dollar		24.38	390.03
3.3.1.4	1.00	LS	Operate WWTF			Detail	U.S. Dollar	101,346.92	101,346.92
3.3.1.4.1	1.00	LS	WWTF operator			Detail	U.S. Dollar	31,346.92	31,346.92

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-WWTPO 030	WWTP Licensed Operator	320.00	1.00	Each (hourly)	U.S. Dollar	66.71	21,346.22
U-L&PD 100.101	Lodging per day		40.00	Day	U.S. Dollar	125.00	5,000.00
U-L&PD 100.201	Per diem perday		40.00	Day	U.S. Dollar	35.00	1,400.00
E-PICK UP F150-001	F150 Standard Pick up	320.00	1.00	Each (hourly)	U.S. Dollar	11.25	3,600.70

3.3.1.4.2	1.00	LS	Materials			Detail	U.S. Dollar	70,000.00	70,000.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	GAC		20.00	Ton	U.S. Dollar	3,500.00	70,000.00

3.3.1.5	1.00	LS	Remove aquadams at end of 1st year of construction			Detail	U.S. Dollar	17,453.17	17,453.17

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	96.00	6.00	Each (hourly)	U.S. Dollar	48.54	4,659.67
U-P 002	Aquadam delivery/return		2.00	Each	U.S. Dollar	500.00	1,000.00
L-O-E002	Equipment Operator B	32.00	2.00	Each (hourly)	U.S. Dollar	59.02	1,888.76
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	32.00	2.00	Each (hourly)	U.S. Dollar	95.07	3,042.30
E1XD-1000.1003	100 GPM Deisel Self Priming Pump 3 inch dia	16.00	1.00	Each (hourly)	U.S. Dollar	49.44	791.07
E1XD-1000.2014	Piping 20f Lenghts 4 inch dia	64.00	4.00	Each (hourly)	U.S. Dollar	0.02	1.37
U-DEW -504	Field support from Aquadam		2.00	Day	U.S. Dollar	2,300.00	4,600.00
U-DEW -505	Aquadam rep travel		1.00	LS	U.S. Dollar	1,470.00	1,470.00

3.3.2	1.00	LS	Year 2			Detail	U.S. Dollar	266,074.80	266,074.80
3.3.2.1	1.00	LS	Install aquadams at start of 2nd year of construction			Detail	U.S. Dollar	10,688.93	10,688.93

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	96.00	6.00	Each (hourly)	U.S. Dollar	48.54	4,659.67
L-O-E002	Equipment Operator B	32.00	2.00	Each (hourly)	U.S. Dollar	59.02	1,888.76
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	32.00	2.00	Each (hourly)	U.S. Dollar	95.07	3,042.30
E1XD-1000.1003	100 GPM Deisel Self Priming Pump 3 inch dia	16.00	1.00	Each (hourly)	U.S. Dollar	49.44	791.07
E1XD-1000.2014	Piping 20f Lenghts 4 inch dia	64.00	4.00	Each (hourly)	U.S. Dollar	0.02	1.37

3.3.2.2	1.00	LS	Dewater excavation area			Detail	U.S. Dollar	19,461.50	19,461.50

CBS Position Code	Quantity	UM	Description	Cost Item Cost Source	Currency	Unit Cost	Total Cost

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	192.00	6.00	Each (hourly)	U.S. Dollar	48.54	9,319.33
U-P 004	Suction hose 10' length		20.00	EA	U.S. Dollar	27.29	545.70
U-P 002	Aquadam delivery/return		4.00	Each	U.S. Dollar	500.00	2,000.00
U-P 005	6-inch x 50' discharge hose		6.00	Each	U.S. Dollar	59.71	358.24
U-P 003	Godwin CD103 100 gpm (rental)		2.00	Each	U.S. Dollar	500.00	1,000.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	128.00	4.00	Each (hourly)	U.S. Dollar	48.54	6,212.89

3.3.2.3	1.00 EA	Setup water treatment area	Detail	U.S. Dollar	122,094.27	122,094.27

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U-TEMP GWT10-04	Pumps / piping / fittting bypas and connections		1.00	EA	U.S. Dollar	10,000.00	10,000.00
U-TEMP GWT60-00	Temp Treatment Unit Bag Filter 600gpm Unit delivered in Concex Box ready to connect		1.00	Month	U.S. Dollar	6,045.50	6,045.50
U-TEMP GWT60-10	Temp Treatment Unit Bag Filter 600gpm Mobilization		1.00	LS	U.S. Dollar	11,500.00	11,500.00
U-TEMP GWT60-12	Temp Treatment Unit Bag Filter 600gpm Demobilization		1.00	LS	U.S. Dollar	3,000.00	3,000.00
U-P 007	GAC Units		2.00	Each	U.S. Dollar	26,750.00	53,500.00
U-P 008	Oil Water Separator		1.00	Each	U.S. Dollar	24,075.00	24,075.00
U- FRAK -001	Frak Tank		8.00	Month	U.S. Dollar	802.50	6,420.00
U- FRAK -FRGHT. 001	Delivery or Pick Up		2.00	EA	U.S. Dollar	200.00	400.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	64.00	4.00	Each (hourly)	U.S. Dollar	48.54	3,106.44
L-O-E002	Equipment Operator B	16.00	1.00	Each (hourly)	U.S. Dollar	59.02	944.38
E2C0102.0001	Backhoe 420-2WD+IT 15772 lb 85 hp a-Monthly	16.00	1.00	Each (hourly)	U.S. Dollar	24.38	390.03

3.3.2.4	1.00 LS	Operate WWTF	Detail	U.S. Dollar	103,446.92	103,446.92

3.3.2.4.1	1.00 LS	WWTF operator	Detail	U.S. Dollar	31,346.92	31,346.92

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-WWTPO 030	WWTP Licensed Operator	320.00	1.00	Each (hourly)	U.S. Dollar	66.71	21,346.22
U-L&PD 100.101	Lodging per day		40.00	Day	U.S. Dollar	125.00	5,000.00
U-L&PD 100.201	Per diem perday		40.00	Day	U.S. Dollar	35.00	1,400.00
E-PICK UP F150-001	F150 Standard Pick up	320.00	1.00	Each (hourly)	U.S. Dollar	11.25	3,600.70

3.3.2.4.2	1.00 LS	Materials	Detail	U.S. Dollar	72,100.00	72,100.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	GAC		20.00	Ton	U.S. Dollar	3,500.00	70,000.00

3.3.2.5	1.00 LS	Remove aquadams at end of 2nd year of construction	Detail	U.S. Dollar	10,383.17	10,383.17

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	96.00	6.00	Each (hourly)	U.S. Dollar	48.54	4,659.67
L-O-E002	Equipment Operator B	32.00	2.00	Each (hourly)	U.S. Dollar	59.02	1,888.76
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	32.00	2.00	Each (hourly)	U.S. Dollar	95.07	3,042.30
E1XD-1000.1003	100 GPM Deisel Self Priming Pump 3 inch dia	16.00	1.00	Each (hourly)	U.S. Dollar	49.44	791.07
E1XD-1000.2014	Piping 20f Lenghts 4 inch dia	64.00	4.00	Each (hourly)	U.S. Dollar	0.02	1.37

3.4	1.00 LS	Excavation Visually Impacted sediments	Detail	U.S. Dollar	289,167.91	289,167.91

3.4.1	1.00 LS	Seepage control	Detail	U.S. Dollar	59,154.58	59,154.58

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost

CBS Position Code	Quantity	UM	Description	Cost Item			Cost Source	Currency	Unit Cost	Total Cost
E1XD-1000.1003	100 GPM Deisel Self Priming Pump 3 inch dia			960.00	4.00	Each (hourly)	U.S. Dollar		49.44	47,464.32
E1XD-1000.2014	Piping 20f Lenghts 4 inch dia			1,920.00	8.00	Each (hourly)	U.S. Dollar		0.02	41.09
L-O-LHC001 D	Heavy Constr Skilled Laborer			240.00	1.00	Each (hourly)	U.S. Dollar		48.54	11,649.17
3.4.2	1.00	LS	Install/move crane mats				Detail	U.S. Dollar	24,106.27	24,106.27

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U-P 006	Geomats 8' x 14' each		250.00	Week	U.S. Dollar	16.05	4,012.50
L-O-LHC001 D	Heavy Constr Skilled Laborer	160.00	2.00	Each (hourly)	U.S. Dollar	48.54	7,766.11
L-O-E002	Equipment Operator B	80.00	1.00	Each (hourly)	U.S. Dollar	59.02	4,721.89
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	80.00	1.00	Each (hourly)	U.S. Dollar	95.07	7,605.76
3.4.3	8,448.00 CY		Excavation of sediments			Detail	U.S. Dollar	21.80	184,188.93

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	675.84	4.00	Each (hourly)	U.S. Dollar	48.54	32,804.06
L-O-E002	Equipment Operator B	337.92	2.00	Each (hourly)	U.S. Dollar	59.02	19,945.28
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	337.92	2.00	Each (hourly)	U.S. Dollar	95.07	32,126.73
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly	675.84	4.00	Each (hourly)	U.S. Dollar	97.64	65,987.94
L-O-DR4	Dump truck Level D driver	675.84	4.00	Each (hourly)	U.S. Dollar	49.31	33,324.93
3.4.4	1.00	LS	Odor control			Detail	U.S. Dollar	21,718.14	21,718.14

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	Disperse odor control foam		76,000.00	SF	U.S. Dollar	0.25	19,000.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	56.00	1.00	Each (hourly)	U.S. Dollar	48.54	2,718.14
3.5	1.00	LS	Handling/dewatering of sediments			Detail	U.S. Dollar	140,844.43	140,844.43
3.5.1	1.00	LS	Stockpile activities/bulking agent mixing			Detail	U.S. Dollar	121,158.55	121,158.55

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	400.00	1.00	Each (hourly)	U.S. Dollar	48.54	19,415.28
L-O-E002	Equipment Operator B	400.00	1.00	Each (hourly)	U.S. Dollar	59.02	23,609.47
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	400.00	1.00	Each (hourly)	U.S. Dollar	105.52	42,208.80
	Kiln Dust		1,437.00	Ton	U.S. Dollar	25.00	35,925.00
3.5.2	9,715.00 CY		Load out dewatered material			Detail	U.S. Dollar	2.03	19,685.88

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	97.15	1.00	Each (hourly)	U.S. Dollar	48.54	4,715.49
L-O-E002	Equipment Operator B	97.15	1.00	Each (hourly)	U.S. Dollar	59.02	5,734.15
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	97.15	1.00	Each (hourly)	U.S. Dollar	95.07	9,236.24
3.6	16,516.00 Ton		Transportation and Disposal of Sediments			Detail	U.S. Dollar	90.00	1,486,440.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UT&D-10.80	T&D non Haz Material		16,516.00	Ton	U.S. Dollar	90.00	1,486,440.00
3.7	1.00	LS	Handling of decanted water			Detail	U.S. Dollar	31,774.48	31,774.48
3.7.1	1.00	LS	Collection of decanted water			Detail	U.S. Dollar	11,455.26	11,455.26

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U- FRAK -001	Frak Tank		4.00	Month	U.S. Dollar	802.50	3,210.00
U- FRAK -FRGHT. 001	Delivery or Pick Up		2.00	EA	U.S. Dollar	200.00	400.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	80.00	1.00	Each (hourly)	U.S. Dollar	48.54	3,883.06

CBS Position Code	Quantity	UM	Description	Cost Item			Cost Source	Currency	Unit Cost	Total Cost
E1XD-1000.1003	100 GPM Deisel Self Priming Pump 3 inch dia			80.00	1.00	Each (hourly)	U.S. Dollar		49.44	3,955.36
E1XD-1000.2014	Piping 20f Lenghts 4 inch dia			320.00	4.00	Each (hourly)	U.S. Dollar		0.02	6.85
3.7.2	1.00	LS	Pump to on-site WWTF				Detail	U.S. Dollar	20,319.22	20,319.22
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
L-O-LHC001 D	Heavy Constr Skilled Laborer			400.00	1.00	Each (hourly)	U.S. Dollar		48.54	19,415.28
U-P 004	Suction hose 10' length				20.00	EA	U.S. Dollar		27.29	545.70
U-P 005	6-inch x 50' discharge hose				6.00	Each	U.S. Dollar		59.71	358.24
3.8	1.00	LS	Installation of Ammended Cap				Detail	U.S. Dollar	672,708.13	672,708.13
3.8.1	1.00	LS	Mix design				Detail	U.S. Dollar	25,000.00	25,000.00
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
	Mix design compatibility testing				1.00	LS	U.S. Dollar		25,000.00	25,000.00
3.8.2	76,075.00	SF	Install 4-inch thick Aquablok,24-inches habitat substrate				Detail	U.S. Dollar	8.46	643,708.13
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
L-A-SF102	Site Foreman			202.87	1.00	Each (hourly)	U.S. Dollar		30.37	6,161.86
L-O-LHC001 D	Heavy Constr Skilled Laborer			811.47	4.00	Each (hourly)	U.S. Dollar		48.54	39,387.13
L-O-E002	Equipment Operator B			405.73	2.00	Each (hourly)	U.S. Dollar		59.02	23,947.87
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly			405.73	2.00	Each (hourly)	U.S. Dollar		95.07	38,573.88
	Aquablok				1,255.10	Ton	U.S. Dollar		250.00	313,775.00
	Aquablok delivery				57.00	Truck Loads	U.S. Dollar		1,600.00	91,200.00
MF-1-13.000 (1)	Habitat Substrate				6,198.70	CY	U.S. Dollar		21.08	130,662.40
3.8.3	1.00	LS	QC check thicknesses				Detail	U.S. Dollar	4,000.00	4,000.00
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
	Hand augering/acre				2.00	Acre	U.S. Dollar		2,000.00	4,000.00
3.9	1.00	LS	Site restoration				Detail	U.S. Dollar	19,800.65	19,800.65
3.9.1	37,400.00	SF	Topsoil and seeding				Detail	U.S. Dollar	0.50	18,725.00
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
E2C0102.0001	Backhoe 420-2WD+IT 15772 lb 85 hp a-Monthly			0.00	1.00	Each (hourly)	U.S. Dollar		24.38	0.00
MF-1-14.101	Topsoil Standard				700.00	CY	U.S. Dollar		26.75	18,725.00
3.9.2	30.00	EA	Tree planting				Detail	U.S. Dollar	35.86	1,075.65
3.9.2.1	30.00	Ea.	Planting, trees, shrubs, and ground cover, heavy or stony soil, container, 5 gallon, includes planting only				Detail	U.S. Dollar	35.86	1,075.65
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
CLAB	Common Building Laborers			34.29	2.00	Each (hourly)	U.S. Dollar		35.45	1,215.43
3.10	1.00	LS	Demobilization				Detail	U.S. Dollar	16,516.02	16,516.02
3.10.1	1.00	LS	Site cleanup				Detail	U.S. Dollar	8,631.85	8,631.85
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
L-O-LHC001 D	Heavy Constr Skilled Laborer			96.00	6.00	Each (hourly)	U.S. Dollar		48.54	4,659.67
L-O-E002	Equipment Operator B			16.00	1.00	Each (hourly)	U.S. Dollar		59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly			16.00	1.00	Each (hourly)	U.S. Dollar		105.52	1,688.35
L-O-DR4	Dump truck Level D driver			16.00	1.00	Each (hourly)	U.S. Dollar		49.31	788.94
E1H-DUMP TRK 0014	14CY Dump Truck			16.00	1.00	Each (hourly)	U.S. Dollar		34.41	550.51

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
			Cost Item				
3.10.2	1.00	LS	Personnel and equipment	Detail	U.S. Dollar	7,884.17	7,884.17

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SF102	Site Foreman	8.00	1.00	Each (hourly)	U.S. Dollar	30.37	242.99
L-O-LHC001 D	Heavy Constr Skilled Laborer	48.00	6.00	Each (hourly)	U.S. Dollar	48.54	2,329.83
L-O-E002	Equipment Operator B	16.00	2.00	Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	105.52	844.18
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	95.07	760.58
UM-D-10.03	Mobe Demobe equipment >50,000 < 100,000		1.00	LS	U.S. Dollar	750.00	750.00
UM-D-10.02	Mobe Demobe equipment >25,000 < 50,000		1.00	LS	U.S. Dollar	450.00	450.00
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly	16.00	2.00	Each (hourly)	U.S. Dollar	97.64	1,562.21

3.11	1.00	LS	Payment and Performance Bonds	Detail	U.S. Dollar	61,600.00	61,600.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	Contractor Bond		1.00	Each	U.S. Dollar	61,600.00	61,600.00

3.12	1.00	LS	Contractor Profit	Detail	U.S. Dollar	369,800.00	369,800.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	Contractor Profit		1.00	Each	U.S. Dollar	369,800.00	369,800.00

3.13	1.00	LS	Contingency @ 20%	Detail	U.S. Dollar	813,500.00	813,500.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	Contingency @ 20%		1.00	Each	U.S. Dollar	813,500.00	813,500.00

3.14	1.00	LS	Engineering/Regulatory oversight	Detail	U.S. Dollar	205,995.85	205,995.85

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
AFC- Field-121-01	Construction Manager Supervisor	960.00	1.00	Each (hourly)	U.S. Dollar	105.89	101,649.60
AFC- Field-121-02	Construction QA QC Specialst	960.00	1.00	Each (hourly)	U.S. Dollar	91.82	88,146.25
U-L&PD 100.101	Lodging per day		96.00	Day	U.S. Dollar	125.00	12,000.00
U-L&PD 100.201	Per diem perday		120.00	Day	U.S. Dollar	35.00	4,200.00

Category	Total
Labor	791,898.51
Rented Equip	489,033.38
Supplies	19,000.00
Materials	642,129.89
Subcontract	2,258,668.35
Taxes	37,213.81
Allowance	813,500.00
Per Diem /Travel	29,000.00

CBS Outline Report
AMEC ENVIRONMENT & INFRASTRUCTURE, INC.
Job Code: NYS-POR-141203
Description: Saranac Lake FS

From Cost Item: . **To Cost Item: .**

Code	Description	Quantity	Unit of Measure	Unit Price	Total Cost (Forecast)	User Defined 1
3	Alternative 2A - Excavation with Capping					
3.1	Work Plans, Schedules and Permits	1.00	LS	67,284.97	67,284.97	
3.1.1	Detailed Construction Plan	1.00	Each	15,302.21	15,302.21	
3.1.2	H&S Plan project	1.00	Each	11,698.23	11,698.23	
3.1.3	Contingency Plan	1.00	Each	11,463.99	11,463.99	
3.1.4	QA/QC Plan	1.00	Each	4,229.73	4,229.73	
3.1.5	Traffic Control Plan	1.00	Each	6,689.11	6,689.11	
3.1.6	Storm Water Management Plan	1.00	Each	5,901.71	5,901.71	
3.1.7	Permits (other than listed in Summary of Work)	1.00	Each	12,000.00	12,000.00	
3.2	Mobilization	1.00	LS	272,978.81	272,978.81	
3.2.1	Mobilization (1st year of construction)	1.00	LS	170,469.41	170,469.41	
3.2.1.1	Personel and equipment	1.00	LS	7,884.17	7,884.17	
3.2.1.2	Temporary facilities	1.00	LS	6,551.30	6,551.30	
3.2.1.2.1	Office trailer	1.00	LS	1,849.80	1,849.80	
3.2.1.2.2	Job boxes	1.00	LS	1,121.50	1,121.50	
3.2.1.2.3	Utilities	1.00	LS	3,580.00	3,580.00	
3.2.1.3	Sedimentation and erosion control	300.00	LF	3.88	1,164.06	
3.2.1.4	Site prep	1.00	LS	12,682.80	12,682.80	
3.2.1.4.1	Stabilized construction entrance	1.00	LS	1,673.35	1,673.35	
3.2.1.4.2	Minor site clearing	1.00	LS	4,011.50	4,011.50	
3.2.1.4.3	Stockpile areas	1.00	LS	6,997.94	6,997.94	
3.2.1.4.3.1	1 to 1 slopes Non Haz/contaminated material	5,000.00	SF	1.40	6,997.94	
3.2.1.5	Survey	1.00	LS	11,820.00	11,820.00	
3.2.1.5.1	Pre-construction survey	1.00	LS	5,910.00	5,910.00	
3.2.1.5.2	As-built survey	1.00	LS	5,910.00	5,910.00	
3.2.1.6	Construction fencing	900.00	LF	12.00	10,800.00	
3.2.1.7	General Conditions	1.00	LS	119,567.09	119,567.09	
3.2.1.7.1	Site overhead	1.00	LS	100,271.26	100,271.26	
3.2.1.7.2	Home office support	1.00	LS	19,295.83	19,295.83	
3.2.2	Mobilization (2nd year of construction)	1.00	LS	102,509.40	102,509.40	
3.2.2.1	Personel and equipment	1.00	LS	8,120.70	8,120.70	
3.2.2.2	Temporary facilities	1.00	LS	6,750.55	6,750.55	
3.2.2.2.1	Office trailer	1.00	LS	1,905.29	1,905.29	
3.2.2.2.2	Job boxes	1.00	LS	1,157.86	1,157.86	
3.2.2.2.3	Utilities	1.00	LS	3,687.40	3,687.40	
3.2.2.3	Sedimentation and erosion control	300.00	LF	3.88	1,164.06	
3.2.2.4	Site prep	1.00	LS	10,677.05	10,677.05	
3.2.2.4.1	Stabilized construction entrance	1.00	LS	1,673.35	1,673.35	
3.2.2.4.2	Minor site clearing	1.00	LS	2,005.75	2,005.75	
3.2.2.4.3	Stockpile areas	1.00	LS	6,997.94	6,997.94	
3.2.2.4.3.1	1 to 1 slopes Non Haz/contaminated material	5,000.00	SF	1.40	6,997.94	
3.2.2.5	Survey	1.00	LS	11,820.00	11,820.00	
3.2.2.5.1	Pre-construction survey	1.00	LS	5,910.00	5,910.00	
3.2.2.5.2	As-built survey	1.00	LS	5,910.00	5,910.00	
3.2.2.6	Construction fencing	200.00	LF	12.00	2,400.00	

Code	Description	Quantity	Unit of Measure	Unit Price	Total Cost (Forecast)	User Defined 1
3.2.2.7	General Conditions	1.00	LS	61,577.05	61,577.05	
3.2.2.7.1	Site overhead	1.00	LS	51,639.70	51,639.70	
3.2.2.7.2	Home office support	1.00	LS	9,937.35	9,937.35	
3.3	Dewatering of Excavation Area	1.00	LS	632,032.69	632,032.69	
3.3.1	Year 1	1.00	LS	365,957.89	365,957.89	
3.3.1.1	Install aquadams at start of 1st year of construction	1.00	LS	114,553.17	114,553.17	
3.3.1.2	Dewater excavation area	1.00	LS	13,223.27	13,223.27	
3.3.1.3	Setup water treatment area	1.00	EA	119,381.36	119,381.36	
3.3.1.4	Operate WWTF	1.00	LS	101,346.92	101,346.92	
3.3.1.4.1	WWTF operator	1.00	LS	31,346.92	31,346.92	
3.3.1.4.2	Materials	1.00	LS	70,000.00	70,000.00	
3.3.1.5	Remove aquadams at end of 1st year of construction	1.00	LS	17,453.17	17,453.17	
3.3.2	Year 2	1.00	LS	266,074.80	266,074.80	
3.3.2.1	Install aquadams at start of 2nd year of construction	1.00	LS	10,688.93	10,688.93	
3.3.2.2	Dewater excavation area	1.00	LS	19,461.50	19,461.50	
3.3.2.3	Setup water treatment area	1.00	EA	122,094.27	122,094.27	
3.3.2.4	Operate WWTF	1.00	LS	103,446.92	103,446.92	
3.3.2.4.1	WWTF operator	1.00	LS	31,346.92	31,346.92	
3.3.2.4.2	Materials	1.00	LS	72,100.00	72,100.00	
3.3.2.5	Remove aquadams at end of 2nd year of construction	1.00	LS	10,383.17	10,383.17	
3.4	Excavation Visually Impacted sediments	1.00	LS	289,167.91	289,167.91	
3.4.1	Seepage control	1.00	LS	59,154.58	59,154.58	
3.4.2	Install/move crane mats	1.00	LS	24,106.27	24,106.27	
3.4.3	Excavation of sediments	8,448.00	CY	21.80	184,188.93	
3.4.4	Odor control	1.00	LS	21,718.14	21,718.14	
3.5	Handling/dewatering of sediments	1.00	LS	140,844.43	140,844.43	
3.5.1	Stockpile activities/bulking agent mixing	1.00	LS	121,158.55	121,158.55	
3.5.2	Load out dewatered material	9,715.00	CY	2.03	19,685.88	
3.6	Transportation and Disposal of Sediments	16,516.00	Ton	90.00	1,486,440.00	
3.7	Handling of decanted water	1.00	LS	31,774.48	31,774.48	
3.7.1	Collection of decanted water	1.00	LS	11,455.26	11,455.26	
3.7.2	Pump to on-site WWTF	1.00	LS	20,319.22	20,319.22	
3.8	Installation of Ammended Cap	1.00	LS	672,708.13	672,708.13	
3.8.1	Mix design	1.00	LS	25,000.00	25,000.00	
3.8.2	Install 4-inch thick Aquablok,24-inches habitat substrate	76,075.00	SF	8.46	643,708.13	
3.8.3	QC check thicknesses	1.00	LS	4,000.00	4,000.00	
3.9	Site restoration	1.00	LS	19,800.65	19,800.65	
3.9.1	Topsoil and seeding	37,400.00	SF	0.50	18,725.00	
3.9.2	Tree planting	30.00	EA	35.86	1,075.65	
3.9.2.1	Planting, trees, shrubs, and ground cover, heavy or stony soil, container, 5 gallon, includes planting only	30.00	Ea.	35.86	1,075.65	
3.10	Demobilization	1.00	LS	16,516.02	16,516.02	
3.10.1	Site cleanup	1.00	LS	8,631.85	8,631.85	
3.10.2	Personnel and equipment	1.00	LS	7,884.17	7,884.17	
3.11	Payment and Performance Bonds	1.00	LS	61,600.00	61,600.00	
3.12	Contractor Profit	1.00	LS	369,800.00	369,800.00	
3.13	Contingency @ 20%	1.00	LS	813,500.00	813,500.00	

Code	Description	Quantity	Unit of Measure	Unit Price	Total Cost (Forecast)	User Defined 1
3.14	Engineering/Regulatory oversight	1.00	LS	205,995.85	205,995.85	
Total:	**Alternative 2A - Excavation with Capping**				**5,080,443.94**	
Grand Total:					**5,080,443.94**	

Estimate Summary
AMEC ENVIRONMENT & INFRASTRUCTURE, INC.
Job Code: NYS-POR-141203
Description: Saranac Lake FS

From Cost Item: 4 **To Cost Item: 4.14**

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
4	1.00	LS	Alternative 2B - 6' Excavation	Detail	U.S. Dollar	8,281,937.84	8,281,937.84
4.1	1.00	LS	Work Plans, Schedules and Permits	Detail	U.S. Dollar	67,284.97	67,284.97
4.1.1	1.00	Each	Detailed Construction Plan	Detail	U.S. Dollar	15,302.21	15,302.21

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-PE101-B	Project Engineer	24.00	0.25	Each (hourly)	U.S. Dollar	79.83	1,915.81
L-A-PM201	Project Manager	72.00	0.75	Each (hourly)	U.S. Dollar	32.20	2,318.14
L-A-QC101	QC Officer	12.00	0.13	Each (hourly)	U.S. Dollar	43.19	518.27
L-A-HS103	Safety Officer	12.00	0.13	Each (hourly)	U.S. Dollar	59.33	711.96
L-A-AA102	Project Contol /Scheduler	48.00	0.50	Each (hourly)	U.S. Dollar	47.31	2,270.93
L-A-AA101	Admisistrative Assistant	48.00	0.50	Each (hourly)	U.S. Dollar	37.91	1,819.66
L-A-SS101	Site Superintendent	72.00	0.75	Each (hourly)	U.S. Dollar	79.83	5,747.44

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
4.1.2	1.00	Each	H&S Plan project	Detail	U.S. Dollar	11,698.23	11,698.23

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant	96.00	1.00	Each (hourly)	U.S. Dollar	37.91	3,639.32
L-A-HS103	Safety Officer	16.32	0.17	Each (hourly)	U.S. Dollar	59.33	968.27
L-A-PE101-A	Project Engineer	32.00	0.33	Each (hourly)	U.S. Dollar	27.50	879.77
L-A-PM201	Project Manager	16.00	0.17	Each (hourly)	U.S. Dollar	32.20	515.15
L-A-HS104	Safety Tech	96.00	1.00	Each (hourly)	U.S. Dollar	59.33	5,695.72

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
4.1.3	1.00	Each	Contingency Plan	Detail	U.S. Dollar	11,463.99	11,463.99

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-PE101-B	Project Engineer	80.00	1.00	Each (hourly)	U.S. Dollar	79.83	6,386.05
L-A-PM201	Project Manager	20.00	0.25	Each (hourly)	U.S. Dollar	32.20	643.93
L-A-QC101	QC Officer	10.00	0.13	Each (hourly)	U.S. Dollar	43.19	431.89
L-A-HS103	Safety Officer	10.00	0.13	Each (hourly)	U.S. Dollar	59.33	593.30
L-A-AA102	Project Contol /Scheduler	40.00	0.50	Each (hourly)	U.S. Dollar	47.31	1,892.44
L-A-AA101	Admisistrative Assistant	40.00	0.50	Each (hourly)	U.S. Dollar	37.91	1,516.38

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
4.1.4	1.00	Each	QA/QC Plan	Detail	U.S. Dollar	4,229.73	4,229.73

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant	40.00	1.00	Each (hourly)	U.S. Dollar	37.91	1,516.38
L-A-PE101-B	Project Engineer	4.00	0.10	Each (hourly)	U.S. Dollar	79.83	319.30
L-A-PM201	Project Manager	4.00	0.10	Each (hourly)	U.S. Dollar	32.20	128.79
L-A-QC101	QC Officer	16.00	0.40	Each (hourly)	U.S. Dollar	43.19	691.02
L-A-QC102	QC Tech	40.00	1.00	Each (hourly)	U.S. Dollar	39.36	1,574.24

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
4.1.5	1.00	Each	Traffic Control Plan	Detail	U.S. Dollar	6,689.11	6,689.11

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant	24.00	0.50	Each (hourly)	U.S. Dollar	37.91	909.83
L-A-PE101-B	Project Engineer	48.00	1.00	Each (hourly)	U.S. Dollar	79.83	3,831.63
L-A-PM201	Project Manager	16.00	0.33	Each (hourly)	U.S. Dollar	32.20	515.09
L-A-HS103	Safety Officer	8.00	0.17	Each (hourly)	U.S. Dollar	59.33	474.65
L-A-SS101	Site Superintendent	12.00	0.25	Each (hourly)	U.S. Dollar	79.83	957.91

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
4.1.6	1.00	Each	Storm Water Management Plan	Detail	U.S. Dollar	5,901.71	5,901.71

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost

CBS Position Code	Quantity	UM	Description			Cost Source	Currency	Unit Cost	Total Cost
				Cost Item					
L-A-AA101	Admisistrative Assistant			9.60	0.20 Each (hourly)	U.S. Dollar		37.91	363.93
L-A-PE101-A	Project Engineer			48.00	1.00 Each (hourly)	U.S. Dollar		27.50	1,319.79
L-A-PM201	Project Manager			12.00	0.25 Each (hourly)	U.S. Dollar		32.20	386.36
L-A-SS101	Site Superintendent			48.00	1.00 Each (hourly)	U.S. Dollar		79.83	3,831.63
4.1.7	1.00	Each	Permits (other than listed in Summary of Work)			Detail	U.S. Dollar	12,000.00	12,000.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U-C&E-10.20	Fees & Permits		2.00	LS	U.S. Dollar	5,000.00	10,000.00
U-PERMITS -00	Permits - Demo, road opening, Etc.		4.00	Each	U.S. Dollar	500.00	2,000.00

4.2	1.00 LS	Mobilization	Detail	U.S. Dollar	358,543.62	358,543.62
4.2.1	1.00 LS	Mobilization (1st year of construction)	Detail	U.S. Dollar	187,181.29	187,181.29
4.2.1.1	1.00 LS	Personel and equipment	Detail	U.S. Dollar	7,884.17	7,884.17

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SF102	Site Foreman	8.00	1.00	Each (hourly)	U.S. Dollar	30.37	242.99
L-O-LHC001 D	Heavy Constr Skilled Laborer	48.00	6.00	Each (hourly)	U.S. Dollar	48.54	2,329.83
L-O-E002	Equipment Operator B	16.00	2.00	Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	105.52	844.18
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	95.07	760.58
UM-D-10.03	Mobe Demobe equipment >50,000 < 100,000		1.00	LS	U.S. Dollar	750.00	750.00
UM-D-10.02	Mobe Demobe equipment >25,000 < 50,000		1.00	LS	U.S. Dollar	450.00	450.00
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly	16.00	2.00	Each (hourly)	U.S. Dollar	97.64	1,562.21

4.2.1.2	1.00 LS	Temporary facilities	Detail	U.S. Dollar	6,551.30	6,551.30
4.2.1.2.1	1.00 LS	Office trailer	Detail	U.S. Dollar	1,849.80	1,849.80

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UZ-ST-08x32-5	8x32 Trailer Tear Down		1.00	Each	U.S. Dollar	166.00	166.00
UZ-ST-08x32-1	8x32 Trailer		2.00	Month	U.S. Dollar	342.40	684.80
UZ-ST-08x32-4	8x32 Trailer Skirting		1.00	Each	U.S. Dollar	80.00	80.00
UZ-ST-08x32-2	8x32 Trailer Set up		1.00	Each	U.S. Dollar	179.00	179.00
UZ-ST-08x32-6	8x32 StrorageTrailer Freight		2.00	1/way	U.S. Dollar	320.00	640.00
UZ-ST-08x32-3	8x32 Trailer Anchor		1.00	Each	U.S. Dollar	100.00	100.00

4.2.1.2.2	1.00 LS	Job boxes	Detail	U.S. Dollar	1,121.50	1,121.50

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UZ-STS-08X32-3	8x32 StrorageTrailer Rental		1.00	Month	U.S. Dollar	481.50	481.50
UZ-STS-08X32-2	8x 20 or32 StrorageTrailer Freight		2.00	1/way	U.S. Dollar	320.00	640.00

4.2.1.2.3	1.00 LS	Utilities	Detail	U.S. Dollar	3,580.00	3,580.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USERV-10.12	Elect'n, truck, plus mate, connecting and installing Temp power pole incl Mats		2.00	Day	U.S. Dollar	1,250.00	2,500.00
USERV-20.12	4/5 cy Garbage Container. Including Changing weekly		2.00	Month	U.S. Dollar	450.00	900.00
USERV-10.50	Portable Toilets incl freight.		2.00	Month	U.S. Dollar	90.00	180.00

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
			Cost Item				
4.2.1.3	300.00	LF	Sedimentation and erosion control	Detail	U.S. Dollar	3.88	1,164.06

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
SS-1-102-001	Silt fencing 3ft high including posts		3.00	Roll	U.S. Dollar	26.75	80.25
SS-1-103-000	Hay Bales		100.00	Each	U.S. Dollar	6.96	695.50

4.2.1.4	1.00	LS	Site prep	Detail	U.S. Dollar	12,682.80	12,682.80
4.2.1.4.1	1.00	LS	Stabilized construction entrance	Detail	U.S. Dollar	1,673.35	1,673.35

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
L-O-E002	Equipment Operator B	8.00	2.00	Each (hourly)	U.S. Dollar	59.02	472.19
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	4.00	1.00	Each (hourly)	U.S. Dollar	105.52	422.09
L-O-DR4	Dump truck Level D driver	4.00	1.00	Each (hourly)	U.S. Dollar	49.31	197.24
E1H-DUMP TRK 0014	14CY Dump Truck	4.00	1.00	Each (hourly)	U.S. Dollar	34.41	137.63
MG-1-10-22	Class A Geofabric as Spec.		55.00	SY	U.S. Dollar	1.02	55.91

4.2.1.4.2	1.00	LS	Minor site clearing	Detail	U.S. Dollar	4,011.50	4,011.50

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	32.00	4.00	Each (hourly)	U.S. Dollar	48.54	1,553.22
L-O-E002	Equipment Operator B	16.00	2.00	Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	105.52	844.18
L-O-DR4	Dump truck Level D driver	8.00	1.00	Each (hourly)	U.S. Dollar	49.31	394.47
E1H-DUMP TRK 0014	14CY Dump Truck	8.00	1.00	Each (hourly)	U.S. Dollar	34.41	275.25

4.2.1.4.3	1.00	LS	Stockpile areas	Detail	U.S. Dollar	6,997.94	6,997.94
4.2.1.4.3.1	5,000.00	SF	1 to 1 slopes Non Haz/contaminated material	Detail	U.S. Dollar	1.40	6,997.94

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
MF-1-10.108	1 1/2'" Stone /Aggregates		210.33	Ton	U.S. Dollar	17.65	3,713.43
SG-1-10.12SF	6oz Non-woven geo-fabric		7,333.33	SF	U.S. Dollar	0.10	706.20
E1C5006.1001	- Wheeled Loader 928G 149hp a-Monthly	5.33	1.00	Each (hourly)	U.S. Dollar	65.68	350.30
L-O-LHC001	Heavy Constr Skilled Laborer	10.67	2.00	Each (hourly)	U.S. Dollar	79.11	843.82

4.2.1.5	1.00	LS	Survey	Detail	U.S. Dollar	11,820.00	11,820.00
4.2.1.5.1	1.00	LS	Pre-construction survey	Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00	Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00	Day	U.S. Dollar	850.00	2,550.00

4.2.1.5.2	1.00	LS	As-built survey	Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00	Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00	Day	U.S. Dollar	850.00	2,550.00

4.2.1.6	900.00	LF	Construction fencing	Detail	U.S. Dollar	12.00	10,800.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost

CBS Position Code	Quantity	UM	Description	Cost Item	Cost Source	Currency	Unit Cost	Total Cost
U-TEMP FENCE 100	6ft High Chain link fencing with post set in ground (not concreted in)			900.00 LF	U.S. Dollar		12.00	10,800.00
4.2.1.7	1.00	LS	General Conditions		Detail	U.S. Dollar	136,278.97	136,278.97
4.2.1.7.1	1.00	LS	Site overhead		Detail	U.S. Dollar	116,983.13	116,983.13

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SS102	Site Superintendent D	560.00	1.00	Each (hourly)	U.S. Dollar	52.13	29,191.37
L-A-QC101	QC Officer	560.00	1.00	Each (hourly)	U.S. Dollar	43.19	24,185.75
L-A-PE101-B	Project Engineer	560.00	1.00	Each (hourly)	U.S. Dollar	79.83	44,702.32
E-PICK UP F150-001	F150 Standard Pick up	1,680.00	3.00	Each (hourly)	U.S. Dollar	11.25	18,903.70

4.2.1.7.2	1.00	LS	Home office support		Detail	U.S. Dollar	19,295.83	19,295.83

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-CM101	Construction Manager	160.00	1.00	Each (hourly)	U.S. Dollar	46.27	7,403.14
L-A-AE101	Senior Estimator	160.00	1.00	Each (hourly)	U.S. Dollar	36.42	5,827.17
L-A-AA101	Admisistrative Assistant	160.00	1.00	Each (hourly)	U.S. Dollar	37.91	6,065.53

4.2.2	1.00	LS	Mobilization (2nd year of construction)		Detail	U.S. Dollar	171,362.33	171,362.33
4.2.2.1	1.00	LS	Personel and equipment		Detail	U.S. Dollar	8,120.70	8,120.70

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SF102	Site Foreman	8.00	1.00	Each (hourly)	U.S. Dollar	30.37	242.99
L-O-LHC001 D	Heavy Constr Skilled Laborer	48.00	6.00	Each (hourly)	U.S. Dollar	48.54	2,329.83
L-O-E002	Equipment Operator B	16.00	2.00	Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	105.52	844.18
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	95.07	760.58
UM-D-10.03	Mobe Demobe equipment >50,000 < 100,000		1.00	LS	U.S. Dollar	750.00	750.00
UM-D-10.02	Mobe Demobe equipment >25,000 < 50,000		1.00	LS	U.S. Dollar	450.00	450.00
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly	16.00	2.00	Each (hourly)	U.S. Dollar	97.64	1,562.21

4.2.2.2	1.00	LS	Temporary facilities		Detail	U.S. Dollar	6,750.55	6,750.55
4.2.2.2.1	1.00	LS	Office trailer		Detail	U.S. Dollar	1,905.29	1,905.29

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UZ-ST-08x32-5	8x32 Trailer Tear Down		1.00	Each	U.S. Dollar	166.00	166.00
UZ-ST-08x32-1	8x32 Trailer		2.00	Month	U.S. Dollar	342.40	684.80
UZ-ST-08x32-4	8x32 Trailer Skirting		1.00	Each	U.S. Dollar	80.00	80.00
UZ-ST-08x32-2	8x32 Trailer Set up		1.00	Each	U.S. Dollar	179.00	179.00
UZ-ST-08x32-6	8x32 StrorageTrailer Freight		2.00	1/way	U.S. Dollar	320.00	640.00
UZ-ST-08x32-3	8x32 Trailer Anchor		1.00	Each	U.S. Dollar	100.00	100.00

4.2.2.2.2	1.00	LS	Job boxes		Detail	U.S. Dollar	1,157.86	1,157.86

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UZ-STS-08X32-3	8x32 StrorageTrailer Rental		1.00	Month	U.S. Dollar	481.50	481.50
UZ-STS-08X32-2	8x 20 or32 StrorageTrailer Freight		2.00	1/way	U.S. Dollar	320.00	640.00
	escalation		1.00	Each	U.S. Dollar	36.36	36.36

4.2.2.2.3	1.00	LS	Utilities		Detail	U.S. Dollar	3,687.40	3,687.40

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
			Cost Item				

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USERV-10.12	Elect'n, truck, plus mate, connecting and installing Temp power pole incl Mats		2.00	Day	U.S. Dollar	1,250.00	2,500.00
USERV-20.12	4/5 cy Garbage Container. Including Changing weekly		2.00	Month	U.S. Dollar	450.00	900.00
USERV-10.50	Portable Toilets incl freight.		2.00	Month	U.S. Dollar	90.00	180.00

4.2.2.3	300.00	LF	Sedimentation and erosion control	Detail	U.S. Dollar	3.88	1,164.06

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
SS-1-102-001	Silt fencing 3ft high including posts		3.00	Roll	U.S. Dollar	26.75	80.25
SS-1-103-000	Hay Bales		100.00	Each	U.S. Dollar	6.96	695.50

4.2.2.4	1.00	LS	Site prep	Detail	U.S. Dollar	10,677.05	10,677.05

4.2.2.4.1	1.00	LS	Stabilized construction entrance	Detail	U.S. Dollar	1,673.35	1,673.35

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
L-O-E002	Equipment Operator B	8.00	2.00	Each (hourly)	U.S. Dollar	59.02	472.19
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	4.00	1.00	Each (hourly)	U.S. Dollar	105.52	422.09
L-O-DR4	Dump truck Level D driver	4.00	1.00	Each (hourly)	U.S. Dollar	49.31	197.24
E1H-DUMP TRK 0014	14CY Dump Truck	4.00	1.00	Each (hourly)	U.S. Dollar	34.41	137.63
MG-1-10-22	Class A Geofabric as Spec.		55.00	SY	U.S. Dollar	1.02	55.91

4.2.2.4.2	1.00	LS	Minor site clearing	Detail	U.S. Dollar	2,005.75	2,005.75

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	16.00	4.00	Each (hourly)	U.S. Dollar	48.54	776.61
L-O-E002	Equipment Operator B	8.00	2.00	Each (hourly)	U.S. Dollar	59.02	472.19
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	4.00	1.00	Each (hourly)	U.S. Dollar	105.52	422.09
L-O-DR4	Dump truck Level D driver	4.00	1.00	Each (hourly)	U.S. Dollar	49.31	197.24
E1H-DUMP TRK 0014	14CY Dump Truck	4.00	1.00	Each (hourly)	U.S. Dollar	34.41	137.63

4.2.2.4.3	1.00	LS	Stockpile areas	Detail	U.S. Dollar	6,997.94	6,997.94

4.2.2.4.3.1	5,000.00	SF	1 to 1 slopes Non Haz/contaminated material	Detail	U.S. Dollar	1.40	6,997.94

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
MF-1-10.108	1 1/2'" Stone /Aggregates		210.33	Ton	U.S. Dollar	17.65	3,713.43
SG-1-10.12SF	6oz Non-woven geo-fabric		7,333.33	SF	U.S. Dollar	0.10	706.20
E1C5006.1001	- Wheeled Loader 928G 149hp a-Monthly	5.33	1.00	Each (hourly)	U.S. Dollar	65.68	350.30
L-O-LHC001	Heavy Constr Skilled Laborer	10.67	2.00	Each (hourly)	U.S. Dollar	79.11	843.82

4.2.2.5	1.00	LS	Survey	Detail	U.S. Dollar	11,820.00	11,820.00

4.2.2.5.1	1.00	LS	Pre-construction survey	Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00	Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00	Day	U.S. Dollar	850.00	2,550.00

4.2.2.5.2	1.00	LS	As-built survey	Detail	U.S. Dollar	5,910.00	5,910.00

CBS Position Code	Quantity	UM	Description	Cost Item	Cost Source	Currency	Unit Cost	Total Cost

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00	Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00	Day	U.S. Dollar	850.00	2,550.00

4.2.2.6	200.00	LF	Construction fencing		Detail	U.S. Dollar	12.00	2,400.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U-TEMP FENCE 100	6ft High Chain link fencing with post set in ground (not concreted in)		200.00	LF	U.S. Dollar	12.00	2,400.00

4.2.2.7	1.00	LS	General Conditions		Detail	U.S. Dollar	130,429.98	130,429.98

4.2.2.7.1	1.00	LS	Site overhead		Detail	U.S. Dollar	120,492.63	120,492.63

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SS102	Site Superintendent D	560.00	1.00	Each (hourly)	U.S. Dollar	52.13	29,191.37
L-A-QC101	QC Officer	560.00	1.00	Each (hourly)	U.S. Dollar	43.19	24,185.75
L-A-PE101-B	Project Engineer	560.00	1.00	Each (hourly)	U.S. Dollar	79.83	44,702.32
E-PICK UP F150-001	F150 Standard Pick up	1,680.00	3.00	Each (hourly)	U.S. Dollar	11.25	18,903.70

4.2.2.7.2	1.00	LS	Home office support		Detail	U.S. Dollar	9,937.35	9,937.35

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-CM101	Construction Manager	80.00	1.00	Each (hourly)	U.S. Dollar	46.27	3,701.57
L-A-AE101	Senior Estimator	80.00	1.00	Each (hourly)	U.S. Dollar	36.42	2,913.58
L-A-AA101	Admisistrative Assistant	80.00	1.00	Each (hourly)	U.S. Dollar	37.91	3,032.76

4.3	1.00	LS	Dewatering of Excavation Area		Detail	U.S. Dollar	734,242.50	734,242.50

4.3.1	1.00	LS	Year 1		Detail	U.S. Dollar	419,644.24	419,644.24

4.3.1.1	1.00	LS	Install aquadams at start of 1st year of construction		Detail	U.S. Dollar	114,553.17	114,553.17

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	96.00	6.00	Each (hourly)	U.S. Dollar	48.54	4,659.67
L-O-E002	Equipment Operator B	32.00	2.00	Each (hourly)	U.S. Dollar	59.02	1,888.76
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	32.00	2.00	Each (hourly)	U.S. Dollar	95.07	3,042.30
E1XD-1000.1003	100 GPM Deisel Self Priming Pump 3 inch dia	16.00	1.00	Each (hourly)	U.S. Dollar	49.44	791.07
E1XD-1000.2014	Piping 20f Lenghts 4 inch dia	64.00	4.00	Each (hourly)	U.S. Dollar	0.02	1.37
U-DEW -504	Field support from Aquadam		2.00	Day	U.S. Dollar	2,300.00	4,600.00
U-DEW -506	8' Aquadam purchase		700.00	LF	U.S. Dollar	125.00	87,500.00
U-DEW -507	Shipping of Aquadams to site		1.00	LS	U.S. Dollar	10,600.00	10,600.00
U-DEW -505	Aquadam rep travel		1.00	LS	U.S. Dollar	1,470.00	1,470.00

4.3.1.2	1.00	LS	Dewater excavation area		Detail	U.S. Dollar	19,436.16	19,436.16

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	192.00	6.00	Each (hourly)	U.S. Dollar	48.54	9,319.33
U-P 004	Suction hose 10' length		20.00	EA	U.S. Dollar	27.29	545.70
U-P 002	Aquadam delivery/return		4.00	Each	U.S. Dollar	500.00	2,000.00
U-P 005	6-inch x 50' discharge hose		6.00	Each	U.S. Dollar	59.71	358.24
U-P 003	Godwin CD103 100 gpm (rental)		2.00	Each	U.S. Dollar	500.00	1,000.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	128.00	4.00	Each (hourly)	U.S. Dollar	48.54	6,212.89

4.3.1.3	1.00	EA	Setup water treatment area		Detail	U.S. Dollar	119,381.36	119,381.36

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost

CBS Position Code	Quantity UM	Description	Cost Item		Cost Source	Currency	Unit Cost	Total Cost
U-TEMP GWT10-04	Pumps / piping / fittting bypas and connections			1.00 EA	U.S. Dollar		10,000.00	10,000.00
U-TEMP GWT60-00	Temp Treatment Unit Bag Filter 600gpm Unit delivered in Concex Box ready to connect			1.00 Month	U.S. Dollar		6,045.50	6,045.50
U-TEMP GWT60-10	Temp Treatment Unit Bag Filter 600gpm Mobilization			1.00 LS	U.S. Dollar		11,500.00	11,500.00
U-TEMP GWT60-12	Temp Treatment Unit Bag Filter 600gpm Demobilization			1.00 LS	U.S. Dollar		3,000.00	3,000.00
U-P 007	GAC Units			2.00 Each	U.S. Dollar		26,750.00	53,500.00
U-P 008	Oil Water Separator			1.00 Each	U.S. Dollar		24,075.00	24,075.00
U- FRAK -001	Frak Tank			8.00 Month	U.S. Dollar		802.50	6,420.00
U- FRAK -FRGHT. 001	Delivery or Pick Up			2.00 EA	U.S. Dollar		200.00	400.00
L-O-LHC001 D	Heavy Constr Skilled Laborer		64.00	4.00 Each (hourly)	U.S. Dollar		48.54	3,106.44
L-O-E002	Equipment Operator B		16.00	1.00 Each (hourly)	U.S. Dollar		59.02	944.38
E2C0102.0001	Backhoe 420-2WD+IT 15772 lb 85 hp a-Monthly		16.00	1.00 Each (hourly)	U.S. Dollar		24.38	390.03
4.3.1.4	1.00 LS	Operate WWTF			Detail	U.S. Dollar	148,820.38	148,820.38
4.3.1.4.1	1.00 LS	WWTF operator			Detail	U.S. Dollar	43,820.38	43,820.38

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
L-A-WWTPO 030	WWTP Licensed Operator	480.00	1.00 Each (hourly)	U.S. Dollar	66.71	32,019.33
U-L&PD 100.101	Lodging per day		40.00 Day	U.S. Dollar	125.00	5,000.00
U-L&PD 100.201	Per diem perday		40.00 Day	U.S. Dollar	35.00	1,400.00
E-PICK UP F150-001	F150 Standard Pick up	480.00	1.00 Each (hourly)	U.S. Dollar	11.25	5,401.06

4.3.1.4.2	1.00 LS	Materials			Detail	U.S. Dollar	105,000.00	105,000.00

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
	GAC		30.00 Ton	U.S. Dollar	3,500.00	105,000.00

4.3.1.5	1.00 LS	Remove aquadams at end of 1st year of construction			Detail	U.S. Dollar	17,453.17	17,453.17

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	96.00	6.00 Each (hourly)	U.S. Dollar	48.54	4,659.67
U-P 002	Aquadam delivery/return		2.00 Each	U.S. Dollar	500.00	1,000.00
L-O-E002	Equipment Operator B	32.00	2.00 Each (hourly)	U.S. Dollar	59.02	1,888.76
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	32.00	2.00 Each (hourly)	U.S. Dollar	95.07	3,042.30
E1XD-1000.1003	100 GPM Deisel Self Priming Pump 3 inch dia	16.00	1.00 Each (hourly)	U.S. Dollar	49.44	791.07
E1XD-1000.2014	Piping 20f Lenghts 4 inch dia	64.00	4.00 Each (hourly)	U.S. Dollar	0.02	1.37
U-DEW -504	Field support from Aquadam		2.00 Day	U.S. Dollar	2,300.00	4,600.00
U-DEW -505	Aquadam rep travel		1.00 LS	U.S. Dollar	1,470.00	1,470.00
4.3.2	1.00 LS	Year 2			Detail	U.S. Dollar	314,598.26	314,598.26
4.3.2.1	1.00 LS	Install aquadams at start of 2nd year of construction			Detail	U.S. Dollar	10,688.93	10,688.93

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	96.00	6.00 Each (hourly)	U.S. Dollar	48.54	4,659.67
L-O-E002	Equipment Operator B	32.00	2.00 Each (hourly)	U.S. Dollar	59.02	1,888.76
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	32.00	2.00 Each (hourly)	U.S. Dollar	95.07	3,042.30
E1XD-1000.1003	100 GPM Deisel Self Priming Pump 3 inch dia	16.00	1.00 Each (hourly)	U.S. Dollar	49.44	791.07
E1XD-1000.2014	Piping 20f Lenghts 4 inch dia	64.00	4.00 Each (hourly)	U.S. Dollar	0.02	1.37

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
			Cost Item				
4.3.2.2	1.00	LS	Dewater excavation area	Detail	U.S. Dollar	19,461.50	19,461.50

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	192.00	6.00	Each (hourly)	U.S. Dollar	48.54	9,319.33
U-P 004	Suction hose 10' length		20.00	EA	U.S. Dollar	27.29	545.70
U-P 002	Aquadam delivery/return		4.00	Each	U.S. Dollar	500.00	2,000.00
U-P 005	6-inch x 50' discharge hose		6.00	Each	U.S. Dollar	59.71	358.24
U-P 003	Godwin CD103 100 gpm (rental)		2.00	Each	U.S. Dollar	500.00	1,000.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	128.00	4.00	Each (hourly)	U.S. Dollar	48.54	6,212.89

4.3.2.3	1.00	EA	Setup water treatment area	Detail	U.S. Dollar	122,094.27	122,094.27

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U-TEMP GWT10-04	Pumps / piping / fittting bypas and connections		1.00	EA	U.S. Dollar	10,000.00	10,000.00
U-TEMP GWT60-00	Temp Treatment Unit Bag Filter 600gpm Unit delivered in Concex Box ready to connect		1.00	Month	U.S. Dollar	6,045.50	6,045.50
U-TEMP GWT60-10	Temp Treatment Unit Bag Filter 600gpm Mobilization		1.00	LS	U.S. Dollar	11,500.00	11,500.00
U-TEMP GWT60-12	Temp Treatment Unit Bag Filter 600gpm Demobilization		1.00	LS	U.S. Dollar	3,000.00	3,000.00
U-P 007	GAC Units		2.00	Each	U.S. Dollar	26,750.00	53,500.00
U-P 008	Oil Water Separator		1.00	Each	U.S. Dollar	24,075.00	24,075.00
U- FRAK -001	Frak Tank		8.00	Month	U.S. Dollar	802.50	6,420.00
U- FRAK -FRGHT. 001	Delivery or Pick Up		2.00	EA	U.S. Dollar	200.00	400.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	64.00	4.00	Each (hourly)	U.S. Dollar	48.54	3,106.44
L-O-E002	Equipment Operator B	16.00	1.00	Each (hourly)	U.S. Dollar	59.02	944.38
E2C0102.0001	Backhoe 420-2WD+IT 15772 lb 85 hp a-Monthly	16.00	1.00	Each (hourly)	U.S. Dollar	24.38	390.03

4.3.2.4	1.00	LS	Operate WWTF	Detail	U.S. Dollar	151,970.38	151,970.38

4.3.2.4.1	1.00	LS	WWTF operator	Detail	U.S. Dollar	43,820.38	43,820.38

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-WWTPO 030	WWTP Licensed Operator	480.00	1.00	Each (hourly)	U.S. Dollar	66.71	32,019.33
U-L&PD 100.101	Lodging per day		40.00	Day	U.S. Dollar	125.00	5,000.00
U-L&PD 100.201	Per diem perday		40.00	Day	U.S. Dollar	35.00	1,400.00
E-PICK UP F150-001	F150 Standard Pick up	480.00	1.00	Each (hourly)	U.S. Dollar	11.25	5,401.06

4.3.2.4.2	1.00	LS	Materials	Detail	U.S. Dollar	108,150.00	108,150.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	GAC		30.00	Ton	U.S. Dollar	3,500.00	105,000.00

4.3.2.5	1.00	LS	Remove aquadams at end of 2nd year of construction	Detail	U.S. Dollar	10,383.17	10,383.17

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	96.00	6.00	Each (hourly)	U.S. Dollar	48.54	4,659.67
L-O-E002	Equipment Operator B	32.00	2.00	Each (hourly)	U.S. Dollar	59.02	1,888.76
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	32.00	2.00	Each (hourly)	U.S. Dollar	95.07	3,042.30
E1XD-1000.1003	100 GPM Deisel Self Priming Pump 3 inch dia	16.00	1.00	Each (hourly)	U.S. Dollar	49.44	791.07
E1XD-1000.2014	Piping 20f Lenghts 4 inch dia	64.00	4.00	Each (hourly)	U.S. Dollar	0.02	1.37

4.4	1.00	LS	Excavation Visually Impacted sediments	Detail	U.S. Dollar	482,875.52	482,875.52

4.4.1	1.00	LS	Seepage control	Detail	U.S. Dollar	59,154.58	59,154.58

CBS Position Code	Quantity	UM	Description	Cost Item Source	Currency	Unit Cost	Total Cost
4.4.2	1.00	LS	Install/move crane mats	Detail	U.S. Dollar	24,106.27	24,106.27

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
E1XD-1000.1003	100 GPM Deisel Self Priming Pump 3 inch dia	960.00	4.00	Each (hourly)	U.S. Dollar	49.44	47,464.32
E1XD-1000.2014	Piping 20f Lenghts 4 inch dia	1,920.00	8.00	Each (hourly)	U.S. Dollar	0.02	41.09
L-O-LHC001 D	Heavy Constr Skilled Laborer	240.00	1.00	Each (hourly)	U.S. Dollar	48.54	11,649.17
U-P 006	Geomats 8' x 14' each		250.00	Week	U.S. Dollar	16.05	4,012.50
L-O-LHC001 D	Heavy Constr Skilled Laborer	160.00	2.00	Each (hourly)	U.S. Dollar	48.54	7,766.11
L-O-E002	Equipment Operator B	80.00	1.00	Each (hourly)	U.S. Dollar	59.02	4,721.89
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	80.00	1.00	Each (hourly)	U.S. Dollar	95.07	7,605.76

CBS Position Code	Quantity	UM	Description	Cost Item Source	Currency	Unit Cost	Total Cost
4.4.3	20,287.00	CY	Excavation of sediments to 6 feet	Detail	U.S. Dollar	17.44	353,848.56

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	1,298.37	4.00	Each (hourly)	U.S. Dollar	48.54	63,020.45
L-O-E002	Equipment Operator B	649.18	2.00	Each (hourly)	U.S. Dollar	59.02	38,317.22
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	649.18	2.00	Each (hourly)	U.S. Dollar	95.07	61,719.22
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly	1,298.37	4.00	Each (hourly)	U.S. Dollar	97.64	126,770.57
L-O-DR4	Dump truck Level D driver	1,298.37	4.00	Each (hourly)	U.S. Dollar	49.31	64,021.10

CBS Position Code	Quantity	UM	Description	Cost Item Source	Currency	Unit Cost	Total Cost
4.4.4	1.00	LS	Odor control	Detail	U.S. Dollar	45,766.11	45,766.11

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	Disperse odor control foam		152,000.00	SF	U.S. Dollar	0.25	38,000.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	160.00	1.00	Each (hourly)	U.S. Dollar	48.54	7,766.11

CBS Position Code	Quantity	UM	Description	Cost Item Source	Currency	Unit Cost	Total Cost
4.5	1.00	LS	Handling/dewatering of sediments	Detail	U.S. Dollar	291,385.66	291,385.66

CBS Position Code	Quantity	UM	Description	Cost Item Source	Currency	Unit Cost	Total Cost
4.5.1	1.00	LS	Stockpile activities/bulking agent mixing	Detail	U.S. Dollar	244,111.17	244,111.17

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	640.00	1.00	Each (hourly)	U.S. Dollar	48.54	31,064.45
L-O-E002	Equipment Operator B	640.00	1.00	Each (hourly)	U.S. Dollar	59.02	37,775.15
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	640.00	1.00	Each (hourly)	U.S. Dollar	105.52	67,534.08
	Kiln Dust		4,309.50	Ton	U.S. Dollar	25.00	107,737.50

CBS Position Code	Quantity	UM	Description	Cost Item Source	Currency	Unit Cost	Total Cost
4.5.2	23,330.00	CY	Load out dewatered material	Detail	U.S. Dollar	2.03	47,274.48

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	233.30	1.00	Each (hourly)	U.S. Dollar	48.54	11,323.96
L-O-E002	Equipment Operator B	233.30	1.00	Each (hourly)	U.S. Dollar	59.02	13,770.22
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	233.30	1.00	Each (hourly)	U.S. Dollar	95.07	22,180.30

CBS Position Code	Quantity	UM	Description	Cost Item Source	Currency	Unit Cost	Total Cost
4.6	39,660.00	Ton	Transportation and Disposal of Sediments	Detail	U.S. Dollar	90.00	3,569,400.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UT&D-10.80	T&D non Haz Material		39,660.00	Ton	U.S. Dollar	90.00	3,569,400.00

CBS Position Code	Quantity	UM	Description	Cost Item Source	Currency	Unit Cost	Total Cost
4.7	1.00	LS	Handling of decanted water	Detail	U.S. Dollar	54,478.91	54,478.91

CBS Position Code	Quantity	UM	Description	Cost Item Source	Currency	Unit Cost	Total Cost
4.7.1	1.00	LS	Collection of decanted water	Detail	U.S. Dollar	22,510.53	22,510.53

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U- FRAK -001	Frak Tank		8.00	Month	U.S. Dollar	802.50	6,420.00
U- FRAK -FRGHT. 001	Delivery or Pick Up		2.00	EA	U.S. Dollar	200.00	400.00

CBS Position Code	Quantity	UM	Description	Cost Item			Cost Source	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer			160.00	1.00	Each (hourly)	U.S. Dollar		48.54	7,766.11
E1XD-1000.1003	100 GPM Deisel Self Priming Pump 3 inch dia			160.00	1.00	Each (hourly)	U.S. Dollar		49.44	7,910.72
E1XD-1000.2014	Piping 20f Lenghts 4 inch dia			640.00	4.00	Each (hourly)	U.S. Dollar		0.02	13.70
4.7.2	1.00	LS	Pump to on-site WWTF				Detail	U.S. Dollar	31,968.38	31,968.38

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	640.00	1.00	Each (hourly)	U.S. Dollar	48.54	31,064.45
U-P 004	Suction hose 10' length		20.00	EA	U.S. Dollar	27.29	545.70
U-P 005	6-inch x 50' discharge hose		6.00	Each	U.S. Dollar	59.71	358.24
4.8	1.00 LS	Reinstate Lake Bottom			Detail	U.S. Dollar	374,281.50	374,281.50
4.8.1	16,900.00 CY	Install 3.0' sand ans 2 feet habitat substrate			Detail	U.S. Dollar	22.15	374,281.50

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SF102	Site Foreman	154.10	1.00	Each (hourly)	U.S. Dollar	30.37	4,680.72
L-O-LHC001 D	Heavy Constr Skilled Laborer	616.41	4.00	Each (hourly)	U.S. Dollar	48.54	29,919.60
L-O-E002	Equipment Operator B	308.21	2.00	Each (hourly)	U.S. Dollar	59.02	18,191.49
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	308.21	2.00	Each (hourly)	U.S. Dollar	95.07	29,301.83
E1C1006.1002	-DZR D5MXL 28258 lb 115 hp b-Weekly	308.21	2.00	Each (hourly)	U.S. Dollar	63.26	19,496.23
MF-1-13.000	Sand Washed		10,140.00	CY	U.S. Dollar	12.84	130,197.60
MF-1-13.000 (1)	Habitat Substrate		6,760.00	CY	U.S. Dollar	21.08	142,494.04
4.9	1.00 LS	Site restoration			Detail	U.S. Dollar	19,800.65	19,800.65
4.9.1	37,400.00 SF	Topsoil and seeding			Detail	U.S. Dollar	0.50	18,725.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
E2C0102.0001	Backhoe 420-2WD+IT 15772 lb 85 hp a-Monthly	0.00	1.00	Each (hourly)	U.S. Dollar	24.38	0.00
MF-1-14.101	Topsoil Standard		700.00	CY	U.S. Dollar	26.75	18,725.00
4.9.2	30.00 EA	Tree planting			Detail	U.S. Dollar	35.86	1,075.65
4.9.2.1	30.00 Ea.	Planting, trees, shrubs, and ground cover, heavy or stony soil, container, 5 gallon, includes planting only			Detail	U.S. Dollar	35.86	1,075.65

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
CLAB	Common Building Laborers	34.29	2.00	Each (hourly)	U.S. Dollar	35.45	1,215.43
4.10	1.00 LS	Demobilization			Detail	U.S. Dollar	16,516.02	16,516.02
4.10.1	1.00 LS	Site cleanup			Detail	U.S. Dollar	8,631.85	8,631.85

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	96.00	6.00	Each (hourly)	U.S. Dollar	48.54	4,659.67
L-O-E002	Equipment Operator B	16.00	1.00	Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	16.00	1.00	Each (hourly)	U.S. Dollar	105.52	1,688.35
L-O-DR4	Dump truck Level D driver	16.00	1.00	Each (hourly)	U.S. Dollar	49.31	788.94
E1H-DUMP TRK 0014	14CY Dump Truck	16.00	1.00	Each (hourly)	U.S. Dollar	34.41	550.51
4.10.2	1.00 LS	Personnel and equipment			Detail	U.S. Dollar	7,884.17	7,884.17

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SF102	Site Foreman	8.00	1.00	Each (hourly)	U.S. Dollar	30.37	242.99
L-O-LHC001 D	Heavy Constr Skilled Laborer	48.00	6.00	Each (hourly)	U.S. Dollar	48.54	2,329.83
L-O-E002	Equipment Operator B	16.00	2.00	Each (hourly)	U.S. Dollar	59.02	944.38

CBS Position Code	Quantity	UM	Description	Cost Item		Cost Source	Currency	Unit Cost	Total Cost
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly			8.00	1.00 Each (hourly)	U.S. Dollar		105.52	844.18
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly			8.00	1.00 Each (hourly)	U.S. Dollar		95.07	760.58
UM-D-10.03	Mobe Demobe equipment >50,000 < 100,000				1.00 LS	U.S. Dollar		750.00	750.00
UM-D-10.02	Mobe Demobe equipment >25,000 < 50,000				1.00 LS	U.S. Dollar		450.00	450.00
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly			16.00	2.00 Each (hourly)	U.S. Dollar		97.64	1,562.21
4.11	1.00	LS	Payment and Performance Bonds			Detail	U.S. Dollar	67,700.00	67,700.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	Contractor Bond		1.00	Each	U.S. Dollar	67,700.00	67,700.00
4.12	1.00 LS	Contractor Profit			Detail U.S. Dollar	664,800.00	664,800.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	Contractor Profit		1.00	Each	U.S. Dollar	664,800.00	664,800.00
4.13	1.00 LS	Contingency @ 20%			Detail U.S. Dollar	1,340,300.00	1,340,300.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	Contingency @ 20%		1.00	Each	U.S. Dollar	1,340,300.00	1,340,300.00
4.14	1.00 LS	Engineering/Regulatory oversight			Detail U.S. Dollar	240,328.49	240,328.49

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
AFC- Field-121-01	Construction Manager Supervisor	1,120.00	1.00	Each (hourly)	U.S. Dollar	105.89	118,591.20
AFC- Field-121-02	Construction QA QC Specialst	1,120.00	1.00	Each (hourly)	U.S. Dollar	91.82	102,837.29
U-L&PD 100.101	Lodging per day		112.00	Day	U.S. Dollar	125.00	14,000.00
U-L&PD 100.201	Per diem perday		140.00	Day	U.S. Dollar	35.00	4,900.00

Category	Total
Labor	1,046,447.41
Rented Equip	645,580.58
Supplies	38,000.00
Materials	603,955.00
Subcontract	4,522,528.35
Taxes	53,426.50
Allowance	1,340,300.00
Per Diem /Travel	31,700.00

CBS Outline Report
AMEC ENVIRONMENT & INFRASTRUCTURE, INC.
Job Code: NYS-POR-141203
Description: Saranac Lake FS

From Cost Item: . **To Cost Item: .**

Code	Description	Quantity	Unit of Measure	Unit Price	Total Cost (Forecast)	User Defined 1
4	Alternative 2B - 6' Excavation					
4.1	Work Plans, Schedules and Permits	1.00	LS	67,284.97	67,284.97	
4.1.1	Detailed Construction Plan	1.00	Each	15,302.21	15,302.21	
4.1.2	H&S Plan project	1.00	Each	11,698.23	11,698.23	
4.1.3	Contingency Plan	1.00	Each	11,463.99	11,463.99	
4.1.4	QA/QC Plan	1.00	Each	4,229.73	4,229.73	
4.1.5	Traffic Control Plan	1.00	Each	6,689.11	6,689.11	
4.1.6	Storm Water Management Plan	1.00	Each	5,901.71	5,901.71	
4.1.7	Permits (other than listed in Summary of Work)	1.00	Each	12,000.00	12,000.00	
4.2	Mobilization	1.00	LS	358,543.62	358,543.62	
4.2.1	Mobilization (1st year of construction)	1.00	LS	187,181.29	187,181.29	
4.2.1.1	Personel and equipment	1.00	LS	7,884.17	7,884.17	
4.2.1.2	Temporary facilities	1.00	LS	6,551.30	6,551.30	
4.2.1.2.1	Office trailer	1.00	LS	1,849.80	1,849.80	
4.2.1.2.2	Job boxes	1.00	LS	1,121.50	1,121.50	
4.2.1.2.3	Utilities	1.00	LS	3,580.00	3,580.00	
4.2.1.3	Sedimentation and erosion control	300.00	LF	3.88	1,164.06	
4.2.1.4	Site prep	1.00	LS	12,682.80	12,682.80	
4.2.1.4.1	Stabilized construction entrance	1.00	LS	1,673.35	1,673.35	
4.2.1.4.2	Minor site clearing	1.00	LS	4,011.50	4,011.50	
4.2.1.4.3	Stockpile areas	1.00	LS	6,997.94	6,997.94	
4.2.1.4.3.1	1 to 1 slopes Non Haz/contaminated material	5,000.00	SF	1.40	6,997.94	
4.2.1.5	Survey	1.00	LS	11,820.00	11,820.00	
4.2.1.5.1	Pre-construction survey	1.00	LS	5,910.00	5,910.00	
4.2.1.5.2	As-built survey	1.00	LS	5,910.00	5,910.00	
4.2.1.6	Construction fencing	900.00	LF	12.00	10,800.00	
4.2.1.7	General Conditions	1.00	LS	136,278.97	136,278.97	
4.2.1.7.1	Site overhead	1.00	LS	116,983.13	116,983.13	
4.2.1.7.2	Home office support	1.00	LS	19,295.83	19,295.83	
4.2.2	Mobilization (2nd year of construction)	1.00	LS	171,362.33	171,362.33	
4.2.2.1	Personel and equipment	1.00	LS	8,120.70	8,120.70	
4.2.2.2	Temporary facilities	1.00	LS	6,750.55	6,750.55	
4.2.2.2.1	Office trailer	1.00	LS	1,905.29	1,905.29	
4.2.2.2.2	Job boxes	1.00	LS	1,157.86	1,157.86	
4.2.2.2.3	Utilities	1.00	LS	3,687.40	3,687.40	
4.2.2.3	Sedimentation and erosion control	300.00	LF	3.88	1,164.06	
4.2.2.4	Site prep	1.00	LS	10,677.05	10,677.05	
4.2.2.4.1	Stabilized construction entrance	1.00	LS	1,673.35	1,673.35	
4.2.2.4.2	Minor site clearing	1.00	LS	2,005.75	2,005.75	
4.2.2.4.3	Stockpile areas	1.00	LS	6,997.94	6,997.94	
4.2.2.4.3.1	1 to 1 slopes Non Haz/contaminated material	5,000.00	SF	1.40	6,997.94	
4.2.2.5	Survey	1.00	LS	11,820.00	11,820.00	
4.2.2.5.1	Pre-construction survey	1.00	LS	5,910.00	5,910.00	
4.2.2.5.2	As-built survey	1.00	LS	5,910.00	5,910.00	
4.2.2.6	Construction fencing	200.00	LF	12.00	2,400.00	

Code	Description	Quantity	Unit of Measure	Unit Price	Total Cost (Forecast)	User Defined 1
4.2.2.7	General Conditions	1.00	LS	130,429.98	130,429.98	
4.2.2.7.1	Site overhead	1.00	LS	120,492.63	120,492.63	
4.2.2.7.2	Home office support	1.00	LS	9,937.35	9,937.35	
4.3	Dewatering of Excavation Area	1.00	LS	734,242.50	734,242.50	
4.3.1	Year 1	1.00	LS	419,644.24	419,644.24	
4.3.1.1	Install aquadams at start of 1st year of construction	1.00	LS	114,553.17	114,553.17	
4.3.1.2	Dewater excavation area	1.00	LS	19,436.16	19,436.16	
4.3.1.3	Setup water treatment area	1.00	EA	119,381.36	119,381.36	
4.3.1.4	Operate WWTF	1.00	LS	148,820.38	148,820.38	
4.3.1.4.1	WWTF operator	1.00	LS	43,820.38	43,820.38	
4.3.1.4.2	Materials	1.00	LS	105,000.00	105,000.00	
4.3.1.5	Remove aquadams at end of 1st year of construction	1.00	LS	17,453.17	17,453.17	
4.3.2	Year 2	1.00	LS	314,598.26	314,598.26	
4.3.2.1	Install aquadams at start of 2nd year of construction	1.00	LS	10,688.93	10,688.93	
4.3.2.2	Dewater excavation area	1.00	LS	19,461.50	19,461.50	
4.3.2.3	Setup water treatment area	1.00	EA	122,094.27	122,094.27	
4.3.2.4	Operate WWTF	1.00	LS	151,970.38	151,970.38	
4.3.2.4.1	WWTF operator	1.00	LS	43,820.38	43,820.38	
4.3.2.4.2	Materials	1.00	LS	108,150.00	108,150.00	
4.3.2.5	Remove aquadams at end of 2nd year of construction	1.00	LS	10,383.17	10,383.17	
4.4	Excavation Visually Impacted sediments	1.00	LS	482,875.52	482,875.52	
4.4.1	Seepage control	1.00	LS	59,154.58	59,154.58	
4.4.2	Install/move crane mats	1.00	LS	24,106.27	24,106.27	
4.4.3	Excavation of sediments to 6 feet	20,287.00	CY	17.44	353,848.56	
4.4.4	Odor control	1.00	LS	45,766.11	45,766.11	
4.5	Handling/dewatering of sediments	1.00	LS	291,385.66	291,385.66	
4.5.1	Stockpile activities/bulking agent mixing	1.00	LS	244,111.17	244,111.17	
4.5.2	Load out dewatered material	23,330.00	CY	2.03	47,274.48	
4.6	Transportation and Disposal of Sediments	39,660.00	Ton	90.00	3,569,400.00	
4.7	Handling of decanted water	1.00	LS	54,478.91	54,478.91	
4.7.1	Collection of decanted water	1.00	LS	22,510.53	22,510.53	
4.7.2	Pump to on-site WWTF	1.00	LS	31,968.38	31,968.38	
4.8	Reinstate Lake Bottom	1.00	LS	374,281.50	374,281.50	
4.8.1	Install 3.0' sand and 2 feet habitat substrate	16,900.00	CY	22.15	374,281.50	
4.9	Site restoration	1.00	LS	19,800.65	19,800.65	
4.9.1	Topsoil and seeding	37,400.00	SF	0.50	18,725.00	
4.9.2	Tree planting	30.00	EA	35.86	1,075.65	
4.9.2.1	Planting, trees, shrubs, and ground cover, heavy or stony soil, container, 5 gallon, includes planting only	30.00	Ea.	35.86	1,075.65	
4.10	Demobilization	1.00	LS	16,516.02	16,516.02	
4.10.1	Site cleanup	1.00	LS	8,631.85	8,631.85	
4.10.2	Personnel and equipment	1.00	LS	7,884.17	7,884.17	
4.11	Payment and Performance Bonds	1.00	LS	67,700.00	67,700.00	
4.12	Contractor Profit	1.00	LS	664,800.00	664,800.00	
4.13	Contingency @ 20%	1.00	LS	1,340,300.00	1,340,300.00	
4.14	Engineering/Regulatory oversight	1.00	LS	240,328.49	240,328.49	
Total:	**Alternative 2B - 6' Excavation**				**8,281,937.84**	

Code	Description	Quantity	Unit of Measure	Unit Price	Total Cost (Forecast)	User Defined 1
Grand Total:					**8,281,937.84**	

Estimate Summary
AMEC ENVIRONMENT & INFRASTRUCTURE, INC.
Job Code: NYS-POR-141203
Description: Saranac Lake FS

From Cost Item: 5 **To Cost Item: 5.14**

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
5	1.00	LS	Alternative 2C - 9' Excavation	Detail	U.S. Dollar	19,940,527.08	19,940,527.08
5.1	1.00	LS	Work Plans, Schedules and Permits	Detail	U.S. Dollar	67,284.97	67,284.97
5.1.1	1.00	Each	Detailed Construction Plan	Detail	U.S. Dollar	15,302.21	15,302.21

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-PE101-B	Project Engineer	24.00	0.25	Each (hourly)	U.S. Dollar	79.83	1,915.81
L-A-PM201	Project Manager	72.00	0.75	Each (hourly)	U.S. Dollar	32.20	2,318.14
L-A-QC101	QC Officer	12.00	0.13	Each (hourly)	U.S. Dollar	43.19	518.27
L-A-HS103	Safety Officer	12.00	0.13	Each (hourly)	U.S. Dollar	59.33	711.96
L-A-AA102	Project Contol /Scheduler	48.00	0.50	Each (hourly)	U.S. Dollar	47.31	2,270.93
L-A-AA101	Admisistrative Assistant	48.00	0.50	Each (hourly)	U.S. Dollar	37.91	1,819.66
L-A-SS101	Site Superintendent	72.00	0.75	Each (hourly)	U.S. Dollar	79.83	5,747.44

5.1.2	1.00	Each	H&S Plan project	Detail	U.S. Dollar	11,698.23	11,698.23

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant	96.00	1.00	Each (hourly)	U.S. Dollar	37.91	3,639.32
L-A-HS103	Safety Officer	16.32	0.17	Each (hourly)	U.S. Dollar	59.33	968.27
L-A-PE101-A	Project Engineer	32.00	0.33	Each (hourly)	U.S. Dollar	27.50	879.77
L-A-PM201	Project Manager	16.00	0.17	Each (hourly)	U.S. Dollar	32.20	515.15
L-A-HS104	Safety Tech	96.00	1.00	Each (hourly)	U.S. Dollar	59.33	5,695.72

5.1.3	1.00	Each	Contingency Plan	Detail	U.S. Dollar	11,463.99	11,463.99

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-PE101-B	Project Engineer	80.00	1.00	Each (hourly)	U.S. Dollar	79.83	6,386.05
L-A-PM201	Project Manager	20.00	0.25	Each (hourly)	U.S. Dollar	32.20	643.93
L-A-QC101	QC Officer	10.00	0.13	Each (hourly)	U.S. Dollar	43.19	431.89
L-A-HS103	Safety Officer	10.00	0.13	Each (hourly)	U.S. Dollar	59.33	593.30
L-A-AA102	Project Contol /Scheduler	40.00	0.50	Each (hourly)	U.S. Dollar	47.31	1,892.44
L-A-AA101	Admisistrative Assistant	40.00	0.50	Each (hourly)	U.S. Dollar	37.91	1,516.38

5.1.4	1.00	Each	QA/QC Plan	Detail	U.S. Dollar	4,229.73	4,229.73

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant	40.00	1.00	Each (hourly)	U.S. Dollar	37.91	1,516.38
L-A-PE101-B	Project Engineer	4.00	0.10	Each (hourly)	U.S. Dollar	79.83	319.30
L-A-PM201	Project Manager	4.00	0.10	Each (hourly)	U.S. Dollar	32.20	128.79
L-A-QC101	QC Officer	16.00	0.40	Each (hourly)	U.S. Dollar	43.19	691.02
L-A-QC102	QC Tech	40.00	1.00	Each (hourly)	U.S. Dollar	39.36	1,574.24

5.1.5	1.00	Each	Traffic Control Plan	Detail	U.S. Dollar	6,689.11	6,689.11

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant	24.00	0.50	Each (hourly)	U.S. Dollar	37.91	909.83
L-A-PE101-B	Project Engineer	48.00	1.00	Each (hourly)	U.S. Dollar	79.83	3,831.63
L-A-PM201	Project Manager	16.00	0.33	Each (hourly)	U.S. Dollar	32.20	515.09
L-A-HS103	Safety Officer	8.00	0.17	Each (hourly)	U.S. Dollar	59.33	474.65
L-A-SS101	Site Superintendent	12.00	0.25	Each (hourly)	U.S. Dollar	79.83	957.91

5.1.6	1.00	Each	Storm Water Management Plan	Detail	U.S. Dollar	5,901.71	5,901.71

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost

CBS Position Code	Quantity	UM	Description			Cost Source	Currency	Unit Cost	Total Cost
				Cost Item					
L-A-AA101	Admisistrative Assistant			9.60	0.20 Each (hourly)	U.S. Dollar		37.91	363.93
L-A-PE101-A	Project Engineer			48.00	1.00 Each (hourly)	U.S. Dollar		27.50	1,319.79
L-A-PM201	Project Manager			12.00	0.25 Each (hourly)	U.S. Dollar		32.20	386.36
L-A-SS101	Site Superintendent			48.00	1.00 Each (hourly)	U.S. Dollar		79.83	3,831.63
5.1.7	1.00	Each	Permits (other than listed in Summary of Work)			Detail	U.S. Dollar	12,000.00	12,000.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U-C&E-10.20	Fees & Permits		2.00	LS	U.S. Dollar	5,000.00	10,000.00
U-PERMITS -00	Permits - Demo, road opening, Etc.		4.00	Each	U.S. Dollar	500.00	2,000.00

5.2	1.00 LS	Mobilization	Detail	U.S. Dollar	644,244.05	644,244.05
5.2.1	1.00 LS	Mobilization (1st year of construction)	Detail	U.S. Dollar	329,028.79	329,028.79
5.2.1.1	1.00 LS	Personel and equipment	Detail	U.S. Dollar	7,884.17	7,884.17

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SF102	Site Foreman	8.00	1.00	Each (hourly)	U.S. Dollar	30.37	242.99
L-O-LHC001 D	Heavy Constr Skilled Laborer	48.00	6.00	Each (hourly)	U.S. Dollar	48.54	2,329.83
L-O-E002	Equipment Operator B	16.00	2.00	Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	105.52	844.18
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	95.07	760.58
UM-D-10.03	Mobe Demobe equipment >50,000 < 100,000		1.00	LS	U.S. Dollar	750.00	750.00
UM-D-10.02	Mobe Demobe equipment >25,000 < 50,000		1.00	LS	U.S. Dollar	450.00	450.00
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly	16.00	2.00	Each (hourly)	U.S. Dollar	97.64	1,562.21

5.2.1.2	1.00 LS	Temporary facilities	Detail	U.S. Dollar	6,551.30	6,551.30
5.2.1.2.1	1.00 LS	Office trailer	Detail	U.S. Dollar	1,849.80	1,849.80

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UZ-ST-08x32-5	8x32 Trailer Tear Down		1.00	Each	U.S. Dollar	166.00	166.00
UZ-ST-08x32-1	8x32 Trailer		2.00	Month	U.S. Dollar	342.40	684.80
UZ-ST-08x32-4	8x32 Trailer Skirting		1.00	Each	U.S. Dollar	80.00	80.00
UZ-ST-08x32-2	8x32 Trailer Set up		1.00	Each	U.S. Dollar	179.00	179.00
UZ-ST-08x32-6	8x32 StrorageTrailer Freight		2.00	1/way	U.S. Dollar	320.00	640.00
UZ-ST-08x32-3	8x32 Trailer Anchor		1.00	Each	U.S. Dollar	100.00	100.00

5.2.1.2.2	1.00 LS	Job boxes	Detail	U.S. Dollar	1,121.50	1,121.50

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UZ-STS-08X32-3	8x32 StrorageTrailer Rental		1.00	Month	U.S. Dollar	481.50	481.50
UZ-STS-08X32-2	8x 20 or32 StrorageTrailer Freight		2.00	1/way	U.S. Dollar	320.00	640.00

5.2.1.2.3	1.00 LS	Utilities	Detail	U.S. Dollar	3,580.00	3,580.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USERV-10.12	Elect'n, truck, plus mate, connecting and installing Temp power pole incl Mats		2.00	Day	U.S. Dollar	1,250.00	2,500.00
USERV-20.12	4/5 cy Garbage Container. Including Changing weekly		2.00	Month	U.S. Dollar	450.00	900.00
USERV-10.50	Portable Toilets incl freight.		2.00	Month	U.S. Dollar	90.00	180.00

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
			Cost Item				
5.2.1.3	300.00	LF	Sedimentation and erosion control	Detail	U.S. Dollar	3.88	1,164.06

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
SS-1-102-001	Silt fencing 3ft high including posts		3.00	Roll	U.S. Dollar	26.75	80.25
SS-1-103-000	Hay Bales		100.00	Each	U.S. Dollar	6.96	695.50

5.2.1.4	1.00	LS	Site prep	Detail	U.S. Dollar	12,682.80	12,682.80
5.2.1.4.1	1.00	LS	Stabilized construction entrance	Detail	U.S. Dollar	1,673.35	1,673.35

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
L-O-E002	Equipment Operator B	8.00	2.00	Each (hourly)	U.S. Dollar	59.02	472.19
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	4.00	1.00	Each (hourly)	U.S. Dollar	105.52	422.09
L-O-DR4	Dump truck Level D driver	4.00	1.00	Each (hourly)	U.S. Dollar	49.31	197.24
E1H-DUMP TRK 0014	14CY Dump Truck	4.00	1.00	Each (hourly)	U.S. Dollar	34.41	137.63
MG-1-10-22	Class A Geofabric as Spec.		55.00	SY	U.S. Dollar	1.02	55.91

5.2.1.4.2	1.00	LS	Minor site clearing	Detail	U.S. Dollar	4,011.50	4,011.50

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	32.00	4.00	Each (hourly)	U.S. Dollar	48.54	1,553.22
L-O-E002	Equipment Operator B	16.00	2.00	Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	105.52	844.18
L-O-DR4	Dump truck Level D driver	8.00	1.00	Each (hourly)	U.S. Dollar	49.31	394.47
E1H-DUMP TRK 0014	14CY Dump Truck	8.00	1.00	Each (hourly)	U.S. Dollar	34.41	275.25

5.2.1.4.3	1.00	LS	Stockpile areas	Detail	U.S. Dollar	6,997.94	6,997.94
5.2.1.4.3.1	5,000.00	SF	1 to 1 slopes Non Haz/contaminated material	Detail	U.S. Dollar	1.40	6,997.94

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
MF-1-10.108	1 1/2'" Stone /Aggregates		210.33	Ton	U.S. Dollar	17.65	3,713.43
SG-1-10.12SF	6oz Non-woven geo-fabric		7,333.33	SF	U.S. Dollar	0.10	706.20
E1C5006.1001	- Wheeled Loader 928G 149hp a-Monthly	5.33	1.00	Each (hourly)	U.S. Dollar	65.68	350.30
L-O-LHC001	Heavy Constr Skilled Laborer	10.67	2.00	Each (hourly)	U.S. Dollar	79.11	843.82

5.2.1.5	1.00	LS	Survey	Detail	U.S. Dollar	11,820.00	11,820.00
5.2.1.5.1	1.00	LS	Pre-construction survey	Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00	Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00	Day	U.S. Dollar	850.00	2,550.00

5.2.1.5.2	1.00	LS	As-built survey	Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00	Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00	Day	U.S. Dollar	850.00	2,550.00

5.2.1.6	900.00	LF	Construction fencing	Detail	U.S. Dollar	12.00	10,800.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost

CBS Position Code	Quantity UM	Description	Cost Item	Cost Source	Currency	Unit Cost	Total Cost
U-TEMP FENCE 100	6ft High Chain link fencing with post set in ground (not concreted in)		900.00 LF	U.S. Dollar		12.00	10,800.00
5.2.1.7	1.00 LS	Setup process equipment		Detail	U.S. Dollar	75,000.00	75,000.00

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
	Setup process equipment		1.00 Each	U.S. Dollar	75,000.00	75,000.00

5.2.1.8	1.00 LS	General Conditions		Detail	U.S. Dollar	203,126.47	203,126.47
5.2.1.8.1	1.00 LS	Site overhead		Detail	U.S. Dollar	183,830.64	183,830.64

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
L-A-SS102	Site Superintendent D	880.00	1.00 Each (hourly)	U.S. Dollar	52.13	45,872.15
L-A-QC101	QC Officer	880.00	1.00 Each (hourly)	U.S. Dollar	43.19	38,006.17
L-A-PE101-B	Project Engineer	880.00	1.00 Each (hourly)	U.S. Dollar	79.83	70,246.51
E-PICK UP F150-001	F150 Standard Pick up	2,640.00	3.00 Each (hourly)	U.S. Dollar	11.25	29,705.81

5.2.1.8.2	1.00 LS	Home office support		Detail	U.S. Dollar	19,295.83	19,295.83

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
L-A-CM101	Construction Manager	160.00	1.00 Each (hourly)	U.S. Dollar	46.27	7,403.14
L-A-AE101	Senior Estimator	160.00	1.00 Each (hourly)	U.S. Dollar	36.42	5,827.17
L-A-AA101	Admisistrative Assistant	160.00	1.00 Each (hourly)	U.S. Dollar	37.91	6,065.53

5.2.2	1.00 LS	Mobilization (2nd year of construction)		Detail	U.S. Dollar	315,215.26	315,215.26
5.2.2.1	1.00 LS	Personel and equipment		Detail	U.S. Dollar	8,120.70	8,120.70

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
L-A-SF102	Site Foreman	8.00	1.00 Each (hourly)	U.S. Dollar	30.37	242.99
L-O-LHC001 D	Heavy Constr Skilled Laborer	48.00	6.00 Each (hourly)	U.S. Dollar	48.54	2,329.83
L-O-E002	Equipment Operator B	16.00	2.00 Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	8.00	1.00 Each (hourly)	U.S. Dollar	105.52	844.18
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	8.00	1.00 Each (hourly)	U.S. Dollar	95.07	760.58
UM-D-10.03	Mobe Demobe equipment >50,000 < 100,000		1.00 LS	U.S. Dollar	750.00	750.00
UM-D-10.02	Mobe Demobe equipment >25,000 < 50,000		1.00 LS	U.S. Dollar	450.00	450.00
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly	16.00	2.00 Each (hourly)	U.S. Dollar	97.64	1,562.21

5.2.2.2	1.00 LS	Temporary facilities		Detail	U.S. Dollar	6,750.55	6,750.55
5.2.2.2.1	1.00 LS	Office trailer		Detail	U.S. Dollar	1,905.29	1,905.29

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
UZ-ST-08x32-5	8x32 Trailer Tear Down		1.00 Each	U.S. Dollar	166.00	166.00
UZ-ST-08x32-1	8x32 Trailer		2.00 Month	U.S. Dollar	342.40	684.80
UZ-ST-08x32-4	8x32 Trailer Skirting		1.00 Each	U.S. Dollar	80.00	80.00
UZ-ST-08x32-2	8x32 Trailer Set up		1.00 Each	U.S. Dollar	179.00	179.00
UZ-ST-08x32-6	8x32 StrorageTrailer Freight		2.00 1/way	U.S. Dollar	320.00	640.00
UZ-ST-08x32-3	8x32 Trailer Anchor		1.00 Each	U.S. Dollar	100.00	100.00

5.2.2.2.2	1.00 LS	Job boxes		Detail	U.S. Dollar	1,157.86	1,157.86

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
UZ-STS-08X32-3	8x32 StrorageTrailer Rental		1.00 Month	U.S. Dollar	481.50	481.50

CBS Position Code	Quantity	UM	Description	Cost Item	Cost Source	Currency	Unit Cost	Total Cost
UZ-STS-08X32-2	8x 20 or32 Strorage Trailer Freight			2.00 1/way	U.S. Dollar		320.00	640.00
	escalation			1.00 Each	U.S. Dollar		36.36	36.36
5.2.2.2.3	1.00	LS	Utilities		Detail	U.S. Dollar	3,687.40	3,687.40

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USERV-10.12	Elect'n, truck, plus mate, connecting and installing Temp power pole incl Mats		2.00	Day	U.S. Dollar	1,250.00	2,500.00
USERV-20.12	4/5 cy Garbage Container. Including Changing weekly		2.00	Month	U.S. Dollar	450.00	900.00
USERV-10.50	Portable Toilets incl freight.		2.00	Month	U.S. Dollar	90.00	180.00

5.2.2.3	300.00	LF	Sedimentation and erosion control		Detail	U.S. Dollar	3.88	1,164.06

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
SS-1-102-001	Silt fencing 3ft high including posts		3.00	Roll	U.S. Dollar	26.75	80.25
SS-1-103-000	Hay Bales		100.00	Each	U.S. Dollar	6.96	695.50

5.2.2.4	1.00	LS	Site prep		Detail	U.S. Dollar	10,677.05	10,677.05
5.2.2.4.1	1.00	LS	Stabilized construction entrance		Detail	U.S. Dollar	1,673.35	1,673.35

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
L-O-E002	Equipment Operator B	8.00	2.00	Each (hourly)	U.S. Dollar	59.02	472.19
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	4.00	1.00	Each (hourly)	U.S. Dollar	105.52	422.09
L-O-DR4	Dump truck Level D driver	4.00	1.00	Each (hourly)	U.S. Dollar	49.31	197.24
E1H-DUMP TRK 0014	14CY Dump Truck	4.00	1.00	Each (hourly)	U.S. Dollar	34.41	137.63
MG-1-10-22	Class A Geofabric as Spec.		55.00	SY	U.S. Dollar	1.02	55.91

5.2.2.4.2	1.00	LS	Minor site clearing		Detail	U.S. Dollar	2,005.75	2,005.75

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	16.00	4.00	Each (hourly)	U.S. Dollar	48.54	776.61
L-O-E002	Equipment Operator B	8.00	2.00	Each (hourly)	U.S. Dollar	59.02	472.19
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	4.00	1.00	Each (hourly)	U.S. Dollar	105.52	422.09
L-O-DR4	Dump truck Level D driver	4.00	1.00	Each (hourly)	U.S. Dollar	49.31	197.24
E1H-DUMP TRK 0014	14CY Dump Truck	4.00	1.00	Each (hourly)	U.S. Dollar	34.41	137.63

5.2.2.4.3	1.00	LS	Stockpile areas		Detail	U.S. Dollar	6,997.94	6,997.94
5.2.2.4.3.1	5,000.00	SF	1 to 1 slopes Non Haz/contaminated material		Detail	U.S. Dollar	1.40	6,997.94

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
MF-1-10.108	1 1/2'" Stone /Aggregates		210.33	Ton	U.S. Dollar	17.65	3,713.43
SG-1-10.12SF	6oz Non-woven geo-fabric		7,333.33	SF	U.S. Dollar	0.10	706.20
E1C5006.1001	- Wheeled Loader 928G 149hp a-Monthly	5.33	1.00	Each (hourly)	U.S. Dollar	65.68	350.30
L-O-LHC001	Heavy Constr Skilled Laborer	10.67	2.00	Each (hourly)	U.S. Dollar	79.11	843.82

5.2.2.5	1.00	LS	Survey		Detail	U.S. Dollar	11,820.00	11,820.00
5.2.2.5.1	1.00	LS	Pre-construction survey		Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost

CBS Position Code	Quantity	UM	Description	Hours	Quantity	UM	Cost Source	Currency	Unit Cost	Total Cost
			Cost Item							
U Surv-FL_04	Survey Field Crew			24.00	1.00	Each (hourly)	U.S. Dollar		140.00	3,360.00
	Small barge				3.00	Day	U.S. Dollar		850.00	2,550.00
5.2.2.5.2	1.00	LS	As-built survey				Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00	Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00	Day	U.S. Dollar	850.00	2,550.00

5.2.2.6	200.00 LF	Construction fencing	Detail	U.S. Dollar	12.00	2,400.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U-TEMP FENCE 100	6ft High Chain link fencing with post set in ground (not concreted in)		200.00	LF	U.S. Dollar	12.00	2,400.00

5.2.2.7	1.00 LS	Setup process equipment	Detail	U.S. Dollar	75,000.00	75,000.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	Setup process equipment		1.00	Each	U.S. Dollar	75,000.00	75,000.00

5.2.2.8	1.00 LS	General Conditions	Detail	U.S. Dollar	199,282.91	199,282.91
5.2.2.8.1	1.00 LS	Site overhead	Detail	U.S. Dollar	189,345.56	189,345.56

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SS102	Site Superintendent D	880.00	1.00	Each (hourly)	U.S. Dollar	52.13	45,872.15
L-A-QC101	QC Officer	880.00	1.00	Each (hourly)	U.S. Dollar	43.19	38,006.17
L-A-PE101-B	Project Engineer	880.00	1.00	Each (hourly)	U.S. Dollar	79.83	70,246.51
E-PICK UP F150-001	F150 Standard Pick up	2,640.00	3.00	Each (hourly)	U.S. Dollar	11.25	29,705.81

5.2.2.8.2	1.00 LS	Home office support	Detail	U.S. Dollar	9,937.35	9,937.35

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-CM101	Construction Manager	80.00	1.00	Each (hourly)	U.S. Dollar	46.27	3,701.57
L-A-AE101	Senior Estimator	80.00	1.00	Each (hourly)	U.S. Dollar	36.42	2,913.58
L-A-AA101	Admisistrative Assistant	80.00	1.00	Each (hourly)	U.S. Dollar	37.91	3,032.76

5.3	1.00 LS	Dewatering of Excavation Area	Detail	U.S. Dollar	858,245.10	858,245.10
5.3.1	1.00 LS	Year 1	Detail	U.S. Dollar	481,120.54	481,120.54
5.3.1.1	1.00 LS	Install aquadams at start of 1st year of construction	Detail	U.S. Dollar	114,553.17	114,553.17

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	96.00	6.00	Each (hourly)	U.S. Dollar	48.54	4,659.67
L-O-E002	Equipment Operator B	32.00	2.00	Each (hourly)	U.S. Dollar	59.02	1,888.76
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	32.00	2.00	Each (hourly)	U.S. Dollar	95.07	3,042.30
E1XD-1000.1003	100 GPM Deisel Self Priming Pump 3 inch dia	16.00	1.00	Each (hourly)	U.S. Dollar	49.44	791.07
E1XD-1000.2014	Piping 20f Lenghts 4 inch dia	64.00	4.00	Each (hourly)	U.S. Dollar	0.02	1.37
U-DEW -504	Field support from Aquadam		2.00	Day	U.S. Dollar	2,300.00	4,600.00
U-DEW -506	8' Aquadam purchase		700.00	LF	U.S. Dollar	125.00	87,500.00
U-DEW -507	Shipping of Aquadams to site		1.00	LS	U.S. Dollar	10,600.00	10,600.00
U-DEW -505	Aquadam rep travel		1.00	LS	U.S. Dollar	1,470.00	1,470.00

5.3.1.2	1.00 LS	Dewater excavation area	Detail	U.S. Dollar	27,202.27	27,202.27

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	288.00	6.00	Each (hourly)	U.S. Dollar	48.54	13,979.00

CBS Position Code	Quantity	UM	Description	Hours	Quantity	UM	Cost Source	Currency	Unit Cost	Total Cost
			Cost Item							
U-P 004	Suction hose 10' length				20.00	EA		U.S. Dollar	27.29	545.70
U-P 002	Aquadam delivery/return				4.00	Each		U.S. Dollar	500.00	2,000.00
U-P 005	6-inch x 50' discharge hose				6.00	Each		U.S. Dollar	59.71	358.24
U-P 003	Godwin CD103 100 gpm (rental)				2.00	Each		U.S. Dollar	500.00	1,000.00
L-O-LHC001 D	Heavy Constr Skilled Laborer			192.00	4.00	Each (hourly)		U.S. Dollar	48.54	9,319.33
5.3.1.3	1.00	EA	Setup water treatment area				Detail	U.S. Dollar	119,381.36	119,381.36
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
U-TEMP GWT10-04	Pumps / piping / fittting bypas and connections				1.00	EA		U.S. Dollar	10,000.00	10,000.00
U-TEMP GWT60-00	Temp Treatment Unit Bag Filter 600gpm Unit delivered in Concex Box ready to connect				1.00	Month		U.S. Dollar	6,045.50	6,045.50
U-TEMP GWT60-10	Temp Treatment Unit Bag Filter 600gpm Mobilization				1.00	LS		U.S. Dollar	11,500.00	11,500.00
U-TEMP GWT60-12	Temp Treatment Unit Bag Filter 600gpm Demobilization				1.00	LS		U.S. Dollar	3,000.00	3,000.00
U-P 007	GAC Units				2.00	Each		U.S. Dollar	26,750.00	53,500.00
U-P 008	Oil Water Separator				1.00	Each		U.S. Dollar	24,075.00	24,075.00
U- FRAK -001	Frak Tank				8.00	Month		U.S. Dollar	802.50	6,420.00
U- FRAK -FRGHT. 001	Delivery or Pick Up				2.00	EA		U.S. Dollar	200.00	400.00
L-O-LHC001 D	Heavy Constr Skilled Laborer			64.00	4.00	Each (hourly)		U.S. Dollar	48.54	3,106.44
L-O-E002	Equipment Operator B			16.00	1.00	Each (hourly)		U.S. Dollar	59.02	944.38
E2C0102.0001	Backhoe 420-2WD+IT 15772 lb 85 hp a-Monthly			16.00	1.00	Each (hourly)		U.S. Dollar	24.38	390.03
5.3.1.4	1.00	LS	Operate WWTF				Detail	U.S. Dollar	202,530.57	202,530.57
5.3.1.4.1	1.00	LS	WWTF operator				Detail	U.S. Dollar	62,530.57	62,530.57
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
L-A-WWTPO 030	WWTP Licensed Operator			720.00	1.00	Each (hourly)		U.S. Dollar	66.71	48,028.99
U-L&PD 100.101	Lodging per day				40.00	Day		U.S. Dollar	125.00	5,000.00
U-L&PD 100.201	Per diem perday				40.00	Day		U.S. Dollar	35.00	1,400.00
E-PICK UP F150-001	F150 Standard Pick up			720.00	1.00	Each (hourly)		U.S. Dollar	11.25	8,101.58
5.3.1.4.2	1.00	LS	Materials				Detail	U.S. Dollar	140,000.00	140,000.00
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
	GAC				40.00	Ton		U.S. Dollar	3,500.00	140,000.00
5.3.1.5	1.00	LS	Remove aquadams at end of 1st year of construction				Detail	U.S. Dollar	17,453.17	17,453.17
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
L-O-LHC001 D	Heavy Constr Skilled Laborer			96.00	6.00	Each (hourly)		U.S. Dollar	48.54	4,659.67
U-P 002	Aquadam delivery/return				2.00	Each		U.S. Dollar	500.00	1,000.00
L-O-E002	Equipment Operator B			32.00	2.00	Each (hourly)		U.S. Dollar	59.02	1,888.76
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly			32.00	2.00	Each (hourly)		U.S. Dollar	95.07	3,042.30
E1XD-1000.1003	100 GPM Deisel Self Priming Pump 3 inch dia			16.00	1.00	Each (hourly)		U.S. Dollar	49.44	791.07
E1XD-1000.2014	Piping 20f Lenghts 4 inch dia			64.00	4.00	Each (hourly)		U.S. Dollar	0.02	1.37
U-DEW -504	Field support from Aquadam				2.00	Day		U.S. Dollar	2,300.00	4,600.00
U-DEW -505	Aquadam rep travel				1.00	LS		U.S. Dollar	1,470.00	1,470.00
5.3.2	1.00	LS	Year 2				Detail	U.S. Dollar	377,124.56	377,124.56
5.3.2.1	1.00	LS	Install aquadams at start of 2nd year of construction				Detail	U.S. Dollar	10,688.93	10,688.93

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
			Cost Item				

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	96.00	6.00	Each (hourly)	U.S. Dollar	48.54	4,659.67
L-O-E002	Equipment Operator B	32.00	2.00	Each (hourly)	U.S. Dollar	59.02	1,888.76
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	32.00	2.00	Each (hourly)	U.S. Dollar	95.07	3,042.30
E1XD-1000.1003	100 GPM Deisel Self Priming Pump 3 inch dia	16.00	1.00	Each (hourly)	U.S. Dollar	49.44	791.07
E1XD-1000.2014	Piping 20f Lenghts 4 inch dia	64.00	4.00	Each (hourly)	U.S. Dollar	0.02	1.37

5.3.2.2	1.00 LS	Dewater excavation area	Detail	U.S. Dollar	27,227.62	27,227.62

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	288.00	6.00	Each (hourly)	U.S. Dollar	48.54	13,979.00
U-P 004	Suction hose 10' length		20.00	EA	U.S. Dollar	27.29	545.70
U-P 002	Aquadam delivery/return		4.00	Each	U.S. Dollar	500.00	2,000.00
U-P 005	6-inch x 50' discharge hose		6.00	Each	U.S. Dollar	59.71	358.24
U-P 003	Godwin CD103 100 gpm (rental)		2.00	Each	U.S. Dollar	500.00	1,000.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	192.00	4.00	Each (hourly)	U.S. Dollar	48.54	9,319.33

5.3.2.3	1.00 EA	Setup water treatment area	Detail	U.S. Dollar	122,094.27	122,094.27

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U-TEMP GWT10-04	Pumps / piping / fittting bypas and connections		1.00	EA	U.S. Dollar	10,000.00	10,000.00
U-TEMP GWT60-00	Temp Treatment Unit Bag Filter 600gpm Unit delivered in Concex Box ready to connect		1.00	Month	U.S. Dollar	6,045.50	6,045.50
U-TEMP GWT60-10	Temp Treatment Unit Bag Filter 600gpm Mobilization		1.00	LS	U.S. Dollar	11,500.00	11,500.00
U-TEMP GWT60-12	Temp Treatment Unit Bag Filter 600gpm Demobilization		1.00	LS	U.S. Dollar	3,000.00	3,000.00
U-P 007	GAC Units		2.00	Each	U.S. Dollar	26,750.00	53,500.00
U-P 008	Oil Water Separator		1.00	Each	U.S. Dollar	24,075.00	24,075.00
U- FRAK -001	Frak Tank		8.00	Month	U.S. Dollar	802.50	6,420.00
U- FRAK -FRGHT. 001	Delivery or Pick Up		2.00	EA	U.S. Dollar	200.00	400.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	64.00	4.00	Each (hourly)	U.S. Dollar	48.54	3,106.44
L-O-E002	Equipment Operator B	16.00	1.00	Each (hourly)	U.S. Dollar	59.02	944.38
E2C0102.0001	Backhoe 420-2WD+IT 15772 lb 85 hp a-Monthly	16.00	1.00	Each (hourly)	U.S. Dollar	24.38	390.03

5.3.2.4	1.00 LS	Operate WWTF	Detail	U.S. Dollar	206,730.57	206,730.57

5.3.2.4.1	1.00 LS	WWTF operator	Detail	U.S. Dollar	62,530.57	62,530.57

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-WWTPO 030	WWTP Licensed Operator	720.00	1.00	Each (hourly)	U.S. Dollar	66.71	48,028.99
U-L&PD 100.101	Lodging per day		40.00	Day	U.S. Dollar	125.00	5,000.00
U-L&PD 100.201	Per diem perday		40.00	Day	U.S. Dollar	35.00	1,400.00
E-PICK UP F150-001	F150 Standard Pick up	720.00	1.00	Each (hourly)	U.S. Dollar	11.25	8,101.58

5.3.2.4.2	1.00 LS	Materials	Detail	U.S. Dollar	144,200.00	144,200.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	GAC		40.00	Ton	U.S. Dollar	3,500.00	140,000.00

5.3.2.5	1.00 LS	Remove aquadams at end of 2nd year of construction	Detail	U.S. Dollar	10,383.17	10,383.17

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	96.00	6.00	Each (hourly)	U.S. Dollar	48.54	4,659.67

CBS Position Code	Quantity	UM	Description				Cost Source	Currency	Unit Cost	Total Cost
				Cost Item						
L-O-E002	Equipment Operator B			32.00	2.00	Each (hourly)	U.S. Dollar		59.02	1,888.76
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly			32.00	2.00	Each (hourly)	U.S. Dollar		95.07	3,042.30
E1XD-1000.1003	100 GPM Deisel Self Priming Pump 3 inch dia			16.00	1.00	Each (hourly)	U.S. Dollar		49.44	791.07
E1XD-1000.2014	Piping 20f Lenghts 4 inch dia			64.00	4.00	Each (hourly)	U.S. Dollar		0.02	1.37
5.4	1.00	LS	Excavation to 9'				Detail	U.S. Dollar	1,082,749.63	1,082,749.63
5.4.1	1.00	LS	Seepage control				Detail	U.S. Dollar	98,590.96	98,590.96
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
E1XD-1000.1003	100 GPM Deisel Self Priming Pump 3 inch dia			1,600.00	4.00	Each (hourly)	U.S. Dollar		49.44	79,107.20
E1XD-1000.2014	Piping 20f Lenghts 4 inch dia			3,200.00	8.00	Each (hourly)	U.S. Dollar		0.02	68.48
L-O-LHC001 D	Heavy Constr Skilled Laborer			400.00	1.00	Each (hourly)	U.S. Dollar		48.54	19,415.28
5.4.2	1.00	LS	Install/move crane mats				Detail	U.S. Dollar	64,293.80	64,293.80
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
U-P 006	Geomats 8' x 14' each				250.00	Week	U.S. Dollar		16.05	4,012.50
L-O-LHC001 D	Heavy Constr Skilled Laborer			480.00	2.00	Each (hourly)	U.S. Dollar		48.54	23,298.34
L-O-E002	Equipment Operator B			240.00	1.00	Each (hourly)	U.S. Dollar		59.02	14,165.68
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly			240.00	1.00	Each (hourly)	U.S. Dollar		95.07	22,817.28
5.4.3	58,800.00	CY	Excavation of sediments				Detail	U.S. Dollar	14.48	851,215.70
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
L-O-LHC001 D	Heavy Constr Skilled Laborer			2,213.65	4.00	Each (hourly)	U.S. Dollar		48.54	107,446.44
L-O-E002	Equipment Operator B			1,660.24	3.00	Each (hourly)	U.S. Dollar		59.02	97,993.17
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly			1,660.24	3.00	Each (hourly)	U.S. Dollar		95.07	157,841.89
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly			3,320.47	6.00	Each (hourly)	U.S. Dollar		97.64	324,205.44
L-O-DR4	Dump truck Level D driver			3,320.47	6.00	Each (hourly)	U.S. Dollar		49.31	163,728.76
5.4.4	1.00	LS	Odor control				Detail	U.S. Dollar	68,649.17	68,649.17
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
	Disperse odor control foam				228,000.00	SF	U.S. Dollar		0.25	57,000.00
L-O-LHC001 D	Heavy Constr Skilled Laborer			240.00	1.00	Each (hourly)	U.S. Dollar		48.54	11,649.17
5.5	1.00	LS	Handling/dewatering of sediments				Detail	U.S. Dollar	381,132.19	381,132.19
5.5.1	1.00	LS	Stockpile activities/bulking agent mixing				Detail	U.S. Dollar	244,111.17	244,111.17
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
L-O-LHC001 D	Heavy Constr Skilled Laborer			640.00	1.00	Each (hourly)	U.S. Dollar		48.54	31,064.45
L-O-E002	Equipment Operator B			640.00	1.00	Each (hourly)	U.S. Dollar		59.02	37,775.15
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly			640.00	1.00	Each (hourly)	U.S. Dollar		105.52	67,534.08
	Kiln Dust				4,309.50	Ton	U.S. Dollar		25.00	107,737.50
5.5.2	67,620.00	CY	Load out dewatered material				Detail	U.S. Dollar	2.03	137,021.02
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
L-O-LHC001 D	Heavy Constr Skilled Laborer			676.20	2.00	Each (hourly)	U.S. Dollar		48.54	32,821.53
L-O-E002	Equipment Operator B			676.20	2.00	Each (hourly)	U.S. Dollar		59.02	39,911.80
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly			676.20	2.00	Each (hourly)	U.S. Dollar		95.07	64,287.69
5.6	114,954.00	Ton	Transportation and Disposal of Sediments				Detail	U.S. Dollar	90.00	10,345,860.00

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
			Cost Item				

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UT&D-10.80	T&D non Haz Material		114,954.00	Ton	U.S. Dollar	90.00	10,345,860.00

5.7	1.00	LS	Handling of decanted water	Detail	U.S. Dollar	54,478.91	54,478.91

5.7.4	1.00	LS	Collection of decanted water	Detail	U.S. Dollar	22,510.53	22,510.53

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U- FRAK -001	Frak Tank		8.00	Month	U.S. Dollar	802.50	6,420.00
U- FRAK -FRGHT. 001	Delivery or Pick Up		2.00	EA	U.S. Dollar	200.00	400.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	160.00	1.00	Each (hourly)	U.S. Dollar	48.54	7,766.11
E1XD-1000.1003	100 GPM Deisel Self Priming Pump 3 inch dia	160.00	1.00	Each (hourly)	U.S. Dollar	49.44	7,910.72
E1XD-1000.2014	Piping 20f Lenghts 4 inch dia	640.00	4.00	Each (hourly)	U.S. Dollar	0.02	13.70

5.7.5	1.00	LS	Pump to on-site WWTF	Detail	U.S. Dollar	31,968.38	31,968.38

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	640.00	1.00	Each (hourly)	U.S. Dollar	48.54	31,064.45
U-P 004	Suction hose 10' length		20.00	EA	U.S. Dollar	27.29	545.70
U-P 005	6-inch x 50' discharge hose		6.00	Each	U.S. Dollar	59.71	358.24

5.8	1.00	LS	Reinstate Lake Bottom	Detail	U.S. Dollar	1,092,956.49	1,092,956.49

5.8.1	52,267.00	CY	Install 6.0' sand and 2.0 feet habitat substrate	Detail	U.S. Dollar	20.91	1,092,956.49

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SF102	Site Foreman	476.60	1.00	Each (hourly)	U.S. Dollar	30.37	14,476.18
L-O-LHC001 D	Heavy Constr Skilled Laborer	1,906.40	4.00	Each (hourly)	U.S. Dollar	48.54	92,532.99
L-O-E002	Equipment Operator B	953.20	2.00	Each (hourly)	U.S. Dollar	59.02	56,261.21
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	953.20	2.00	Each (hourly)	U.S. Dollar	95.07	90,622.40
E1C1006.1002	-DZR D5MXL 28258 lb 115 hp b-Weekly	953.20	2.00	Each (hourly)	U.S. Dollar	63.26	60,296.42
MF-1-13.000	Sand Washed		39,200.00	CY	U.S. Dollar	12.84	503,328.00
MF-1-13.000 (1)	Habitat Substrate		13,067.00	CY	U.S. Dollar	21.08	275,439.29

5.9	1.00	LS	Site restoration	Detail	U.S. Dollar	19,800.65	19,800.65

5.9.1	37,400.00	SF	Topsoil and seeding	Detail	U.S. Dollar	0.50	18,725.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
E2C0102.0001	Backhoe 420-2WD+IT 15772 lb 85 hp a-Monthly	0.00	1.00	Each (hourly)	U.S. Dollar	24.38	0.00
MF-1-14.101	Topsoil Standard		700.00	CY	U.S. Dollar	26.75	18,725.00

5.9.2	30.00	EA	Tree planting	Detail	U.S. Dollar	35.86	1,075.65

5.9.2.1	30.00	Ea.	Planting, trees, shrubs, and ground cover, heavy or stony soil, container, 5 gallon, includes planting only	Detail	U.S. Dollar	35.86	1,075.65

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
CLAB	Common Building Laborers	34.29	2.00	Each (hourly)	U.S. Dollar	35.45	1,215.43

5.10	1.00	LS	Demobilization	Detail	U.S. Dollar	16,516.02	16,516.02

5.10.1	1.00	LS	Site cleanup	Detail	U.S. Dollar	8,631.85	8,631.85

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	96.00	6.00	Each (hourly)	U.S. Dollar	48.54	4,659.67
L-O-E002	Equipment Operator B	16.00	1.00	Each (hourly)	U.S. Dollar	59.02	944.38

Cost Item								
CBS Position Code	Quantity UM	Description				Cost Source	Currency	Unit Cost	Total Cost
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly		16.00	1.00	Each (hourly)	U.S. Dollar		105.52	1,688.35
L-O-DR4	Dump truck Level D driver		16.00	1.00	Each (hourly)	U.S. Dollar		49.31	788.94
E1H-DUMP TRK 0014	14CY Dump Truck		16.00	1.00	Each (hourly)	U.S. Dollar		34.41	550.51
5.10.2	1.00 LS	Personnel and equipment				Detail	U.S. Dollar	7,884.17	7,884.17

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SF102	Site Foreman	8.00	1.00	Each (hourly)	U.S. Dollar	30.37	242.99
L-O-LHC001 D	Heavy Constr Skilled Laborer	48.00	6.00	Each (hourly)	U.S. Dollar	48.54	2,329.83
L-O-E002	Equipment Operator B	16.00	2.00	Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	105.52	844.18
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	95.07	760.58
UM-D-10.03	Mobe Demobe equipment >50,000 < 100,000		1.00	LS	U.S. Dollar	750.00	750.00
UM-D-10.02	Mobe Demobe equipment >25,000 < 50,000		1.00	LS	U.S. Dollar	450.00	450.00
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly	16.00	2.00	Each (hourly)	U.S. Dollar	97.64	1,562.21
5.11	1.00 LS	Payment and Performance Bonds			Detail	U.S. Dollar	118,400.00	118,400.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	Contractor Bond		1.00	Each	U.S. Dollar	118,400.00	118,400.00
5.12	1.00 LS	Contractor Profit			Detail	U.S. Dollar	1,620,700.00	1,620,700.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	Contractor Profit		1.00	Each	U.S. Dollar	1,620,700.00	1,620,700.00
5.13	1.00 LS	Contingency @ 20%			Detail	U.S. Dollar	3,260,500.00	3,260,500.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	Contingency @ 20%		1.00	Each	U.S. Dollar	3,260,500.00	3,260,500.00
5.14	1.00 LS	Engineering/Regulatory oversight			Detail	U.S. Dollar	377,659.06	377,659.06

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
AFC- Field-121-01	Construction Manager Supervisor	1,760.00	1.00	Each (hourly)	U.S. Dollar	105.89	186,357.60
AFC- Field-121-02	Construction QA QC Specialst	1,760.00	1.00	Each (hourly)	U.S. Dollar	91.82	161,601.46
U-L&PD 100.101	Lodging per day		176.00	Day	U.S. Dollar	125.00	22,000.00
U-L&PD 100.201	Per diem perday		220.00	Day	U.S. Dollar	35.00	7,700.00

Category	Total
Labor	1,732,854.18
Rented Equip	1,135,282.43
Supplies	57,000.00
Materials	1,147,972.90
Subcontract	12,455,588.35
Taxes	108,829.22
Allowance	3,260,500.00
Per Diem /Travel	42,500.00

CBS Outline Report
AMEC ENVIRONMENT & INFRASTRUCTURE, INC.
Job Code: NYS-POR-141203
Description: Saranac Lake FS

From Cost Item: . **To Cost Item: .**

Code	Description	Quantity	Unit of Measure	Unit Price	Total Cost (Forecast)	User Defined 1
5	Alternative 2C - 9' Excavation					
5.1	Work Plans, Schedules and Permits	1.00	LS	67,284.97	67,284.97	
5.1.1	Detailed Construction Plan	1.00	Each	15,302.21	15,302.21	
5.1.2	H&S Plan project	1.00	Each	11,698.23	11,698.23	
5.1.3	Contingency Plan	1.00	Each	11,463.99	11,463.99	
5.1.4	QA/QC Plan	1.00	Each	4,229.73	4,229.73	
5.1.5	Traffic Control Plan	1.00	Each	6,689.11	6,689.11	
5.1.6	Storm Water Management Plan	1.00	Each	5,901.71	5,901.71	
5.1.7	Permits (other than listed in Summary of Work)	1.00	Each	12,000.00	12,000.00	
5.2	Mobilization	1.00	LS	644,244.05	644,244.05	
5.2.1	Mobilization (1st year of construction)	1.00	LS	329,028.79	329,028.79	
5.2.1.1	Personel and equipment	1.00	LS	7,884.17	7,884.17	
5.2.1.2	Temporary facilities	1.00	LS	6,551.30	6,551.30	
5.2.1.2.1	Office trailer	1.00	LS	1,849.80	1,849.80	
5.2.1.2.2	Job boxes	1.00	LS	1,121.50	1,121.50	
5.2.1.2.3	Utilities	1.00	LS	3,580.00	3,580.00	
5.2.1.3	Sedimentation and erosion control	300.00	LF	3.88	1,164.06	
5.2.1.4	Site prep	1.00	LS	12,682.80	12,682.80	
5.2.1.4.1	Stabilized construction entrance	1.00	LS	1,673.35	1,673.35	
5.2.1.4.2	Minor site clearing	1.00	LS	4,011.50	4,011.50	
5.2.1.4.3	Stockpile areas	1.00	LS	6,997.94	6,997.94	
5.2.1.4.3.1	1 to 1 slopes Non Haz/contaminated material	5,000.00	SF	1.40	6,997.94	
5.2.1.5	Survey	1.00	LS	11,820.00	11,820.00	
5.2.1.5.1	Pre-construction survey	1.00	LS	5,910.00	5,910.00	
5.2.1.5.2	As-built survey	1.00	LS	5,910.00	5,910.00	
5.2.1.6	Construction fencing	900.00	LF	12.00	10,800.00	
5.2.1.7	Setup process equipment	1.00	LS	75,000.00	75,000.00	
5.2.1.8	General Conditions	1.00	LS	203,126.47	203,126.47	
5.2.1.8.1	Site overhead	1.00	LS	183,830.64	183,830.64	
5.2.1.8.2	Home office support	1.00	LS	19,295.83	19,295.83	
5.2.2	Mobilization (2nd year of construction)	1.00	LS	315,215.26	315,215.26	
5.2.2.1	Personel and equipment	1.00	LS	8,120.70	8,120.70	
5.2.2.2	Temporary facilities	1.00	LS	6,750.55	6,750.55	
5.2.2.2.1	Office trailer	1.00	LS	1,905.29	1,905.29	
5.2.2.2.2	Job boxes	1.00	LS	1,157.86	1,157.86	
5.2.2.2.3	Utilities	1.00	LS	3,687.40	3,687.40	
5.2.2.3	Sedimentation and erosion control	300.00	LF	3.88	1,164.06	
5.2.2.4	Site prep	1.00	LS	10,677.05	10,677.05	
5.2.2.4.1	Stabilized construction entrance	1.00	LS	1,673.35	1,673.35	
5.2.2.4.2	Minor site clearing	1.00	LS	2,005.75	2,005.75	
5.2.2.4.3	Stockpile areas	1.00	LS	6,997.94	6,997.94	
5.2.2.4.3.1	1 to 1 slopes Non Haz/contaminated material	5,000.00	SF	1.40	6,997.94	
5.2.2.5	Survey	1.00	LS	11,820.00	11,820.00	
5.2.2.5.1	Pre-construction survey	1.00	LS	5,910.00	5,910.00	
5.2.2.5.2	As-built survey	1.00	LS	5,910.00	5,910.00	

Code	Description	Quantity	Unit of Measure	Unit Price	Total Cost (Forecast)	User Defined 1
5.2.2.6	Construction fencing	200.00	LF	12.00	2,400.00	
5.2.2.7	Setup process equipment	1.00	LS	75,000.00	75,000.00	
5.2.2.8	General Conditions	1.00	LS	199,282.91	199,282.91	
5.2.2.8.1	Site overhead	1.00	LS	189,345.56	189,345.56	
5.2.2.8.2	Home office support	1.00	LS	9,937.35	9,937.35	
5.3	Dewatering of Excavation Area	1.00	LS	858,245.10	858,245.10	
5.3.1	Year 1	1.00	LS	481,120.54	481,120.54	
5.3.1.1	Install aquadams at start of 1st year of construction	1.00	LS	114,553.17	114,553.17	
5.3.1.2	Dewater excavation area	1.00	LS	27,202.27	27,202.27	
5.3.1.3	Setup water treatment area	1.00	EA	119,381.36	119,381.36	
5.3.1.4	Operate WWTF	1.00	LS	202,530.57	202,530.57	
5.3.1.4.1	WWTF operator	1.00	LS	62,530.57	62,530.57	
5.3.1.4.2	Materials	1.00	LS	140,000.00	140,000.00	
5.3.1.5	Remove aquadams at end of 1st year of construction	1.00	LS	17,453.17	17,453.17	
5.3.2	Year 2	1.00	LS	377,124.56	377,124.56	
5.3.2.1	Install aquadams at start of 2nd year of construction	1.00	LS	10,688.93	10,688.93	
5.3.2.2	Dewater excavation area	1.00	LS	27,227.62	27,227.62	
5.3.2.3	Setup water treatment area	1.00	EA	122,094.27	122,094.27	
5.3.2.4	Operate WWTF	1.00	LS	206,730.57	206,730.57	
5.3.2.4.1	WWTF operator	1.00	LS	62,530.57	62,530.57	
5.3.2.4.2	Materials	1.00	LS	144,200.00	144,200.00	
5.3.2.5	Remove aquadams at end of 2nd year of construction	1.00	LS	10,383.17	10,383.17	
5.4	Excavation to 9'	1.00	LS	1,082,749.63	1,082,749.63	
5.4.1	Seepage control	1.00	LS	98,590.96	98,590.96	
5.4.2	Install/move crane mats	1.00	LS	64,293.80	64,293.80	
5.4.3	Excavation of sediments	58,800.00	CY	14.48	851,215.70	
5.4.4	Odor control	1.00	LS	68,649.17	68,649.17	
5.5	Handling/dewatering of sediments	1.00	LS	381,132.19	381,132.19	
5.5.1	Stockpile activities/bulking agent mixing	1.00	LS	244,111.17	244,111.17	
5.5.2	Load out dewatered material	67,620.00	CY	2.03	137,021.02	
5.6	Transportation and Disposal of Sediments	114,954.00	Ton	90.00	10,345,860.00	
5.7	Handling of decanted water	1.00	LS	54,478.91	54,478.91	
5.7.4	Collection of decanted water	1.00	LS	22,510.53	22,510.53	
5.7.5	Pump to on-site WWTF	1.00	LS	31,968.38	31,968.38	
5.8	Reinstate Lake Bottom	1.00	LS	1,092,956.49	1,092,956.49	
5.8.1	Install 6.0' sand and 2.0 feet habitat substrate	52,267.00	CY	20.91	1,092,956.49	
5.9	Site restoration	1.00	LS	19,800.65	19,800.65	
5.9.1	Topsoil and seeding	37,400.00	SF	0.50	18,725.00	
5.9.2	Tree planting	30.00	EA	35.86	1,075.65	
5.9.2.1	Planting, trees, shrubs, and ground cover, heavy or stony soil, container, 5 gallon, includes planting only	30.00	Ea.	35.86	1,075.65	
5.10	Demobilization	1.00	LS	16,516.02	16,516.02	
5.10.1	Site cleanup	1.00	LS	8,631.85	8,631.85	
5.10.2	Personnel and equipment	1.00	LS	7,884.17	7,884.17	
5.11	Payment and Performance Bonds	1.00	LS	118,400.00	118,400.00	
5.12	Contractor Profit	1.00	LS	1,620,700.00	1,620,700.00	
5.13	Contingency @ 20%	1.00	LS	3,260,500.00	3,260,500.00	
5.14	Engineering/Regulatory oversight	1.00	LS	377,659.06	377,659.06	

Code	Description	Quantity	Unit of Measure	Unit Price	Total Cost (Forecast)	User Defined 1
Total:	**Alternative 2C - 9' Excavation**				**19,940,527.08**	
Grand Total:					**19,940,527.08**	

Alternative 2 - Excavation
Modified By/Date: SB 12/10/2014
Revised By/Date: JW 1/30/2015

Task	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Comments/ Assumptions
CAPITAL COSTS								
Pre-Design								
Pre-Design Investigation								
	Drill Rig & Crew	5	WK	$ -	$ 7,500.00	$ -	$ 37,500.00	Cost to mobilize and keep onsite for 5 weeks
	Field Technician 1	250	HR	$ -	$ 80.00	$ -	$ 20,000.00	Assume 2 technicians for 5 weeks
	Field Technician 2	250	HR	$ -	$ 80.00	$ -	$ 20,000.00	
	Sediment/Soil/GW Seepage Samples	35	EA	$ 200.00	$ -	$ -	$ 7,000.00	Sediment and soil samples
	Surface Water/GW Seepage Samples	10	EA	$ 200.00	$ -	$ -	$ 2,000.00	
	GeoTech Sample Analysis	10	EA	$ 500.00	$ -	$ -	$ 5,000.00	
Site Investigations								
	Site/Bathymetric Survey	1	LS	$ 10,000.00	$ -	$ -	$ 10,000.00	
	Habitat Characterization (1 technician)	40	HR	$ -	$ 80.00	$ -	$ 3,200.00	1 person, 5 days (includes per diem)
	Biota Lab Analysis	20	EA	$ 500.00	$ -	$ -	$ 10,000.00	20 samples for biota analysis
	Hydrogeo Modelling for GW Seepage	1	LS	$15,000	$ -	$ -	$ 15,000.00	
	Ecological Risk Assessment	1	LS	$ 20,000.00	$ -	$ -	$ 20,000.00	
Task Subtotal							**$ 149,700.00**	
Full-Scale Excavation								
Alternative 2A - Excavation with Capping								
	Excavation with Cap Implementation	1	LS	$ 4,266,944.00	$ -	$ -	$ 4,266,944.00	See Engineer's cost estimate, minus contingency
	Excavation without T&D	1	LS	$ 2,780,504.00	$ -	$ -	$ 2,780,504.00	For Indirect capital cost calculation
	Confirmatory Sampling	0	EA	$ 150.00	$ -	$ -	$ -	Not required for capping alternative
	Disposal Characterization	8	EA	$ 750.00	$ -	$ -	$ 6,000.00	1 sample for every 1,000 CY of sediment
Task Subtotal							**$ 4,272,944.00**	
Alternative 2B - Excavation to Meet Class A SVGs								
	Excavation Implementation	1	LS	$ 6,941,638.00	$ -	$ -	$ 6,941,638.00	See Engineer's cost estimate, minus contingency.
	Excavation w/out T&D/Backfill	1	LS	$ 2,997,956.00	$ -	$ -	$ 2,997,956.00	For indirect capital cost calculations
	Confirmatory Sampling	31	EA	$ 150.00	$ -	$ -	$ 4,650.00	sampling on a 50 ft x 50 ft grid (2,500 SF)
	Disposal Characterization	24	EA	$ 750.00	$ -	$ -	$ 18,000.00	1 sample every 1,000 CY of sediment
Task Subtotal							**$ 6,964,288.00**	
Alternative 2C - Excavation to Pre-Disposal Conditions								
	Excavation Implementation	1	LS	$ 16,680,027.00	$ -	$ -	$ 16,680,027.00	See Engineer's cost estimate, minus contingency.
	Excavation without T&D/Backfill	1	LS	$ 5,241,211.00	$ -	$ -	$ 5,241,211.00	For indirect capital costs calculations
	Confirmatory Sampling	59	EA	$ 150.00	$ -	$ -	$ 8,850.00	sampling on a 50 ft x 50 ft grid (2,500 SF)
	Disposal Characterization	68	EA	$ 750.00	$ -	$ -	$ 51,000.00	1 sample every 1,000 CY of sediment
Task Subtotal							**$ 16,739,877.00**	
ANNUAL AND PERIODIC COSTS								
2A Long-Term Monitoring for Sediment Cap (per annual inspection)								
Annual Cap Inspection								
	Boat Rental	2	DAY	$ 68.00	$ -	$ -	$ 136.00	
	Field Technician 1	18	HR	$ -	$ 80.00	$ -	$ 1,440.00	
	Field Technician 2	18	HR	$ -	$ 80.00	$ -	$ 1,440.00	
	Sediment & SW samples	4	EA	$ 200.00	$ -	$ -	$ 800.00	3 sediment, 1 surface water
Task Subtotal							**$ 3,816.00**	
Annual Reporting (including cap inspection)								
Eng. Est.	Annual Report	1	LS	$ -	$ 8,000.00	$ -	$ 8,000.00	
Task Subtotal							**$ 8,000.00**	
2B/2C Long-Term Monitoring (per annual inspection)								
Annual Cap Inspection								
	Field Technician 1	9	HR	$ -	$ 80.00	$ -	$ 720.00	
	Sediment samples	4	EA	$ 200.00	$ -	$ -	$ 800.00	3 sediment, 1 surface water
Task Subtotal							**$ 1,520.00**	
Annual Reporting (without cap inspection)								
Eng. Est.	Annual Report	1	LS	$ -	$ 5,000.00	$ -	$ 5,000.00	
Task Subtotal							**$ 5,000.00**	

PRESENT VALUE OF ANNUAL AND PERIODIC COSTS FOR ALTERNATIVES 2

Alternative 2A Year	Cost*	Number of Annual Periods	Annual Discount Rate	Number of 2-Year Periods	2-Year Discount Rate	Number of 4-Year Periods	4-Year Discount Rate	Total Non-Discounted Cost	Present Value Cost
Capital (Year 0)	$ 5,943,000	1	0	NA	NA	NA	NA	$ 5,943,000.00	$ 5,943,000.00
Annual Long Term Monitoring Reporting (Years 1-30)	$ 14,000	30	0.05	NA	NA	NA	NA	$ 420,000.00	$ 215,214.31
Totals								**$ 6,363,000.00**	**$ 6,158,214.31**

*Annual and periodic costs include 10% for technical support and 15% contingency for unforeseen project complexities, including insurance, taxes, and licensing costs.
Capital costs include 25% contingency, as well as project management, remedial design, and construction management costs per DER-10 guidance.
Discount rate of 5% (for 30-years) percent based on NYSDEC PRAP Outline / Instructions.

Prepared By/Date: DF 11/05/2014

Alternative 2B Year	Cost*	Number of Annual Periods	Annual Discount Rate	Number of 2-Year Periods	2-Year Discount Rate	Number of 4-Year Periods	4-Year Discount Rate	Total Non-Discounted Cost	Present Value Cost
Capital (Year 0)	$ 9,222,000	1	0	NA	NA	NA	NA	$ 9,222,000.00	$ 9,222,000.00
Annual Long Term Monitoring Reporting (Years 1-30)	$ 9,000	30	0.05	NA	NA	NA	NA	$ 270,000.00	$ 138,352.06
Totals								**$ 9,492,000.00**	**$ 9,360,352.06**

Alternative 2C Year	Cost*	Number of Annual Periods	Annual Discount Rate	Number of 2-Year Periods	2-Year Discount Rate	Number of 4-Year Periods	4-Year Discount Rate	Total Non-Discounted Cost	Present Value Cost
Capital (Year 0)	$ 21,465,000	1	0	NA	NA	NA	NA	$ 21,465,000.00	$ 21,465,000.00
Annual Long Term Monitoring Reporting (Years 1-30)	$ 9,000	30	0.05	NA	NA	NA	NA	$ 270,000.00	$ 138,352.06
Totals								**$ 21,735,000.00**	**$ 21,603,352.06**

Prepared By/Date: SB 12/11/14
Checked By/Date: JW 1/30/15

Estimate Summary
AMEC ENVIRONMENT & INFRASTRUCTURE, INC.
Job Code: NYS-POR-141203
Description: Saranac Lake FS

From Cost Item: 6 **To Cost Item: 6.14**

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
6	1.00	LS	Alternative 3A - Dredging with Capping	Detail	U.S. Dollar	5,756,683.85	5,756,683.85
6.1	1.00	LS	Work Plans, Schedules and Permits	Detail	U.S. Dollar	67,284.97	67,284.97
6.1.1	1.00	Each	Detailed Construction Plan	Detail	U.S. Dollar	15,302.21	15,302.21

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-PE101-B	Project Engineer	24.00	0.25	Each (hourly)	U.S. Dollar	79.83	1,915.81
L-A-PM201	Project Manager	72.00	0.75	Each (hourly)	U.S. Dollar	32.20	2,318.14
L-A-QC101	QC Officer	12.00	0.13	Each (hourly)	U.S. Dollar	43.19	518.27
L-A-HS103	Safety Officer	12.00	0.13	Each (hourly)	U.S. Dollar	59.33	711.96
L-A-AA102	Project Contol /Scheduler	48.00	0.50	Each (hourly)	U.S. Dollar	47.31	2,270.93
L-A-AA101	Admisistrative Assistant	48.00	0.50	Each (hourly)	U.S. Dollar	37.91	1,819.66
L-A-SS101	Site Superintendent	72.00	0.75	Each (hourly)	U.S. Dollar	79.83	5,747.44

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
6.1.2	1.00	Each	H&S Plan project	Detail	U.S. Dollar	11,698.23	11,698.23

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant	96.00	1.00	Each (hourly)	U.S. Dollar	37.91	3,639.32
L-A-HS103	Safety Officer	16.32	0.17	Each (hourly)	U.S. Dollar	59.33	968.27
L-A-PE101-A	Project Engineer	32.00	0.33	Each (hourly)	U.S. Dollar	27.50	879.77
L-A-PM201	Project Manager	16.00	0.17	Each (hourly)	U.S. Dollar	32.20	515.15
L-A-HS104	Safety Tech	96.00	1.00	Each (hourly)	U.S. Dollar	59.33	5,695.72

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
6.1.3	1.00	Each	Contingency Plan	Detail	U.S. Dollar	11,463.99	11,463.99

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-PE101-B	Project Engineer	80.00	1.00	Each (hourly)	U.S. Dollar	79.83	6,386.05
L-A-PM201	Project Manager	20.00	0.25	Each (hourly)	U.S. Dollar	32.20	643.93
L-A-QC101	QC Officer	10.00	0.13	Each (hourly)	U.S. Dollar	43.19	431.89
L-A-HS103	Safety Officer	10.00	0.13	Each (hourly)	U.S. Dollar	59.33	593.30
L-A-AA102	Project Contol /Scheduler	40.00	0.50	Each (hourly)	U.S. Dollar	47.31	1,892.44
L-A-AA101	Admisistrative Assistant	40.00	0.50	Each (hourly)	U.S. Dollar	37.91	1,516.38

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
6.1.4	1.00	Each	QA/QC Plan	Detail	U.S. Dollar	4,229.73	4,229.73

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant	40.00	1.00	Each (hourly)	U.S. Dollar	37.91	1,516.38
L-A-PE101-B	Project Engineer	4.00	0.10	Each (hourly)	U.S. Dollar	79.83	319.30
L-A-PM201	Project Manager	4.00	0.10	Each (hourly)	U.S. Dollar	32.20	128.79
L-A-QC101	QC Officer	16.00	0.40	Each (hourly)	U.S. Dollar	43.19	691.02
L-A-QC102	QC Tech	40.00	1.00	Each (hourly)	U.S. Dollar	39.36	1,574.24

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
6.1.5	1.00	Each	Traffic Control Plan	Detail	U.S. Dollar	6,689.11	6,689.11

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant	24.00	0.50	Each (hourly)	U.S. Dollar	37.91	909.83
L-A-PE101-B	Project Engineer	48.00	1.00	Each (hourly)	U.S. Dollar	79.83	3,831.63
L-A-PM201	Project Manager	16.00	0.33	Each (hourly)	U.S. Dollar	32.20	515.09
L-A-HS103	Safety Officer	8.00	0.17	Each (hourly)	U.S. Dollar	59.33	474.65
L-A-SS101	Site Superintendent	12.00	0.25	Each (hourly)	U.S. Dollar	79.83	957.91

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
6.1.6	1.00	Each	Storm Water Management Plan	Detail	U.S. Dollar	5,901.71	5,901.71

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost

CBS Position Code	Quantity	UM	Description	Cost Item			Cost Source	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant			9.60	0.20	Each (hourly)	U.S. Dollar		37.91	363.93
L-A-PE101-A	Project Engineer			48.00	1.00	Each (hourly)	U.S. Dollar		27.50	1,319.79
L-A-PM201	Project Manager			12.00	0.25	Each (hourly)	U.S. Dollar		32.20	386.36
L-A-SS101	Site Superintendent			48.00	1.00	Each (hourly)	U.S. Dollar		79.83	3,831.63
6.1.7	1.00	Each	Permits (other than listed in Summary of Work)				Detail	U.S. Dollar	12,000.00	12,000.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U-C&E-10.20	Fees & Permits		2.00	LS	U.S. Dollar	5,000.00	10,000.00
U-PERMITS -00	Permits - Demo, road opening, Etc.		4.00	Each	U.S. Dollar	500.00	2,000.00

6.2	1.00	LS	Mobilization			Detail	U.S. Dollar	429,507.39	429,507.39
6.2.1	1.00	LS	Mobilization (1st year of construction)			Detail	U.S. Dollar	222,412.50	222,412.50
6.2.1.1	1.00	LS	Personel and equipment			Detail	U.S. Dollar	7,884.17	7,884.17

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SF102	Site Foreman	8.00	1.00	Each (hourly)	U.S. Dollar	30.37	242.99
L-O-LHC001 D	Heavy Constr Skilled Laborer	48.00	6.00	Each (hourly)	U.S. Dollar	48.54	2,329.83
L-O-E002	Equipment Operator B	16.00	2.00	Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	105.52	844.18
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	95.07	760.58
UM-D-10.03	Mobe Demobe equipment >50,000 < 100,000		1.00	LS	U.S. Dollar	750.00	750.00
UM-D-10.02	Mobe Demobe equipment >25,000 < 50,000		1.00	LS	U.S. Dollar	450.00	450.00
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly	16.00	2.00	Each (hourly)	U.S. Dollar	97.64	1,562.21

6.2.1.2	1.00	LS	Temporary facilities			Detail	U.S. Dollar	6,551.30	6,551.30
6.2.1.2.1	1.00	LS	Office trailer			Detail	U.S. Dollar	1,849.80	1,849.80

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UZ-ST-08x32-5	8x32 Trailer Tear Down		1.00	Each	U.S. Dollar	166.00	166.00
UZ-ST-08x32-1	8x32 Trailer		2.00	Month	U.S. Dollar	342.40	684.80
UZ-ST-08x32-4	8x32 Trailer Skirting		1.00	Each	U.S. Dollar	80.00	80.00
UZ-ST-08x32-2	8x32 Trailer Set up		1.00	Each	U.S. Dollar	179.00	179.00
UZ-ST-08x32-6	8x32 StrorageTrailer Freight		2.00	1/way	U.S. Dollar	320.00	640.00
UZ-ST-08x32-3	8x32 Trailer Anchor		1.00	Each	U.S. Dollar	100.00	100.00

6.2.1.2.2	1.00	LS	Job boxes			Detail	U.S. Dollar	1,121.50	1,121.50

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UZ-STS-08X32-3	8x32 StrorageTrailer Rental		1.00	Month	U.S. Dollar	481.50	481.50
UZ-STS-08X32-2	8x 20 or32 StrorageTrailer Freight		2.00	1/way	U.S. Dollar	320.00	640.00

6.2.1.2.3	1.00	LS	Utilities			Detail	U.S. Dollar	3,580.00	3,580.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USERV-10.12	Elect'n, truck, plus mate, connecting and installing Temp power pole incl Mats		2.00	Day	U.S. Dollar	1,250.00	2,500.00
USERV-20.12	4/5 cy Garbage Container. Including Changing weekly		2.00	Month	U.S. Dollar	450.00	900.00
USERV-10.50	Portable Toilets incl freight.		2.00	Month	U.S. Dollar	90.00	180.00

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
6.2.1.3	300.00	LF	Sedimentation and erosion control	Detail	U.S. Dollar	3.88	1,164.06

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
SS-1-102-001	Silt fencing 3ft high including posts		3.00	Roll	U.S. Dollar	26.75	80.25
SS-1-103-000	Hay Bales		100.00	Each	U.S. Dollar	6.96	695.50

6.2.1.4	1.00	LS	Site prep	Detail	U.S. Dollar	12,682.80	12,682.80
6.2.1.4.1	1.00	LS	Stabilized construction entrance	Detail	U.S. Dollar	1,673.35	1,673.35

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
L-O-E002	Equipment Operator B	8.00	2.00	Each (hourly)	U.S. Dollar	59.02	472.19
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	4.00	1.00	Each (hourly)	U.S. Dollar	105.52	422.09
L-O-DR4	Dump truck Level D driver	4.00	1.00	Each (hourly)	U.S. Dollar	49.31	197.24
E1H-DUMP TRK 0014	14CY Dump Truck	4.00	1.00	Each (hourly)	U.S. Dollar	34.41	137.63
MG-1-10-22	Class A Geofabric as Spec.		55.00	SY	U.S. Dollar	1.02	55.91

6.2.1.4.2	1.00	LS	Minor site clearing	Detail	U.S. Dollar	4,011.50	4,011.50

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	32.00	4.00	Each (hourly)	U.S. Dollar	48.54	1,553.22
L-O-E002	Equipment Operator B	16.00	2.00	Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	105.52	844.18
L-O-DR4	Dump truck Level D driver	8.00	1.00	Each (hourly)	U.S. Dollar	49.31	394.47
E1H-DUMP TRK 0014	14CY Dump Truck	8.00	1.00	Each (hourly)	U.S. Dollar	34.41	275.25

6.2.1.4.3	1.00	LS	Stockpile areas	Detail	U.S. Dollar	6,997.94	6,997.94
6.2.1.4.3.1	5,000.00	SF	1 to 1 slopes Non Haz/contaminated material	Detail	U.S. Dollar	1.40	6,997.94

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
MF-1-10.108	1 1/2'" Stone /Aggregates		210.33	Ton	U.S. Dollar	17.65	3,713.43
SG-1-10.12SF	6oz Non-woven geo-fabric		7,333.33	SF	U.S. Dollar	0.10	706.20
E1C5006.1001	- Wheeled Loader 928G 149hp a-Monthly	5.33	1.00	Each (hourly)	U.S. Dollar	65.68	350.30
L-O-LHC001	Heavy Constr Skilled Laborer	10.67	2.00	Each (hourly)	U.S. Dollar	79.11	843.82

6.2.1.5	1.00	LS	Survey	Detail	U.S. Dollar	11,820.00	11,820.00
6.2.1.5.1	1.00	LS	Pre-construction survey	Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00	Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00	Day	U.S. Dollar	850.00	2,550.00

6.2.1.5.2	1.00	LS	As-built survey	Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00	Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00	Day	U.S. Dollar	850.00	2,550.00

6.2.1.6	900.00	LF	Construction fencing	Detail	U.S. Dollar	12.00	10,800.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost

CBS Position Code	Quantity	UM	Description	Cost Item	Cost Source	Currency	Unit Cost	Total Cost
U-TEMP FENCE 100	6ft High Chain link fencing with post set in ground (not concreted in)			900.00 LF	U.S. Dollar		12.00	10,800.00
6.2.1.7	1.00	LS	General Conditions		Detail	U.S. Dollar	152,990.84	152,990.84
6.2.1.7.1	1.00	LS	Site overhead		Detail	U.S. Dollar	133,695.01	133,695.01

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SS102	Site Superintendent D	640.00	1.00	Each (hourly)	U.S. Dollar	52.13	33,361.56
L-A-QC101	QC Officer	640.00	1.00	Each (hourly)	U.S. Dollar	43.19	27,640.85
L-A-PE101-B	Project Engineer	640.00	1.00	Each (hourly)	U.S. Dollar	79.83	51,088.37
E-PICK UP F150-001	F150 Standard Pick up	1,920.00	3.00	Each (hourly)	U.S. Dollar	11.25	21,604.22

6.2.1.7.2	1.00	LS	Home office support		Detail	U.S. Dollar	19,295.83	19,295.83

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-CM101	Construction Manager	160.00	1.00	Each (hourly)	U.S. Dollar	46.27	7,403.14
L-A-AE101	Senior Estimator	160.00	1.00	Each (hourly)	U.S. Dollar	36.42	5,827.17
L-A-AA101	Admisistrative Assistant	160.00	1.00	Each (hourly)	U.S. Dollar	37.91	6,065.53

6.2.1.8	550.00	LF	Install silt curtain		Detail	U.S. Dollar	33.67	18,519.33

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
SS-1-200-016	6ft Turbidity Curtain plus weights		550.00	LF	U.S. Dollar	12.84	7,062.00
SS-1-200-100	Boom to top of Turbidity Curtain		550.00	LF	U.S. Dollar	16.05	8,827.50
L-O-LHC001 D	Heavy Constr Skilled Laborer	48.00	3.00	Each (hourly)	U.S. Dollar	48.54	2,329.83
	job boat		2.00	Day	U.S. Dollar	150.00	300.00

6.2.2	1.00	LS	Mobilization (2nd year of construction)		Detail	U.S. Dollar	207,094.90	207,094.90
6.2.2.1	1.00	LS	Personel and equipment		Detail	U.S. Dollar	8,120.70	8,120.70

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SF102	Site Foreman	8.00	1.00	Each (hourly)	U.S. Dollar	30.37	242.99
L-O-LHC001 D	Heavy Constr Skilled Laborer	48.00	6.00	Each (hourly)	U.S. Dollar	48.54	2,329.83
L-O-E002	Equipment Operator B	16.00	2.00	Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	105.52	844.18
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	95.07	760.58
UM-D-10.03	Mobe Demobe equipment >50,000 < 100,000		1.00	LS	U.S. Dollar	750.00	750.00
UM-D-10.02	Mobe Demobe equipment >25,000 < 50,000		1.00	LS	U.S. Dollar	450.00	450.00
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly	16.00	2.00	Each (hourly)	U.S. Dollar	97.64	1,562.21

6.2.2.2	1.00	LS	Temporary facilities		Detail	U.S. Dollar	6,750.55	6,750.55
6.2.2.2.1	1.00	LS	Office trailer		Detail	U.S. Dollar	1,905.29	1,905.29

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UZ-ST-08x32-5	8x32 Trailer Tear Down		1.00	Each	U.S. Dollar	166.00	166.00
UZ-ST-08x32-1	8x32 Trailer		2.00	Month	U.S. Dollar	342.40	684.80
UZ-ST-08x32-4	8x32 Trailer Skirting		1.00	Each	U.S. Dollar	80.00	80.00
UZ-ST-08x32-2	8x32 Trailer Set up		1.00	Each	U.S. Dollar	179.00	179.00
UZ-ST-08x32-6	8x32 StrorageTrailer Freight		2.00	1/way	U.S. Dollar	320.00	640.00
UZ-ST-08x32-3	8x32 Trailer Anchor		1.00	Each	U.S. Dollar	100.00	100.00

6.2.2.2.2	1.00	LS	Job boxes		Detail	U.S. Dollar	1,157.86	1,157.86

CBS Position Code	Quantity	UM	Description	Cost Item Cost Source	Currency	Unit Cost	Total Cost

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UZ-STS-08X32-3	8x32 StrorageTrailer Rental		1.00	Month	U.S. Dollar	481.50	481.50
UZ-STS-08X32-2	8x 20 or32 StrorageTrailer Freight		2.00	1/way	U.S. Dollar	320.00	640.00
	escalation		1.00	Each	U.S. Dollar	36.36	36.36

1.00 LS	Utilities	Detail	U.S. Dollar	3,687.40	3,687.40
6.2.2.2.3					

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USERV-10.12	Elect'n, truck, plus mate, connecting and installing Temp power pole incl Mats		2.00	Day	U.S. Dollar	1,250.00	2,500.00
USERV-20.12	4/5 cy Garbage Container. Including Changing weekly		2.00	Month	U.S. Dollar	450.00	900.00
USERV-10.50	Portable Toilets incl freight.		2.00	Month	U.S. Dollar	90.00	180.00

6.2.2.3	300.00 LF	Sedimentation and erosion control	Detail	U.S. Dollar	3.88	1,164.06

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
SS-1-102-001	Silt fencing 3ft high including posts		3.00	Roll	U.S. Dollar	26.75	80.25
SS-1-103-000	Hay Bales		100.00	Each	U.S. Dollar	6.96	695.50

6.2.2.4	1.00 LS	Site prep	Detail	U.S. Dollar	10,677.05	10,677.05

6.2.2.4.1	1.00 LS	Stabilized construction entrance	Detail	U.S. Dollar	1,673.35	1,673.35

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
L-O-E002	Equipment Operator B	8.00	2.00	Each (hourly)	U.S. Dollar	59.02	472.19
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	4.00	1.00	Each (hourly)	U.S. Dollar	105.52	422.09
L-O-DR4	Dump truck Level D driver	4.00	1.00	Each (hourly)	U.S. Dollar	49.31	197.24
E1H-DUMP TRK 0014	14CY Dump Truck	4.00	1.00	Each (hourly)	U.S. Dollar	34.41	137.63
MG-1-10-22	Class A Geofabric as Spec.		55.00	SY	U.S. Dollar	1.02	55.91

6.2.2.4.2	1.00 LS	Minor site clearing	Detail	U.S. Dollar	2,005.75	2,005.75

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	16.00	4.00	Each (hourly)	U.S. Dollar	48.54	776.61
L-O-E002	Equipment Operator B	8.00	2.00	Each (hourly)	U.S. Dollar	59.02	472.19
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	4.00	1.00	Each (hourly)	U.S. Dollar	105.52	422.09
L-O-DR4	Dump truck Level D driver	4.00	1.00	Each (hourly)	U.S. Dollar	49.31	197.24
E1H-DUMP TRK 0014	14CY Dump Truck	4.00	1.00	Each (hourly)	U.S. Dollar	34.41	137.63

6.2.2.4.3	1.00 LS	Stockpile areas	Detail	U.S. Dollar	6,997.94	6,997.94

6.2.2.4.3.1	5,000.00 SF	1 to 1 slopes Non Haz/contaminated material	Detail	U.S. Dollar	1.40	6,997.94

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
MF-1-10.108	1 1/2'" Stone /Aggregates		210.33	Ton	U.S. Dollar	17.65	3,713.43
SG-1-10.12SF	6oz Non-woven geo-fabric		7,333.33	SF	U.S. Dollar	0.10	706.20
E1C5006.1001	- Wheeled Loader 928G 149hp a-Monthly	5.33	1.00	Each (hourly)	U.S. Dollar	65.68	350.30
L-O-LHC001	Heavy Constr Skilled Laborer	10.67	2.00	Each (hourly)	U.S. Dollar	79.11	843.82

6.2.2.5	1.00 LS	Survey	Detail	U.S. Dollar	11,820.00	11,820.00

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
			Cost Item				
6.2.2.5.1	1.00	LS	Pre-construction survey	Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00	Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00	Day	U.S. Dollar	850.00	2,550.00

6.2.2.5.2	1.00	LS	As-built survey	Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00	Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00	Day	U.S. Dollar	850.00	2,550.00

6.2.2.6	200.00	LF	Construction fencing	Detail	U.S. Dollar	12.00	2,400.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U-TEMP FENCE 100	6ft High Chain link fencing with post set in ground (not concreted in)		200.00	LF	U.S. Dollar	12.00	2,400.00

6.2.2.7	1.00	LS	General Conditions	Detail	U.S. Dollar	147,643.21	147,643.21

6.2.2.7.1	1.00	LS	Site overhead	Detail	U.S. Dollar	137,705.86	137,705.86

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SS102	Site Superintendent D	640.00	1.00	Each (hourly)	U.S. Dollar	52.13	33,361.56
L-A-QC101	QC Officer	640.00	1.00	Each (hourly)	U.S. Dollar	43.19	27,640.85
L-A-PE101-B	Project Engineer	640.00	1.00	Each (hourly)	U.S. Dollar	79.83	51,088.37
E-PICK UP F150-001	F150 Standard Pick up	1,920.00	3.00	Each (hourly)	U.S. Dollar	11.25	21,604.22

6.2.2.7.2	1.00	LS	Home office support	Detail	U.S. Dollar	9,937.35	9,937.35

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-CM101	Construction Manager	80.00	1.00	Each (hourly)	U.S. Dollar	46.27	3,701.57
L-A-AE101	Senior Estimator	80.00	1.00	Each (hourly)	U.S. Dollar	36.42	2,913.58
L-A-AA101	Admisistrative Assistant	80.00	1.00	Each (hourly)	U.S. Dollar	37.91	3,032.76

6.2.2.8	550.00	LF	Install silt curtain	Detail	U.S. Dollar	33.67	18,519.33

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
SS-1-200-016	6ft Turbidity Curtain plus weights		550.00	LF	U.S. Dollar	12.84	7,062.00
SS-1-200-100	Boom to top of Turbidity Curtain		550.00	LF	U.S. Dollar	16.05	8,827.50
L-O-LHC001 D	Heavy Constr Skilled Laborer	48.00	3.00	Each (hourly)	U.S. Dollar	48.54	2,329.83
	job boat		2.00	Day	U.S. Dollar	150.00	300.00

6.3	1.00	LS	Dredge Visually Impacted sediments (2.5')	Detail	U.S. Dollar	1,007,612.24	1,007,612.24

6.3.1	2.00	EA	Install floating platform (2 seasons)	Detail	U.S. Dollar	189,106.44	378,212.89

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	EFP Floating Platform Mob/Demob		100.00	LF	U.S. Dollar	1,850.00	185,000.00
U- CRANE 50 T	50Ton Crane incluing driver Driver. 10 hr day		1.00	Day	U.S. Dollar	2,000.00	2,000.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	128.00	4.00	Each (hourly)	U.S. Dollar	48.54	6,212.89
	EFP Floating Platform Mob/Demob (year 2)		100.00	LF	U.S. Dollar	1,850.00	185,000.00

6.3.2	2.00	EA	Setup piping system (2 seasons)	Detail	U.S. Dollar	13,367.11	26,734.22

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	256.00	4.00	Each (hourly)	U.S. Dollar	48.54	12,425.78
L-O-E002	Equipment Operator B	128.00	2.00	Each (hourly)	U.S. Dollar	59.02	7,555.03

CBS Position Code	Quantity	UM	Description			Cost Source	Currency	Unit Cost	Total Cost
				Cost Item					
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly			64.00	1.00 Each (hourly)	U.S. Dollar		105.52	6,753.41
6.3.3	1.00	LS	Setup geotube area (150' x 100')			Detail	U.S. Dollar	138,034.48	138,034.48
6.3.3.1	1.00	LS	Construct soil berms			Detail	U.S. Dollar	4,795.59	4,795.59
Resource Code	**Description**			**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
MF-1-14.000	General Fill				150.00 CY	U.S. Dollar		12.84	1,926.00
L-O-LHC001 D	Heavy Constr Skilled Laborer			32.00	4.00 Each (hourly)	U.S. Dollar		48.54	1,553.22
L-O-E002	Equipment Operator B			8.00	1.00 Each (hourly)	U.S. Dollar		59.02	472.19
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly			8.00	1.00 Each (hourly)	U.S. Dollar		105.52	844.18
6.3.3.2	15,000.00	SF	Install Geotextile cushion layer			Detail	U.S. Dollar	0.51	7,640.03
Resource Code	**Description**			**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
L-O-LHC001 D	Heavy Constr Skilled Laborer			64.00	4.00 Each (hourly)	U.S. Dollar		48.54	3,106.44
L-O-E002	Equipment Operator B			16.00	1.00 Each (hourly)	U.S. Dollar		59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly			16.00	1.00 Each (hourly)	U.S. Dollar		105.52	1,688.35
MG-1-10-22	Class A Geofabric as Spec.				1,870.00 SY	U.S. Dollar		1.02	1,900.86
6.3.3.3	15,000.00	SF	Stone bedding (3-inches)			Detail	U.S. Dollar	0.33	5,018.86
Resource Code	**Description**			**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
MF-1-10.108	1 1/2'" Stone /Aggregates				225.00 Ton	U.S. Dollar		17.65	3,972.37
L-O-LHC001 D	Heavy Constr Skilled Laborer			8.00	2.00 Each (hourly)	U.S. Dollar		48.54	388.31
L-O-E002	Equipment Operator B			4.00	1.00 Each (hourly)	U.S. Dollar		59.02	236.09
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly			4.00	1.00 Each (hourly)	U.S. Dollar		105.52	422.09
6.3.3.4	15,000.00	SF	Install HDPE lining			Detail	U.S. Dollar	0.57	8,580.00
Resource Code	**Description**			**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
U-LINERSUB-10-040	40 Mil HDPE liner installed				16,500.00 SF	U.S. Dollar		0.52	8,580.00
6.3.3.5	800.00	LF	Geotubes (Engineering, Fabric selection and Sizing) year 1			Detail	U.S. Dollar	70.00	56,000.00
Resource Code	**Description**			**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
	Geotubes				800.00 LF	U.S. Dollar		70.00	56,000.00
6.3.3.6	800.00	LF	Geotubes (Engineering, Fabric selection and Sizing) year 2			Detail	U.S. Dollar	70.00	56,000.00
Resource Code	**Description**			**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
	Geotubes				800.00 LF	U.S. Dollar		70.00	56,000.00
6.3.4	8,448.00	CY	Dredge sediments to 2.5			Detail	U.S. Dollar	49.48	418,033.98
Resource Code	**Description**			**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
	Dredge pump platforms				6.00 Each	U.S. Dollar		8,600.00	51,572.53
	Dredge Pumps and hydroscreen (3 ea)				9.00 Month	U.S. Dollar		7,500.00	67,464.06
	Flexible pump intake (3 ea)				4.50 Each	U.S. Dollar		8,000.00	35,980.83
L-O-LHC001 D	Heavy Constr Skilled Laborer			4,505.60	6.00 Each (hourly)	U.S. Dollar		48.54	218,693.71
L-O-E002	Equipment Operator B			750.93	1.00 Each (hourly)	U.S. Dollar		59.02	44,322.84
6.3.5	1.00	LS	Geotube work area activities			Detail	U.S. Dollar	46,596.67	46,596.67
Resource Code	**Description**			**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
L-O-LHC001 D	Heavy Constr Skilled Laborer			960.00	2.00 Each (hourly)	U.S. Dollar		48.54	46,596.67
6.4	1.00	LS	Handling/dewatering of sediments			Detail	U.S. Dollar	33,450.96	33,450.96

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
6.4.1	9,715.00	CY	Load out dewatered sediments	Detail	U.S. Dollar	2.49	24,228.78

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	119.57	1.00	Each (hourly)	U.S. Dollar	48.54	5,803.68
L-O-E002	Equipment Operator B	119.57	1.00	Each (hourly)	U.S. Dollar	59.02	7,057.41
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	119.57	1.00	Each (hourly)	U.S. Dollar	95.07	11,367.69

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
6.4.2	1.00	LS	Setup water collection area	Detail	U.S. Dollar	9,222.19	9,222.19
6.4.2.1	4.00	Month	Collection Tanks	Detail	U.S. Dollar	2,305.55	9,222.19

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	Collection Tank (8,000)		2.00	Each	U.S. Dollar	1,250.00	2,500.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	64.00	0.20	Each (hourly)	U.S. Dollar	48.54	3,106.44
U-P 004	Suction hose 10' length		80.00	EA	U.S. Dollar	27.29	2,182.80
U-P 005	6-inch x 50' discharge hose		24.00	Each	U.S. Dollar	59.71	1,432.94

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
6.5	15,544.00	Ton	Transportation and Disposal of Sediments	Detail	U.S. Dollar	90.00	1,398,960.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UT&D-10.80	T&D non Haz Material		15,544.00	Ton	U.S. Dollar	90.00	1,398,960.00

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
6.6	1.00	LS	Transportation and Disposal of Decanted Water	Detail	U.S. Dollar	87,355.26	87,355.26
6.6.1	1.00	LS	Collection of decanted water	Detail	U.S. Dollar	11,455.26	11,455.26

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U- FRAK -001	Frak Tank		4.00	Month	U.S. Dollar	802.50	3,210.00
U- FRAK -FRGHT. 001	Delivery or Pick Up		2.00	EA	U.S. Dollar	200.00	400.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	80.00	1.00	Each (hourly)	U.S. Dollar	48.54	3,883.06
E1XD-1000.1003	100 GPM Deisel Self Priming Pump 3 inch dia	80.00	1.00	Each (hourly)	U.S. Dollar	49.44	3,955.36
E1XD-1000.2014	Piping 20f Lenghts 4 inch dia	320.00	4.00	Each (hourly)	U.S. Dollar	0.02	6.85

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
6.6.2	126,500.00	Gallon	Disposal of treated water	Detail	U.S. Dollar	0.60	75,900.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	Treatment of water at off-site facility		126,500.00	Gallon	U.S. Dollar	0.20	25,300.00
	Trasportation of water		126,500.00	Gallon	U.S. Dollar	0.40	50,600.00

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
6.7	1.00	LS	Construct Access Piers	Detail	U.S. Dollar	116,668.87	116,668.87
6.7.1	150.00	LF	Access pier 1	Detail	U.S. Dollar	333.34	50,000.94

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly	48.00	2.00	Each (hourly)	U.S. Dollar	97.64	4,686.64
L-O-LHC001 D	Heavy Constr Skilled Laborer	72.00	3.00	Each (hourly)	U.S. Dollar	48.54	3,494.75
L-O-E002	Equipment Operator B	48.00	2.00	Each (hourly)	U.S. Dollar	59.02	2,833.14
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	48.00	2.00	Each (hourly)	U.S. Dollar	95.07	4,563.46
MG-1-70.02	Mirafi bi-axial geo-grid		495.00	SY	U.S. Dollar	3.42	1,694.88
L-O-DR4	Dump truck Level D driver	48.00	2.00	Each (hourly)	U.S. Dollar	49.31	2,366.83
MF-1-15.512	F50 12" Rip Rap		1,135.00	Ton	U.S. Dollar	26.75	30,361.25

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
6.7.2	200.00	LF	Access pier 2	Detail	U.S. Dollar	333.34	66,667.92

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly	64.00	2.00	Each (hourly)	U.S. Dollar	97.64	6,248.86
L-O-LHC001 D	Heavy Constr Skilled Laborer	96.00	3.00	Each (hourly)	U.S. Dollar	48.54	4,659.67

CBS Position Code	Quantity	UM	Description	Cost Item			Cost Source	Currency	Unit Cost	Total Cost
L-O-E002	Equipment Operator B			64.00	2.00	Each (hourly)	U.S. Dollar		59.02	3,777.51
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly			64.00	2.00	Each (hourly)	U.S. Dollar		95.07	6,084.61
MG-1-70.02	Mirafi bi-axial geo-grid				660.00	SY	U.S. Dollar		3.42	2,259.84
L-O-DR4	Dump truck Level D driver			64.00	2.00	Each (hourly)	U.S. Dollar		49.31	3,155.77
MF-1-15.512	F50 12" Rip Rap				1,513.33	Ton	U.S. Dollar		26.75	40,481.67
6.8	1.00	LS	Installation of Ammended Cap				Detail	U.S. Dollar	869,637.29	869,637.29
6.8.1	1.00	LS	Mix design				Detail	U.S. Dollar	25,000.00	25,000.00
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
	Mix design compatibility testing				1.00	LS	U.S. Dollar		25,000.00	25,000.00
6.8.2	76,075.00	SF	Install 4-inch thick Aquablok, 24-inches habitat substrate				Detail	U.S. Dollar	11.05	840,637.29
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
	Aquablok (material)				1,255.10	Ton	U.S. Dollar		250.00	313,775.00
L-A-SF102	Site Foreman			260.80	1.00	Each (hourly)	U.S. Dollar		30.37	7,921.52
L-O-LHC001 D	Heavy Constr Skilled Laborer			1,564.80	6.00	Each (hourly)	U.S. Dollar		48.54	75,952.58
L-O-E002	Equipment Operator B			521.60	2.00	Each (hourly)	U.S. Dollar		59.02	30,786.74
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly			260.80	1.00	Each (hourly)	U.S. Dollar		105.52	27,520.14
	Conveyor system				33.00	Day	U.S. Dollar		750.00	24,750.00
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly			521.60	2.00	Each (hourly)	U.S. Dollar		95.07	49,589.56
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly			521.60	2.00	Each (hourly)	U.S. Dollar		97.64	50,928.19
L-O-DR4	Dump truck Level D driver			521.60	2.00	Each (hourly)	U.S. Dollar		49.31	25,719.52
	Aquablock Delivery				57.00	Truck Loads	U.S. Dollar		1,600.00	91,200.00
MF-1-13.000 (1)	Habitat Substrate				6,760.00	CY	U.S. Dollar		21.08	142,494.04
6.8.3	1.00	LS	QC check thicknesses				Detail	U.S. Dollar	4,000.00	4,000.00
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
	Hand augering/acre				2.00	Acre	U.S. Dollar		2,000.00	4,000.00
6.9	1.00	LS	Site restoration				Detail	U.S. Dollar	41,429.71	41,429.71
6.9.1	37,400.00	SF	Topsoil and seeding				Detail	U.S. Dollar	0.50	18,725.00
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
E2C0102.0001	Backhoe 420-2WD+IT 15772 lb 85 hp a-Monthly			0.00	1.00	Each (hourly)	U.S. Dollar		24.38	0.00
MF-1-14.101	Topsoil Standard				700.00	CY	U.S. Dollar		26.75	18,725.00
6.9.2	30.00	EA	Tree planting				Detail	U.S. Dollar	35.86	1,075.65
6.9.2.1	30.00	Ea.	Planting, trees, shrubs, and ground cover, heavy or stony soil, container, 5 gallon, includes planting only				Detail	U.S. Dollar	35.86	1,075.65
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
CLAB	Common Building Laborers			34.29	2.00	Each (hourly)	U.S. Dollar		35.45	1,215.43
6.9.3	1,265.00	CY	Remove piers				Detail	U.S. Dollar	14.54	18,386.92
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly			67.47	2.00	Each (hourly)	U.S. Dollar		97.64	6,587.34
L-O-LHC001 D	Heavy Constr Skilled Laborer			67.47	2.00	Each (hourly)	U.S. Dollar		48.54	3,274.71
L-O-E002	Equipment Operator B			33.73	1.00	Each (hourly)	U.S. Dollar		59.02	1,991.06

Cost Item									
CBS Position Code	Quantity	UM	Description				Cost Source	Currency	Unit Cost	Total Cost
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly			33.73	1.00	Each (hourly)	U.S. Dollar		95.07	3,207.10
L-O-DR4	Dump truck Level D driver			67.47	2.00	Each (hourly)	U.S. Dollar		49.31	3,326.71
6.9.4	1,265.00	CY	Loadout riprpap				Detail	U.S. Dollar	2.56	3,242.14
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
L-O-LHC001 D	Heavy Constr Skilled Laborer			16.00	1.00	Each (hourly)	U.S. Dollar		48.54	776.61
L-O-E002	Equipment Operator B			16.00	1.00	Each (hourly)	U.S. Dollar		59.02	944.38
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly			16.00	1.00	Each (hourly)	U.S. Dollar		95.07	1,521.15
6.10	1.00	LS	Demobilization				Detail	U.S. Dollar	16,516.02	16,516.02
6.10.1	1.00	LS	Site cleanup				Detail	U.S. Dollar	8,631.85	8,631.85
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
L-O-LHC001 D	Heavy Constr Skilled Laborer			96.00	6.00	Each (hourly)	U.S. Dollar		48.54	4,659.67
L-O-E002	Equipment Operator B			16.00	1.00	Each (hourly)	U.S. Dollar		59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly			16.00	1.00	Each (hourly)	U.S. Dollar		105.52	1,688.35
L-O-DR4	Dump truck Level D driver			16.00	1.00	Each (hourly)	U.S. Dollar		49.31	788.94
E1H-DUMP TRK 0014	14CY Dump Truck			16.00	1.00	Each (hourly)	U.S. Dollar		34.41	550.51
6.10.2	1.00	LS	Personnel and equipment				Detail	U.S. Dollar	7,884.17	7,884.17
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
L-A-SF102	Site Foreman			8.00	1.00	Each (hourly)	U.S. Dollar		30.37	242.99
L-O-LHC001 D	Heavy Constr Skilled Laborer			48.00	6.00	Each (hourly)	U.S. Dollar		48.54	2,329.83
L-O-E002	Equipment Operator B			16.00	2.00	Each (hourly)	U.S. Dollar		59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly			8.00	1.00	Each (hourly)	U.S. Dollar		105.52	844.18
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly			8.00	1.00	Each (hourly)	U.S. Dollar		95.07	760.58
UM-D-10.03	Mobe Demobe equipment >50,000 < 100,000				1.00	LS	U.S. Dollar		750.00	750.00
UM-D-10.02	Mobe Demobe equipment >25,000 < 50,000				1.00	LS	U.S. Dollar		450.00	450.00
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly			16.00	2.00	Each (hourly)	U.S. Dollar		97.64	1,562.21
6.11	1.00	LS	Payment and Performance Bonds				Detail	U.S. Dollar	84,600.00	84,600.00
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
	Contractor Bond				1.00	Each	U.S. Dollar		84,600.00	84,600.00
6.12	1.00	LS	Contractor Profit				Detail	U.S. Dollar	415,300.00	415,300.00
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
	Contractor Profit				1.00	Each	U.S. Dollar		415,300.00	415,300.00
6.13	1.00	LS	Contingency @ 20%				Detail	U.S. Dollar	913,700.00	913,700.00
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
	Contingency @ 20%				1.00	Each	U.S. Dollar		913,700.00	913,700.00
6.14	1.00	LS	Engineering/Regulatory oversight				Detail	U.S. Dollar	274,661.13	274,661.13
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
AFC- Field-121-01	Construction Manager Supervisor			1,280.00	1.00	Each (hourly)	U.S. Dollar		105.89	135,532.80
AFC- Field-121-02	Construction QA QC Specialst			1,280.00	1.00	Each (hourly)	U.S. Dollar		91.82	117,528.33
U-L&PD 100.101	Lodging per day				128.00	Day	U.S. Dollar		125.00	16,000.00
U-L&PD 100.201	Per diem perday				160.00	Day	U.S. Dollar		35.00	5,600.00

CBS Position Code	Quantity	UM	Cost Item Description	Cost Source	Currency	Unit Cost	Total Cost
Category							**Total**
Labor							1,132,109.31
Rented Equip							436,638.58
Materials							694,055.83
Subcontract							2,529,128.35
Taxes							29,451.78
Allowance							913,700.00
Per Diem /Travel							21,600.00

CBS Outline Report
AMEC ENVIRONMENT & INFRASTRUCTURE, INC.
Job Code: NYS-POR-141203
Description: Saranac Lake FS

From Cost Item: . **To Cost Item: .**

Code	Description	Quantity	Unit of Measure	Unit Price	Total Cost (Forecast)	User Defined 1
6	Alternative 3A - Dredging with Capping					
6.1	Work Plans, Schedules and Permits	1.00	LS	67,284.97	67,284.97	
6.1.1	Detailed Construction Plan	1.00	Each	15,302.21	15,302.21	
6.1.2	H&S Plan project	1.00	Each	11,698.23	11,698.23	
6.1.3	Contingency Plan	1.00	Each	11,463.99	11,463.99	
6.1.4	QA/QC Plan	1.00	Each	4,229.73	4,229.73	
6.1.5	Traffic Control Plan	1.00	Each	6,689.11	6,689.11	
6.1.6	Storm Water Management Plan	1.00	Each	5,901.71	5,901.71	
6.1.7	Permits (other than listed in Summary of Work)	1.00	Each	12,000.00	12,000.00	
6.2	Mobilization	1.00	LS	429,507.39	429,507.39	
6.2.1	Mobilization (1st year of construction)	1.00	LS	222,412.50	222,412.50	
6.2.1.1	Personel and equipment	1.00	LS	7,884.17	7,884.17	
6.2.1.2	Temporary facilities	1.00	LS	6,551.30	6,551.30	
6.2.1.2.1	Office trailer	1.00	LS	1,849.80	1,849.80	
6.2.1.2.2	Job boxes	1.00	LS	1,121.50	1,121.50	
6.2.1.2.3	Utilities	1.00	LS	3,580.00	3,580.00	
6.2.1.3	Sedimentation and erosion control	300.00	LF	3.88	1,164.06	
6.2.1.4	Site prep	1.00	LS	12,682.80	12,682.80	
6.2.1.4.1	Stabilized construction entrance	1.00	LS	1,673.35	1,673.35	
6.2.1.4.2	Minor site clearing	1.00	LS	4,011.50	4,011.50	
6.2.1.4.3	Stockpile areas	1.00	LS	6,997.94	6,997.94	
6.2.1.4.3.1	1 to 1 slopes Non Haz/contaminated material	5,000.00	SF	1.40	6,997.94	
6.2.1.5	Survey	1.00	LS	11,820.00	11,820.00	
6.2.1.5.1	Pre-construction survey	1.00	LS	5,910.00	5,910.00	
6.2.1.5.2	As-built survey	1.00	LS	5,910.00	5,910.00	
6.2.1.6	Construction fencing	900.00	LF	12.00	10,800.00	
6.2.1.7	General Conditions	1.00	LS	152,990.84	152,990.84	
6.2.1.7.1	Site overhead	1.00	LS	133,695.01	133,695.01	
6.2.1.7.2	Home office support	1.00	LS	19,295.83	19,295.83	
6.2.1.8	Install silt curtain	550.00	LF	33.67	18,519.33	
6.2.2	Mobilization (2nd year of construction)	1.00	LS	207,094.90	207,094.90	
6.2.2.1	Personel and equipment	1.00	LS	8,120.70	8,120.70	
6.2.2.2	Temporary facilities	1.00	LS	6,750.55	6,750.55	
6.2.2.2.1	Office trailer	1.00	LS	1,905.29	1,905.29	
6.2.2.2.2	Job boxes	1.00	LS	1,157.86	1,157.86	
6.2.2.2.3	Utilities	1.00	LS	3,687.40	3,687.40	
6.2.2.3	Sedimentation and erosion control	300.00	LF	3.88	1,164.06	
6.2.2.4	Site prep	1.00	LS	10,677.05	10,677.05	
6.2.2.4.1	Stabilized construction entrance	1.00	LS	1,673.35	1,673.35	
6.2.2.4.2	Minor site clearing	1.00	LS	2,005.75	2,005.75	
6.2.2.4.3	Stockpile areas	1.00	LS	6,997.94	6,997.94	
6.2.2.4.3.1	1 to 1 slopes Non Haz/contaminated material	5,000.00	SF	1.40	6,997.94	
6.2.2.5	Survey	1.00	LS	11,820.00	11,820.00	
6.2.2.5.1	Pre-construction survey	1.00	LS	5,910.00	5,910.00	
6.2.2.5.2	As-built survey	1.00	LS	5,910.00	5,910.00	

Code	Description	Quantity	Unit of Measure	Unit Price	Total Cost (Forecast)	User Defined 1
6.2.2.6	Construction fencing	200.00	LF	12.00	2,400.00	
6.2.2.7	General Conditions	1.00	LS	147,643.21	147,643.21	
6.2.2.7.1	Site overhead	1.00	LS	137,705.86	137,705.86	
6.2.2.7.2	Home office support	1.00	LS	9,937.35	9,937.35	
6.2.2.8	Install silt curtain	550.00	LF	33.67	18,519.33	
6.3	Dredge Visually Impacted sediments (2.5')	1.00	LS	1,007,612.24	1,007,612.24	
6.3.1	Install floating platform (2 seasons)	2.00	EA	189,106.44	378,212.89	
6.3.2	Setup piping system (2 seasons)	2.00	EA	13,367.11	26,734.22	
6.3.3	Setup geotube area (150' x 100')	1.00	LS	138,034.48	138,034.48	
6.3.3.1	Construct soil berms	1.00	LS	4,795.59	4,795.59	
6.3.3.2	Install Geotextile cushion layer	15,000.00	SF	0.51	7,640.03	
6.3.3.3	Stone bedding (3-inches)	15,000.00	SF	0.33	5,018.86	
6.3.3.4	Install HDPE lining	15,000.00	SF	0.57	8,580.00	
6.3.3.5	Geotubes (Engineering, Fabric selection and Sizing) year 1	800.00	LF	70.00	56,000.00	
6.3.3.6	Geotubes (Engineering, Fabric selection and Sizing) year 2	800.00	LF	70.00	56,000.00	
6.3.4	Dredge sediments to 2.5	8,448.00	CY	49.48	418,033.98	
6.3.5	Geotube work area activities	1.00	LS	46,596.67	46,596.67	
6.4	Handling/dewatering of sediments	1.00	LS	33,450.96	33,450.96	
6.4.1	Load out dewatered sediments	9,715.00	CY	2.49	24,228.78	
6.4.2	Setup water collection area	1.00	LS	9,222.19	9,222.19	
6.4.2.1	Collection Tanks	4.00	Month	2,305.55	9,222.19	
6.5	Transportation and Disposal of Sediments	15,544.00	Ton	90.00	1,398,960.00	
6.6	Transportation and Disposal of Decanted Water	1.00	LS	87,355.26	87,355.26	
6.6.1	Collection of decanted water	1.00	LS	11,455.26	11,455.26	
6.6.2	Disposal of treated water	126,500.00	Gallon	0.60	75,900.00	
6.7	Construct Access Piers	1.00	LS	116,668.87	116,668.87	
6.7.1	Access pier 1	150.00	LF	333.34	50,000.94	
6.7.2	Access pier 2	200.00	LF	333.34	66,667.92	
6.8	Installation of Ammended Cap	1.00	LS	869,637.29	869,637.29	
6.8.1	Mix design	1.00	LS	25,000.00	25,000.00	
6.8.2	Install 4-inch thick Aquablok, 24-inches habitat substrate	76,075.00	SF	11.05	840,637.29	
6.8.3	QC check thicknesses	1.00	LS	4,000.00	4,000.00	
6.9	Site restoration	1.00	LS	41,429.71	41,429.71	
6.9.1	Topsoil and seeding	37,400.00	SF	0.50	18,725.00	
6.9.2	Tree planting	30.00	EA	35.86	1,075.65	
6.9.2.1	Planting, trees, shrubs, and ground cover, heavy or stony soil, container, 5 gallon, includes planting only	30.00	Ea.	35.86	1,075.65	
6.9.3	Remove piers	1,265.00	CY	14.54	18,386.92	
6.9.4	Loadout riprpap	1,265.00	CY	2.56	3,242.14	
6.10	Demobilization	1.00	LS	16,516.02	16,516.02	
6.10.1	Site cleanup	1.00	LS	8,631.85	8,631.85	
6.10.2	Personnel and equipment	1.00	LS	7,884.17	7,884.17	
6.11	Payment and Performance Bonds	1.00	LS	84,600.00	84,600.00	
6.12	Contractor Profit	1.00	LS	415,300.00	415,300.00	
6.13	Contingency @ 20%	1.00	LS	913,700.00	913,700.00	
6.14	Engineering/Regulatory oversight	1.00	LS	274,661.13	274,661.13	
Total:	**Alternative 3A - Dredging with Capping**				**5,756,683.85**	
Grand Total:					**5,756,683.85**	

Code	Description	Quantity	Unit of Measure	Unit Price	Total Cost (Forecast)	User Defined 1

Estimate Summary
AMEC ENVIRONMENT & INFRASTRUCTURE, INC.
Job Code: NYS-POR-141203
Description: Saranac Lake FS

From Cost Item: 7 **To Cost Item: 7.13**

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
7	1.00	LS	Alternative 3B - Dredging to 6'	Detail	U.S. Dollar	9,209,801.95	9,209,801.95
7.1	1.00	LS	Work Plans, Schedules and Permits	Detail	U.S. Dollar	72,284.97	72,284.97
7.1.1	1.00	Each	Detailed Construction Plan	Detail	U.S. Dollar	15,302.21	15,302.21

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-PE101-B	Project Engineer	24.00	0.25	Each (hourly)	U.S. Dollar	79.83	1,915.81
L-A-PM201	Project Manager	72.00	0.75	Each (hourly)	U.S. Dollar	32.20	2,318.14
L-A-QC101	QC Officer	12.00	0.13	Each (hourly)	U.S. Dollar	43.19	518.27
L-A-HS103	Safety Officer	12.00	0.13	Each (hourly)	U.S. Dollar	59.33	711.96
L-A-AA102	Project Contol /Scheduler	48.00	0.50	Each (hourly)	U.S. Dollar	47.31	2,270.93
L-A-AA101	Admisistrative Assistant	48.00	0.50	Each (hourly)	U.S. Dollar	37.91	1,819.66
L-A-SS101	Site Superintendent	72.00	0.75	Each (hourly)	U.S. Dollar	79.83	5,747.44

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
7.1.2	1.00	Each	H&S Plan project	Detail	U.S. Dollar	11,698.23	11,698.23

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant	96.00	1.00	Each (hourly)	U.S. Dollar	37.91	3,639.32
L-A-HS103	Safety Officer	16.32	0.17	Each (hourly)	U.S. Dollar	59.33	968.27
L-A-PE101-A	Project Engineer	32.00	0.33	Each (hourly)	U.S. Dollar	27.50	879.77
L-A-PM201	Project Manager	16.00	0.17	Each (hourly)	U.S. Dollar	32.20	515.15
L-A-HS104	Safety Tech	96.00	1.00	Each (hourly)	U.S. Dollar	59.33	5,695.72

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
7.1.3	1.00	Each	Contingency Plan	Detail	U.S. Dollar	11,463.99	11,463.99

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-PE101-B	Project Engineer	80.00	1.00	Each (hourly)	U.S. Dollar	79.83	6,386.05
L-A-PM201	Project Manager	20.00	0.25	Each (hourly)	U.S. Dollar	32.20	643.93
L-A-QC101	QC Officer	10.00	0.13	Each (hourly)	U.S. Dollar	43.19	431.89
L-A-HS103	Safety Officer	10.00	0.13	Each (hourly)	U.S. Dollar	59.33	593.30
L-A-AA102	Project Contol /Scheduler	40.00	0.50	Each (hourly)	U.S. Dollar	47.31	1,892.44
L-A-AA101	Admisistrative Assistant	40.00	0.50	Each (hourly)	U.S. Dollar	37.91	1,516.38

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
7.1.4	1.00	Each	QA/QC Plan	Detail	U.S. Dollar	4,229.73	4,229.73

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant	40.00	1.00	Each (hourly)	U.S. Dollar	37.91	1,516.38
L-A-PE101-B	Project Engineer	4.00	0.10	Each (hourly)	U.S. Dollar	79.83	319.30
L-A-PM201	Project Manager	4.00	0.10	Each (hourly)	U.S. Dollar	32.20	128.79
L-A-QC101	QC Officer	16.00	0.40	Each (hourly)	U.S. Dollar	43.19	691.02
L-A-QC102	QC Tech	40.00	1.00	Each (hourly)	U.S. Dollar	39.36	1,574.24

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
7.1.5	1.00	Each	Traffic Control Plan	Detail	U.S. Dollar	6,689.11	6,689.11

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant	24.00	0.50	Each (hourly)	U.S. Dollar	37.91	909.83
L-A-PE101-B	Project Engineer	48.00	1.00	Each (hourly)	U.S. Dollar	79.83	3,831.63
L-A-PM201	Project Manager	16.00	0.33	Each (hourly)	U.S. Dollar	32.20	515.09
L-A-HS103	Safety Officer	8.00	0.17	Each (hourly)	U.S. Dollar	59.33	474.65
L-A-SS101	Site Superintendent	12.00	0.25	Each (hourly)	U.S. Dollar	79.83	957.91

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
7.1.6	1.00	Each	Storm Water Management Plan	Detail	U.S. Dollar	5,901.71	5,901.71

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost

CBS Position Code	Quantity	UM	Description	Cost Item	Cost Source	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant	9.60	0.20	Each (hourly)	U.S. Dollar		37.91	363.93
L-A-PE101-A	Project Engineer	48.00	1.00	Each (hourly)	U.S. Dollar		27.50	1,319.79
L-A-PM201	Project Manager	12.00	0.25	Each (hourly)	U.S. Dollar		32.20	386.36
L-A-SS101	Site Superintendent	48.00	1.00	Each (hourly)	U.S. Dollar		79.83	3,831.63
7.1.7	1.00	Each	Permits (other than listed in Summary of Work)		Detail	U.S. Dollar	17,000.00	17,000.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U-C&E-10.20	Fees & Permits		2.00	LS	U.S. Dollar	7,500.00	15,000.00
U-PERMITS -00	Permits - Demo, road opening, Etc.		4.00	Each	U.S. Dollar	500.00	2,000.00

7.2	1.00	LS	Mobilization	Detail	U.S. Dollar	526,590.80	526,590.80
7.2.1	1.00	LS	Mobilization (1st year of construction)	Detail	U.S. Dollar	275,132.08	275,132.08
7.2.1.1	1.00	LS	Personel and equipment	Detail	U.S. Dollar	7,884.17	7,884.17

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SF102	Site Foreman	8.00	1.00	Each (hourly)	U.S. Dollar	30.37	242.99
L-O-LHC001 D	Heavy Constr Skilled Laborer	48.00	6.00	Each (hourly)	U.S. Dollar	48.54	2,329.83
L-O-E002	Equipment Operator B	16.00	2.00	Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	105.52	844.18
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	95.07	760.58
UM-D-10.03	Mobe Demobe equipment >50,000 < 100,000		1.00	LS	U.S. Dollar	750.00	750.00
UM-D-10.02	Mobe Demobe equipment >25,000 < 50,000		1.00	LS	U.S. Dollar	450.00	450.00
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly	16.00	2.00	Each (hourly)	U.S. Dollar	97.64	1,562.21

7.2.1.2	1.00	LS	Temporary facilities	Detail	U.S. Dollar	6,551.30	6,551.30
7.2.1.2.1	1.00	LS	Office trailer	Detail	U.S. Dollar	1,849.80	1,849.80

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UZ-ST-08x32-5	8x32 Trailer Tear Down		1.00	Each	U.S. Dollar	166.00	166.00
UZ-ST-08x32-1	8x32 Trailer		2.00	Month	U.S. Dollar	342.40	684.80
UZ-ST-08x32-4	8x32 Trailer Skirting		1.00	Each	U.S. Dollar	80.00	80.00
UZ-ST-08x32-2	8x32 Trailer Set up		1.00	Each	U.S. Dollar	179.00	179.00
UZ-ST-08x32-6	8x32 StrorageTrailer Freight		2.00	1/way	U.S. Dollar	320.00	640.00
UZ-ST-08x32-3	8x32 Trailer Anchor		1.00	Each	U.S. Dollar	100.00	100.00

7.2.1.2.2	1.00	LS	Job boxes	Detail	U.S. Dollar	1,121.50	1,121.50

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UZ-STS-08X32-3	8x32 StrorageTrailer Rental		1.00	Month	U.S. Dollar	481.50	481.50
UZ-STS-08X32-2	8x 20 or32 StrorageTrailer Freight		2.00	1/way	U.S. Dollar	320.00	640.00

7.2.1.2.3	1.00	LS	Utilities	Detail	U.S. Dollar	3,580.00	3,580.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USERV-10.12	Elect'n, truck, plus mate, connecting and installing Temp power pole incl Mats		2.00	Day	U.S. Dollar	1,250.00	2,500.00
USERV-20.12	4/5 cy Garbage Container. Including Changing weekly		2.00	Month	U.S. Dollar	450.00	900.00
USERV-10.50	Portable Toilets incl freight.		2.00	Month	U.S. Dollar	90.00	180.00

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
7.2.1.3	300.00	LF	Sedimentation and erosion control	Detail	U.S. Dollar	3.88	1,164.06

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
SS-1-102-001	Silt fencing 3ft high including posts		3.00	Roll	U.S. Dollar	26.75	80.25
SS-1-103-000	Hay Bales		100.00	Each	U.S. Dollar	6.96	695.50

7.2.1.4	1.00	LS	Site prep	Detail	U.S. Dollar	12,682.80	12,682.80
7.2.1.4.1	1.00	LS	Stabilized construction entrance	Detail	U.S. Dollar	1,673.35	1,673.35

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
L-O-E002	Equipment Operator B	8.00	2.00	Each (hourly)	U.S. Dollar	59.02	472.19
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	4.00	1.00	Each (hourly)	U.S. Dollar	105.52	422.09
L-O-DR4	Dump truck Level D driver	4.00	1.00	Each (hourly)	U.S. Dollar	49.31	197.24
E1H-DUMP TRK 0014	14CY Dump Truck	4.00	1.00	Each (hourly)	U.S. Dollar	34.41	137.63
MG-1-10-22	Class A Geofabric as Spec.		55.00	SY	U.S. Dollar	1.02	55.91

7.2.1.4.2	1.00	LS	Minor site clearing	Detail	U.S. Dollar	4,011.50	4,011.50

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	32.00	4.00	Each (hourly)	U.S. Dollar	48.54	1,553.22
L-O-E002	Equipment Operator B	16.00	2.00	Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	105.52	844.18
L-O-DR4	Dump truck Level D driver	8.00	1.00	Each (hourly)	U.S. Dollar	49.31	394.47
E1H-DUMP TRK 0014	14CY Dump Truck	8.00	1.00	Each (hourly)	U.S. Dollar	34.41	275.25

7.2.1.4.3	1.00	LS	Stockpile areas	Detail	U.S. Dollar	6,997.94	6,997.94
7.2.1.4.3.1	5,000.00	SF	1 to 1 slopes Non Haz/contaminated material	Detail	U.S. Dollar	1.40	6,997.94

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
MF-1-10.108	1 1/2'" Stone /Aggregates		210.33	Ton	U.S. Dollar	17.65	3,713.43
SG-1-10.12SF	6oz Non-woven geo-fabric		7,333.33	SF	U.S. Dollar	0.10	706.20
E1C5006.1001	- Wheeled Loader 928G 149hp a-Monthly	5.33	1.00	Each (hourly)	U.S. Dollar	65.68	350.30
L-O-LHC001	Heavy Constr Skilled Laborer	10.67	2.00	Each (hourly)	U.S. Dollar	79.11	843.82

7.2.1.5	1.00	LS	Survey	Detail	U.S. Dollar	11,820.00	11,820.00
7.2.1.5.1	1.00	LS	Pre-construction survey	Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00	Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00	Day	U.S. Dollar	850.00	2,550.00

7.2.1.5.2	1.00	LS	As-built survey	Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00	Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00	Day	U.S. Dollar	850.00	2,550.00

7.2.1.6	900.00	LF	Construction fencing	Detail	U.S. Dollar	12.00	10,800.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost

CBS Position Code	Quantity UM	Description	Cost Item	Cost Source	Currency	Unit Cost	Total Cost
U-TEMP FENCE 100	6ft High Chain link fencing with post set in ground (not concreted in)		900.00 LF	U.S. Dollar		12.00	10,800.00
7.2.1.7	1.00 LS	General Conditions		Detail	U.S. Dollar	205,710.43	205,710.43
7.2.1.7.1	1.00 LS	Site overhead		Detail	U.S. Dollar	167,118.76	167,118.76

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
L-A-SS102	Site Superintendent D	800.00	1.00 Each (hourly)	U.S. Dollar	52.13	41,701.96
L-A-QC101	QC Officer	800.00	1.00 Each (hourly)	U.S. Dollar	43.19	34,551.07
L-A-PE101-B	Project Engineer	800.00	1.00 Each (hourly)	U.S. Dollar	79.83	63,860.46
E-PICK UP F150-001	F150 Standard Pick up	2,400.00	3.00 Each (hourly)	U.S. Dollar	11.25	27,005.28

7.2.1.7.2	1.00 LS	Home office support		Detail	U.S. Dollar	38,591.67	38,591.67

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
L-A-CM101	Construction Manager	320.00	1.00 Each (hourly)	U.S. Dollar	46.27	14,806.28
L-A-AE101	Senior Estimator	320.00	1.00 Each (hourly)	U.S. Dollar	36.42	11,654.33
L-A-AA101	Admisistrative Assistant	320.00	1.00 Each (hourly)	U.S. Dollar	37.91	12,131.06

7.2.1.8	550.00 LF	Install silt curtain		Detail	U.S. Dollar	33.67	18,519.33

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
SS-1-200-016	6ft Turbidity Curtain plus weights		550.00 LF	U.S. Dollar	12.84	7,062.00
SS-1-200-100	Boom to top of Turbidity Curtain		550.00 LF	U.S. Dollar	16.05	8,827.50
L-O-LHC001 D	Heavy Constr Skilled Laborer	48.00	3.00 Each (hourly)	U.S. Dollar	48.54	2,329.83
	job boat		2.00 Day	U.S. Dollar	150.00	300.00

7.2.2	1.00 LS	Mobilization (2nd year of construction)		Detail	U.S. Dollar	251,458.72	251,458.72
7.2.2.1	1.00 LS	Personel and equipment		Detail	U.S. Dollar	8,120.70	8,120.70

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
L-A-SF102	Site Foreman	8.00	1.00 Each (hourly)	U.S. Dollar	30.37	242.99
L-O-LHC001 D	Heavy Constr Skilled Laborer	48.00	6.00 Each (hourly)	U.S. Dollar	48.54	2,329.83
L-O-E002	Equipment Operator B	16.00	2.00 Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	8.00	1.00 Each (hourly)	U.S. Dollar	105.52	844.18
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	8.00	1.00 Each (hourly)	U.S. Dollar	95.07	760.58
UM-D-10.03	Mobe Demobe equipment >50,000 < 100,000		1.00 LS	U.S. Dollar	750.00	750.00
UM-D-10.02	Mobe Demobe equipment >25,000 < 50,000		1.00 LS	U.S. Dollar	450.00	450.00
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly	16.00	2.00 Each (hourly)	U.S. Dollar	97.64	1,562.21

7.2.2.2	1.00 LS	Temporary facilities		Detail	U.S. Dollar	6,750.55	6,750.55
7.2.2.2.1	1.00 LS	Office trailer		Detail	U.S. Dollar	1,905.29	1,905.29

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
UZ-ST-08x32-5	8x32 Trailer Tear Down		1.00 Each	U.S. Dollar	166.00	166.00
UZ-ST-08x32-1	8x32 Trailer		2.00 Month	U.S. Dollar	342.40	684.80
UZ-ST-08x32-4	8x32 Trailer Skirting		1.00 Each	U.S. Dollar	80.00	80.00
UZ-ST-08x32-2	8x32 Trailer Set up		1.00 Each	U.S. Dollar	179.00	179.00
UZ-ST-08x32-6	8x32 StrorageTrailer Freight		2.00 1/way	U.S. Dollar	320.00	640.00
UZ-ST-08x32-3	8x32 Trailer Anchor		1.00 Each	U.S. Dollar	100.00	100.00

7.2.2.2.2	1.00 LS	Job boxes		Detail	U.S. Dollar	1,157.86	1,157.86

CBS Position Code	Quantity	UM	Description	Cost Item Cost Source	Currency	Unit Cost	Total Cost

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UZ-STS-08X32-3	8x32 StrorageTrailer Rental		1.00	Month	U.S. Dollar	481.50	481.50
UZ-STS-08X32-2	8x 20 or32 StrorageTrailer Freight		2.00	1/way	U.S. Dollar	320.00	640.00
	escalation		1.00	Each	U.S. Dollar	36.36	36.36

7.2.2.2.3	1.00 LS	Utilities		Detail	U.S. Dollar	3,687.40	3,687.40

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USERV-10.12	Elect'n, truck, plus mate, connecting and installing Temp power pole incl Mats		2.00	Day	U.S. Dollar	1,250.00	2,500.00
USERV-20.12	4/5 cy Garbage Container. Including Changing weekly		2.00	Month	U.S. Dollar	450.00	900.00
USERV-10.50	Portable Toilets incl freight.		2.00	Month	U.S. Dollar	90.00	180.00

7.2.2.3	300.00 LF	Sedimentation and erosion control		Detail	U.S. Dollar	3.88	1,164.06

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
SS-1-102-001	Silt fencing 3ft high including posts		3.00	Roll	U.S. Dollar	26.75	80.25
SS-1-103-000	Hay Bales		100.00	Each	U.S. Dollar	6.96	695.50

7.2.2.4	1.00 LS	Site prep		Detail	U.S. Dollar	10,677.05	10,677.05

7.2.2.4.1	1.00 LS	Stabilized construction entrance		Detail	U.S. Dollar	1,673.35	1,673.35

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
L-O-E002	Equipment Operator B	8.00	2.00	Each (hourly)	U.S. Dollar	59.02	472.19
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	4.00	1.00	Each (hourly)	U.S. Dollar	105.52	422.09
L-O-DR4	Dump truck Level D driver	4.00	1.00	Each (hourly)	U.S. Dollar	49.31	197.24
E1H-DUMP TRK 0014	14CY Dump Truck	4.00	1.00	Each (hourly)	U.S. Dollar	34.41	137.63
MG-1-10-22	Class A Geofabric as Spec.		55.00	SY	U.S. Dollar	1.02	55.91

7.2.2.4.2	1.00 LS	Minor site clearing		Detail	U.S. Dollar	2,005.75	2,005.75

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	16.00	4.00	Each (hourly)	U.S. Dollar	48.54	776.61
L-O-E002	Equipment Operator B	8.00	2.00	Each (hourly)	U.S. Dollar	59.02	472.19
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	4.00	1.00	Each (hourly)	U.S. Dollar	105.52	422.09
L-O-DR4	Dump truck Level D driver	4.00	1.00	Each (hourly)	U.S. Dollar	49.31	197.24
E1H-DUMP TRK 0014	14CY Dump Truck	4.00	1.00	Each (hourly)	U.S. Dollar	34.41	137.63

7.2.2.4.3	1.00 LS	Stockpile areas		Detail	U.S. Dollar	6,997.94	6,997.94

7.2.2.4.3.1	5,000.00 SF	1 to 1 slopes Non Haz/contaminated material		Detail	U.S. Dollar	1.40	6,997.94

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
MF-1-10.108	1 1/2'" Stone /Aggregates		210.33	Ton	U.S. Dollar	17.65	3,713.43
SG-1-10.12SF	6oz Non-woven geo-fabric		7,333.33	SF	U.S. Dollar	0.10	706.20
E1C5006.1001	- Wheeled Loader 928G 149hp a-Monthly	5.33	1.00	Each (hourly)	U.S. Dollar	65.68	350.30
L-O-LHC001	Heavy Constr Skilled Laborer	10.67	2.00	Each (hourly)	U.S. Dollar	79.11	843.82

7.2.2.5	1.00 LS	Survey		Detail	U.S. Dollar	11,820.00	11,820.00

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
			Cost Item				
7.2.2.5.1	1.00	LS	Pre-construction survey	Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00	Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00	Day	U.S. Dollar	850.00	2,550.00

7.2.2.5.2	1.00	LS	As-built survey	Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00	Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00	Day	U.S. Dollar	850.00	2,550.00

7.2.2.6	200.00	LF	Construction fencing	Detail	U.S. Dollar	12.00	2,400.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U-TEMP FENCE 100	6ft High Chain link fencing with post set in ground (not concreted in)		200.00	LF	U.S. Dollar	12.00	2,400.00

7.2.2.7	1.00	LS	General Conditions	Detail	U.S. Dollar	192,007.03	192,007.03

7.2.2.7.1	1.00	LS	Site overhead	Detail	U.S. Dollar	172,132.32	172,132.32

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SS102	Site Superintendent D	800.00	1.00	Each (hourly)	U.S. Dollar	52.13	41,701.96
L-A-QC101	QC Officer	800.00	1.00	Each (hourly)	U.S. Dollar	43.19	34,551.07
L-A-PE101-B	Project Engineer	800.00	1.00	Each (hourly)	U.S. Dollar	79.83	63,860.46
E-PICK UP F150-001	F150 Standard Pick up	2,400.00	3.00	Each (hourly)	U.S. Dollar	11.25	27,005.28

7.2.2.7.2	1.00	LS	Home office support	Detail	U.S. Dollar	19,874.71	19,874.71

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-CM101	Construction Manager	160.00	1.00	Each (hourly)	U.S. Dollar	46.27	7,403.14
L-A-AE101	Senior Estimator	160.00	1.00	Each (hourly)	U.S. Dollar	36.42	5,827.17
L-A-AA101	Admisistrative Assistant	160.00	1.00	Each (hourly)	U.S. Dollar	37.91	6,065.53

7.2.2.8	550.00	LF	Install silt curtain	Detail	U.S. Dollar	33.67	18,519.33

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
SS-1-200-016	6ft Turbidity Curtain plus weights		550.00	LF	U.S. Dollar	12.84	7,062.00
SS-1-200-100	Boom to top of Turbidity Curtain		550.00	LF	U.S. Dollar	16.05	8,827.50
L-O-LHC001 D	Heavy Constr Skilled Laborer	48.00	3.00	Each (hourly)	U.S. Dollar	48.54	2,329.83
	job boat		2.00	Day	U.S. Dollar	150.00	300.00

7.3	1.00	LS	Dredge Sediments to 6'	Detail	U.S. Dollar	1,537,899.80	1,537,899.80

7.3.1	2.00	EA	Install floating platform (2 seasons)	Detail	U.S. Dollar	189,106.44	378,212.89

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	EFP Floating Platform Mob/Demob		100.00	LF	U.S. Dollar	1,850.00	185,000.00
U- CRANE 50 T	50Ton Crane incluing driver Driver. 10 hr day		1.00	Day	U.S. Dollar	2,000.00	2,000.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	128.00	4.00	Each (hourly)	U.S. Dollar	48.54	6,212.89
	EFP Floating Platform Mob/Demob (year 2)		100.00	LF	U.S. Dollar	1,850.00	185,000.00

7.3.2	2.00	EA	Setup piping system (2 seasons)	Detail	U.S. Dollar	13,367.11	26,734.22

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	256.00	4.00	Each (hourly)	U.S. Dollar	48.54	12,425.78
L-O-E002	Equipment Operator B	128.00	2.00	Each (hourly)	U.S. Dollar	59.02	7,555.03

CBS Position Code	Quantity	UM	Description			Cost Source	Currency	Unit Cost	Total Cost
				Cost Item					
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly			64.00	1.00 Each (hourly)	U.S. Dollar		105.52	6,753.41
7.3.3	1.00	LS	Setup geotube area (150' x 100') 2 areas			Detail	U.S. Dollar	304,068.96	304,068.96
7.3.3.1	1.00	LS	Construct soil berms			Detail	U.S. Dollar	9,591.18	9,591.18
Resource Code	**Description**			**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
MF-1-14.000	General Fill				300.00 CY	U.S. Dollar		12.84	3,852.00
L-O-LHC001 D	Heavy Constr Skilled Laborer			64.00	4.00 Each (hourly)	U.S. Dollar		48.54	3,106.44
L-O-E002	Equipment Operator B			16.00	1.00 Each (hourly)	U.S. Dollar		59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly			16.00	1.00 Each (hourly)	U.S. Dollar		105.52	1,688.35
7.3.3.2	30,000.00	SF	Install Geotextile cushion layer			Detail	U.S. Dollar	0.51	15,280.06
Resource Code	**Description**			**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
L-O-LHC001 D	Heavy Constr Skilled Laborer			128.00	4.00 Each (hourly)	U.S. Dollar		48.54	6,212.89
L-O-E002	Equipment Operator B			32.00	1.00 Each (hourly)	U.S. Dollar		59.02	1,888.76
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly			32.00	1.00 Each (hourly)	U.S. Dollar		105.52	3,376.70
MG-1-10-22	Class A Geofabric as Spec.				3,740.00 SY	U.S. Dollar		1.02	3,801.71
7.3.3.3	30,000.00	SF	Stone bedding (3-inches)			Detail	U.S. Dollar	0.33	10,037.73
Resource Code	**Description**			**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
MF-1-10.108	1 1/2'" Stone /Aggregates				450.00 Ton	U.S. Dollar		17.65	7,944.75
L-O-LHC001 D	Heavy Constr Skilled Laborer			16.00	2.00 Each (hourly)	U.S. Dollar		48.54	776.61
L-O-E002	Equipment Operator B			8.00	1.00 Each (hourly)	U.S. Dollar		59.02	472.19
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly			8.00	1.00 Each (hourly)	U.S. Dollar		105.52	844.18
7.3.3.4	30,000.00	SF	Install HDPE lining			Detail	U.S. Dollar	0.57	17,160.00
Resource Code	**Description**			**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
U-LINERSUB-10-040	40 Mil HDPE liner installed				33,000.00 SF	U.S. Dollar		0.52	17,160.00
7.3.3.5	1,800.00	LF	Geotubes (Engineering, Fabric selection and Sizing) year 1			Detail	U.S. Dollar	70.00	126,000.00
Resource Code	**Description**			**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
	Geotubes				1,800.00 LF	U.S. Dollar		70.00	126,000.00
7.3.3.6	1,800.00	LF	Geotubes (Engineering, Fabric selection and Sizing) year 2			Detail	U.S. Dollar	70.00	126,000.00
Resource Code	**Description**			**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
	Geotubes				1,800.00 LF	U.S. Dollar		70.00	126,000.00
7.3.4	20,287.00	CY	Dredge sediments to 6'			Detail	U.S. Dollar	37.03	751,222.61
Resource Code	**Description**			**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
	Dredge pump platforms				14.40 Each	U.S. Dollar		8,600.00	123,846.10
	Dredge Pumps and hydroscreen (3 ea)				21.60 Month	U.S. Dollar		7,500.00	162,007.99
	Flexible pump intake (3 ea)				10.80 Each	U.S. Dollar		8,000.00	86,404.26
L-O-LHC001 D	Heavy Constr Skilled Laborer			6,491.84	6.00 Each (hourly)	U.S. Dollar		48.54	315,102.23
L-O-E002	Equipment Operator B			1,081.97	1.00 Each (hourly)	U.S. Dollar		59.02	63,862.03
7.3.5	1.00	LS	Geotube work area activities			Detail	U.S. Dollar	77,661.12	77,661.12
Resource Code	**Description**			**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
L-O-LHC001 D	Heavy Constr Skilled Laborer			1,600.00	2.00 Each (hourly)	U.S. Dollar		48.54	77,661.12
7.4	1.00	LS	Handling/dewatering of sediments			Detail	U.S. Dollar	70,209.39	70,209.39

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
7.4.1	23,330.00	CY	Load out dewatered sediments	Detail	U.S. Dollar	2.49	58,183.98

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	287.14	1.00	Each (hourly)	U.S. Dollar	48.54	13,937.18
L-O-E002	Equipment Operator B	287.14	1.00	Each (hourly)	U.S. Dollar	59.02	16,947.96
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	287.14	1.00	Each (hourly)	U.S. Dollar	95.07	27,298.83

7.4.2	1.00	LS	Setup water collection area	Detail	U.S. Dollar	12,025.41	12,025.41
7.4.2.1	4.00	Month	Collection Tanks	Detail	U.S. Dollar	3,006.35	12,025.41

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	Collection Tank (8,000)		3.00	Each	U.S. Dollar	1,250.00	3,750.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	96.00	0.20	Each (hourly)	U.S. Dollar	48.54	4,659.67
U-P 004	Suction hose 10' length		80.00	EA	U.S. Dollar	27.29	2,182.80
U-P 005	6-inch x 50' discharge hose		24.00	Each	U.S. Dollar	59.71	1,432.94

7.5	37,327.00	Ton	Transportation and Disposal of Sediments	Detail	U.S. Dollar	90.00	3,359,430.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UT&D-10.80	T&D non Haz Material		37,327.00	Ton	U.S. Dollar	90.00	3,359,430.00

7.6	1.00	LS	Transportation and Disposal of Decanted Water	Detail	U.S. Dollar	239,155.26	239,155.26
7.6.1	1.00	LS	Collection of decanted water	Detail	U.S. Dollar	11,455.26	11,455.26

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U- FRAK -001	Frak Tank		4.00	Month	U.S. Dollar	802.50	3,210.00
U- FRAK -FRGHT. 001	Delivery or Pick Up		2.00	EA	U.S. Dollar	200.00	400.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	80.00	1.00	Each (hourly)	U.S. Dollar	48.54	3,883.06
E1XD-1000.1003	100 GPM Deisel Self Priming Pump 3 inch dia	80.00	1.00	Each (hourly)	U.S. Dollar	49.44	3,955.36
E1XD-1000.2014	Piping 20f Lenghts 4 inch dia	320.00	4.00	Each (hourly)	U.S. Dollar	0.02	6.85

7.6.2	379,500.00	Gallon	Disposal of treated water	Detail	U.S. Dollar	0.60	227,700.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	Treatment of water at off-site facility		379,500.00	Gallon	U.S. Dollar	0.20	75,900.00
	Trasportation of water		379,500.00	Gallon	U.S. Dollar	0.40	151,800.00

7.7	16,900.00	CY	Reinstate Lake Bottom	Detail	U.S. Dollar	42.83	723,836.74

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	Barge Mobilization		1.00	LS	U.S. Dollar	15,000.00	15,000.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	1,802.67	4.00	Each (hourly)	U.S. Dollar	48.54	87,498.20
L-O-E002	Equipment Operator B	901.33	2.00	Each (hourly)	U.S. Dollar	59.02	53,200.00
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	450.67	1.00	Each (hourly)	U.S. Dollar	95.07	42,845.78
L-A-SF102	Site Foreman	450.67	1.00	Each (hourly)	U.S. Dollar	30.37	13,688.52
MF-1-13.000	Sand Washed		10,140.00	CY	U.S. Dollar	12.84	130,197.60
	Barge rental		59.98	Day	U.S. Dollar	500.00	29,990.06
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	450.67	1.00	Each (hourly)	U.S. Dollar	105.52	47,555.25
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly	901.33	2.00	Each (hourly)	U.S. Dollar	97.64	88,004.74
L-O-DR1	Dump truck driver	901.33	2.00	Each (hourly)	U.S. Dollar	81.39	73,362.55
MF-1-13.000 (1)	Habitat Substrate		6,760.00	CY	U.S. Dollar	21.08	142,494.04

7.8	1.00	LS	Site restoration	Detail	U.S. Dollar	34,820.71	34,820.71
7.8.1	67,400.00	SF	Topsoil and seeding	Detail	U.S. Dollar	0.50	33,745.05

CBS Position Code	Quantity	UM	Description	Cost Item Cost Source	Currency	Unit Cost	Total Cost
Resource Code	**Description**		**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
E2C0102.0001	Backhoe 420-2WD+IT 15772 lb 85 hp a-Monthly		0.00	1.00	Each (hourly)	U.S. Dollar	24.38	0.00
MF-1-14.101	Topsoil Standard			1,261.50	CY	U.S. Dollar	26.75	33,745.05
7.8.2	30.00	EA	Tree planting	Detail		U.S. Dollar	35.86	1,075.65
7.8.2.1	30.00	Ea.	Planting, trees, shrubs, and ground cover, heavy or stony soil, container, 5 gallon, includes planting only	Detail		U.S. Dollar	35.86	1,075.65
Resource Code	**Description**		**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
CLAB	Common Building Laborers		34.29	2.00	Each (hourly)	U.S. Dollar	35.45	1,215.43
7.9	1.00	LS	Demobilization	Detail		U.S. Dollar	50,147.87	50,147.87
7.9.1	1.00	LS	Site cleanup	Detail		U.S. Dollar	17,263.70	17,263.70
Resource Code	**Description**		**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
L-O-LHC001 D	Heavy Constr Skilled Laborer		192.00	6.00	Each (hourly)	U.S. Dollar	48.54	9,319.33
L-O-E002	Equipment Operator B		32.00	1.00	Each (hourly)	U.S. Dollar	59.02	1,888.76
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly		32.00	1.00	Each (hourly)	U.S. Dollar	105.52	3,376.70
L-O-DR4	Dump truck Level D driver		32.00	1.00	Each (hourly)	U.S. Dollar	49.31	1,577.88
E1H-DUMP TRK 0014	14CY Dump Truck		32.00	1.00	Each (hourly)	U.S. Dollar	34.41	1,101.01
7.9.2	1.00	LS	Personnel and equipment	Detail		U.S. Dollar	32,884.17	32,884.17
Resource Code	**Description**		**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
L-A-SF102	Site Foreman		8.00	1.00	Each (hourly)	U.S. Dollar	30.37	242.99
L-O-LHC001 D	Heavy Constr Skilled Laborer		48.00	6.00	Each (hourly)	U.S. Dollar	48.54	2,329.83
L-O-E002	Equipment Operator B		16.00	2.00	Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly		8.00	1.00	Each (hourly)	U.S. Dollar	105.52	844.18
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly		8.00	1.00	Each (hourly)	U.S. Dollar	95.07	760.58
UM-D-10.03	Mobe Demobe equipment >50,000 < 100,000			1.00	LS	U.S. Dollar	750.00	750.00
UM-D-10.02	Mobe Demobe equipment >25,000 < 50,000			1.00	LS	U.S. Dollar	450.00	450.00
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly		16.00	2.00	Each (hourly)	U.S. Dollar	97.64	1,562.21
	Demob Barge			1.00	Each	U.S. Dollar	25,000.00	25,000.00
7.10	1.00	LS	Payment and Performance Bonds	Detail		U.S. Dollar	104,600.00	104,600.00
Resource Code	**Description**		**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
	Contractor Bond			1.00	Each	U.S. Dollar	104,600.00	104,600.00
7.11	1.00	LS	Contractor Profit	Detail		U.S. Dollar	671,100.00	671,100.00
Resource Code	**Description**		**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
	Contractor Profit			1.00	Each	U.S. Dollar	671,100.00	671,100.00
7.12	1.00	LS	Contingency @ 20%	Detail		U.S. Dollar	1,476,400.00	1,476,400.00
Resource Code	**Description**		**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
	Contingency @ 20%			1.00	Each	U.S. Dollar	1,476,400.00	1,476,400.00
7.13	1.00	LS	Engineering/Regulatory oversight	Detail		U.S. Dollar	343,326.42	343,326.42
Resource Code	**Description**		**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
AFC- Field-121-01	Construction Manager Supervisor		1,600.00	1.00	Each (hourly)	U.S. Dollar	105.89	169,416.00
AFC- Field-121-02	Construction QA QC Specialst		1,600.00	1.00	Each (hourly)	U.S. Dollar	91.82	146,910.42

CBS Position Code	Quantity	UM	Description	Cost Item	Cost Source	Currency	Unit Cost	Total Cost
U-L&PD 100.101	Lodging per day			160.00 Day		U.S. Dollar	125.00	20,000.00
U-L&PD 100.201	Per diem perday			200.00 Day		U.S. Dollar	35.00	7,000.00

Category	Total
Labor	1,517,944.67
Rented Equip	708,002.89
Materials	593,382.93
Subcontract	4,850,578.35
Taxes	36,493.10
Allowance	1,476,400.00
Per Diem /Travel	27,000.00

CBS Outline Report
AMEC ENVIRONMENT & INFRASTRUCTURE, INC.
Job Code: NYS-POR-141203
Description: Saranac Lake FS

From Cost Item: . **To Cost Item: .**

Code	Description	Quantity	Unit of Measure	Unit Price	Total Cost (Forecast)	User Defined 1
7	Alternative 3B - Dredging to 6'					
7.1	Work Plans, Schedules and Permits	1.00	LS	72,284.97	72,284.97	
7.1.1	Detailed Construction Plan	1.00	Each	15,302.21	15,302.21	
7.1.2	H&S Plan project	1.00	Each	11,698.23	11,698.23	
7.1.3	Contingency Plan	1.00	Each	11,463.99	11,463.99	
7.1.4	QA/QC Plan	1.00	Each	4,229.73	4,229.73	
7.1.5	Traffic Control Plan	1.00	Each	6,689.11	6,689.11	
7.1.6	Storm Water Management Plan	1.00	Each	5,901.71	5,901.71	
7.1.7	Permits (other than listed in Summary of Work)	1.00	Each	17,000.00	17,000.00	
7.2	Mobilization	1.00	LS	526,590.80	526,590.80	
7.2.1	Mobilization (1st year of construction)	1.00	LS	275,132.08	275,132.08	
7.2.1.1	Personel and equipment	1.00	LS	7,884.17	7,884.17	
7.2.1.2	Temporary facilities	1.00	LS	6,551.30	6,551.30	
7.2.1.2.1	Office trailer	1.00	LS	1,849.80	1,849.80	
7.2.1.2.2	Job boxes	1.00	LS	1,121.50	1,121.50	
7.2.1.2.3	Utilities	1.00	LS	3,580.00	3,580.00	
7.2.1.3	Sedimentation and erosion control	300.00	LF	3.88	1,164.06	
7.2.1.4	Site prep	1.00	LS	12,682.80	12,682.80	
7.2.1.4.1	Stabilized construction entrance	1.00	LS	1,673.35	1,673.35	
7.2.1.4.2	Minor site clearing	1.00	LS	4,011.50	4,011.50	
7.2.1.4.3	Stockpile areas	1.00	LS	6,997.94	6,997.94	
7.2.1.4.3.1	1 to 1 slopes Non Haz/contaminated material	5,000.00	SF	1.40	6,997.94	
7.2.1.5	Survey	1.00	LS	11,820.00	11,820.00	
7.2.1.5.1	Pre-construction survey	1.00	LS	5,910.00	5,910.00	
7.2.1.5.2	As-built survey	1.00	LS	5,910.00	5,910.00	
7.2.1.6	Construction fencing	900.00	LF	12.00	10,800.00	
7.2.1.7	General Conditions	1.00	LS	205,710.43	205,710.43	
7.2.1.7.1	Site overhead	1.00	LS	167,118.76	167,118.76	
7.2.1.7.2	Home office support	1.00	LS	38,591.67	38,591.67	
7.2.1.8	Install silt curtain	550.00	LF	33.67	18,519.33	
7.2.2	Mobilization (2nd year of construction)	1.00	LS	251,458.72	251,458.72	
7.2.2.1	Personel and equipment	1.00	LS	8,120.70	8,120.70	
7.2.2.2	Temporary facilities	1.00	LS	6,750.55	6,750.55	
7.2.2.2.1	Office trailer	1.00	LS	1,905.29	1,905.29	
7.2.2.2.2	Job boxes	1.00	LS	1,157.86	1,157.86	
7.2.2.2.3	Utilities	1.00	LS	3,687.40	3,687.40	
7.2.2.3	Sedimentation and erosion control	300.00	LF	3.88	1,164.06	
7.2.2.4	Site prep	1.00	LS	10,677.05	10,677.05	
7.2.2.4.1	Stabilized construction entrance	1.00	LS	1,673.35	1,673.35	
7.2.2.4.2	Minor site clearing	1.00	LS	2,005.75	2,005.75	
7.2.2.4.3	Stockpile areas	1.00	LS	6,997.94	6,997.94	
7.2.2.4.3.1	1 to 1 slopes Non Haz/contaminated material	5,000.00	SF	1.40	6,997.94	
7.2.2.5	Survey	1.00	LS	11,820.00	11,820.00	
7.2.2.5.1	Pre-construction survey	1.00	LS	5,910.00	5,910.00	
7.2.2.5.2	As-built survey	1.00	LS	5,910.00	5,910.00	

Code	Description	Quantity	Unit of Measure	Unit Price	Total Cost (Forecast)	User Defined 1
7.2.2.6	Construction fencing	200.00	LF	12.00	2,400.00	
7.2.2.7	General Conditions	1.00	LS	192,007.03	192,007.03	
7.2.2.7.1	Site overhead	1.00	LS	172,132.32	172,132.32	
7.2.2.7.2	Home office support	1.00	LS	19,874.71	19,874.71	
7.2.2.8	Install silt curtain	550.00	LF	33.67	18,519.33	
7.3	Dredge Sediments to 6'	1.00	LS	1,537,899.80	1,537,899.80	
7.3.1	Install floating platform (2 seasons)	2.00	EA	189,106.44	378,212.89	
7.3.2	Setup piping system (2 seasons)	2.00	EA	13,367.11	26,734.22	
7.3.3	Setup geotube area (150' x 100') 2 areas	1.00	LS	304,068.96	304,068.96	
7.3.3.1	Construct soil berms	1.00	LS	9,591.18	9,591.18	
7.3.3.2	Install Geotextile cushion layer	30,000.00	SF	0.51	15,280.06	
7.3.3.3	Stone bedding (3-inches)	30,000.00	SF	0.33	10,037.73	
7.3.3.4	Install HDPE lining	30,000.00	SF	0.57	17,160.00	
7.3.3.5	Geotubes (Engineering, Fabric selection and Sizing) year 1	1,800.00	LF	70.00	126,000.00	
7.3.3.6	Geotubes (Engineering, Fabric selection and Sizing) year 2	1,800.00	LF	70.00	126,000.00	
7.3.4	Dredge sediments to 6'	20,287.00	CY	37.03	751,222.61	
7.3.5	Geotube work area activities	1.00	LS	77,661.12	77,661.12	
7.4	Handling/dewatering of sediments	1.00	LS	70,209.39	70,209.39	
7.4.1	Load out dewatered sediments	23,330.00	CY	2.49	58,183.98	
7.4.2	Setup water collection area	1.00	LS	12,025.41	12,025.41	
7.4.2.1	Collection Tanks	4.00	Month	3,006.35	12,025.41	
7.5	Transportation and Disposal of Sediments	37,327.00	Ton	90.00	3,359,430.00	
7.6	Transportation and Disposal of Decanted Water	1.00	LS	239,155.26	239,155.26	
7.6.1	Collection of decanted water	1.00	LS	11,455.26	11,455.26	
7.6.2	Disposal of treated water	379,500.00	Gallon	0.60	227,700.00	
7.7	Reinstate Lake Bottom	16,900.00	CY	42.83	723,836.74	
7.8	Site restoration	1.00	LS	34,820.71	34,820.71	
7.8.1	Topsoil and seeding	67,400.00	SF	0.50	33,745.05	
7.8.2	Tree planting	30.00	EA	35.86	1,075.65	
7.8.2.1	Planting, trees, shrubs, and ground cover, heavy or stony soil, container, 5 gallon, includes planting only	30.00	Ea.	35.86	1,075.65	
7.9	Demobilization	1.00	LS	50,147.87	50,147.87	
7.9.1	Site cleanup	1.00	LS	17,263.70	17,263.70	
7.9.2	Personnel and equipment	1.00	LS	32,884.17	32,884.17	
7.10	Payment and Performance Bonds	1.00	LS	104,600.00	104,600.00	
7.11	Contractor Profit	1.00	LS	671,100.00	671,100.00	
7.12	Contingency @ 20%	1.00	LS	1,476,400.00	1,476,400.00	
7.13	Engineering/Regulatory oversight	1.00	LS	343,326.42	343,326.42	
Total:	**Alternative 3B - Dredging to 6'**				**9,209,801.95**	
Grand Total:					**9,209,801.95**	

Estimate Summary
AMEC ENVIRONMENT & INFRASTRUCTURE, INC.
Job Code: NYS-POR-141203
Description: Saranac Lake FS

From Cost Item: 8 **To Cost Item: 8.13**

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
8	1.00	LS	Alternative 3C - Dredging to 9'	Detail	U.S. Dollar	22,488,469.78	22,488,469.78
8.1	1.00	LS	Work Plans, Schedules and Permits	Detail	U.S. Dollar	72,284.97	72,284.97
8.1.1	1.00	Each	Detailed Construction Plan	Detail	U.S. Dollar	15,302.21	15,302.21

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-PE101-B	Project Engineer	24.00	0.25	Each (hourly)	U.S. Dollar	79.83	1,915.81
L-A-PM201	Project Manager	72.00	0.75	Each (hourly)	U.S. Dollar	32.20	2,318.14
L-A-QC101	QC Officer	12.00	0.13	Each (hourly)	U.S. Dollar	43.19	518.27
L-A-HS103	Safety Officer	12.00	0.13	Each (hourly)	U.S. Dollar	59.33	711.96
L-A-AA102	Project Contol /Scheduler	48.00	0.50	Each (hourly)	U.S. Dollar	47.31	2,270.93
L-A-AA101	Admisistrative Assistant	48.00	0.50	Each (hourly)	U.S. Dollar	37.91	1,819.66
L-A-SS101	Site Superintendent	72.00	0.75	Each (hourly)	U.S. Dollar	79.83	5,747.44

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
8.1.2	1.00	Each	H&S Plan project	Detail	U.S. Dollar	11,698.23	11,698.23

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant	96.00	1.00	Each (hourly)	U.S. Dollar	37.91	3,639.32
L-A-HS103	Safety Officer	16.32	0.17	Each (hourly)	U.S. Dollar	59.33	968.27
L-A-PE101-A	Project Engineer	32.00	0.33	Each (hourly)	U.S. Dollar	27.50	879.77
L-A-PM201	Project Manager	16.00	0.17	Each (hourly)	U.S. Dollar	32.20	515.15
L-A-HS104	Safety Tech	96.00	1.00	Each (hourly)	U.S. Dollar	59.33	5,695.72

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
8.1.3	1.00	Each	Contingency Plan	Detail	U.S. Dollar	11,463.99	11,463.99

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-PE101-B	Project Engineer	80.00	1.00	Each (hourly)	U.S. Dollar	79.83	6,386.05
L-A-PM201	Project Manager	20.00	0.25	Each (hourly)	U.S. Dollar	32.20	643.93
L-A-QC101	QC Officer	10.00	0.13	Each (hourly)	U.S. Dollar	43.19	431.89
L-A-HS103	Safety Officer	10.00	0.13	Each (hourly)	U.S. Dollar	59.33	593.30
L-A-AA102	Project Contol /Scheduler	40.00	0.50	Each (hourly)	U.S. Dollar	47.31	1,892.44
L-A-AA101	Admisistrative Assistant	40.00	0.50	Each (hourly)	U.S. Dollar	37.91	1,516.38

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
8.1.4	1.00	Each	QA/QC Plan	Detail	U.S. Dollar	4,229.73	4,229.73

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant	40.00	1.00	Each (hourly)	U.S. Dollar	37.91	1,516.38
L-A-PE101-B	Project Engineer	4.00	0.10	Each (hourly)	U.S. Dollar	79.83	319.30
L-A-PM201	Project Manager	4.00	0.10	Each (hourly)	U.S. Dollar	32.20	128.79
L-A-QC101	QC Officer	16.00	0.40	Each (hourly)	U.S. Dollar	43.19	691.02
L-A-QC102	QC Tech	40.00	1.00	Each (hourly)	U.S. Dollar	39.36	1,574.24

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
8.1.5	1.00	Each	Traffic Control Plan	Detail	U.S. Dollar	6,689.11	6,689.11

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant	24.00	0.50	Each (hourly)	U.S. Dollar	37.91	909.83
L-A-PE101-B	Project Engineer	48.00	1.00	Each (hourly)	U.S. Dollar	79.83	3,831.63
L-A-PM201	Project Manager	16.00	0.33	Each (hourly)	U.S. Dollar	32.20	515.09
L-A-HS103	Safety Officer	8.00	0.17	Each (hourly)	U.S. Dollar	59.33	474.65
L-A-SS101	Site Superintendent	12.00	0.25	Each (hourly)	U.S. Dollar	79.83	957.91

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
8.1.6	1.00	Each	Storm Water Management Plan	Detail	U.S. Dollar	5,901.71	5,901.71

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost

CBS Position Code	Quantity	UM	Description	Cost Item			Cost Source	Currency	Unit Cost	Total Cost
L-A-AA101	Admisistrative Assistant			9.60	0.20	Each (hourly)	U.S. Dollar		37.91	363.93
L-A-PE101-A	Project Engineer			48.00	1.00	Each (hourly)	U.S. Dollar		27.50	1,319.79
L-A-PM201	Project Manager			12.00	0.25	Each (hourly)	U.S. Dollar		32.20	386.36
L-A-SS101	Site Superintendent			48.00	1.00	Each (hourly)	U.S. Dollar		79.83	3,831.63
8.1.7	1.00	Each	Permits (other than listed in Summary of Work)				Detail	U.S. Dollar	17,000.00	17,000.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U-C&E-10.20	Fees & Permits		2.00	LS	U.S. Dollar	7,500.00	15,000.00
U-PERMITS -00	Permits - Demo, road opening, Etc.		4.00	Each	U.S. Dollar	500.00	2,000.00

8.2	1.00	LS	Mobilization			Detail	U.S. Dollar	580,390.61	580,390.61
8.2.1	1.00	LS	Mobilization (1st year of construction)			Detail	U.S. Dollar	291,843.96	291,843.96
8.2.1.1	1.00	LS	Personel and equipment			Detail	U.S. Dollar	7,884.17	7,884.17

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SF102	Site Foreman	8.00	1.00	Each (hourly)	U.S. Dollar	30.37	242.99
L-O-LHC001 D	Heavy Constr Skilled Laborer	48.00	6.00	Each (hourly)	U.S. Dollar	48.54	2,329.83
L-O-E002	Equipment Operator B	16.00	2.00	Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	105.52	844.18
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	95.07	760.58
UM-D-10.03	Mobe Demobe equipment >50,000 < 100,000		1.00	LS	U.S. Dollar	750.00	750.00
UM-D-10.02	Mobe Demobe equipment >25,000 < 50,000		1.00	LS	U.S. Dollar	450.00	450.00
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly	16.00	2.00	Each (hourly)	U.S. Dollar	97.64	1,562.21

8.2.1.2	1.00	LS	Temporary facilities			Detail	U.S. Dollar	6,551.30	6,551.30
8.2.1.2.1	1.00	LS	Office trailer			Detail	U.S. Dollar	1,849.80	1,849.80

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UZ-ST-08x32-5	8x32 Trailer Tear Down		1.00	Each	U.S. Dollar	166.00	166.00
UZ-ST-08x32-1	8x32 Trailer		2.00	Month	U.S. Dollar	342.40	684.80
UZ-ST-08x32-4	8x32 Trailer Skirting		1.00	Each	U.S. Dollar	80.00	80.00
UZ-ST-08x32-2	8x32 Trailer Set up		1.00	Each	U.S. Dollar	179.00	179.00
UZ-ST-08x32-6	8x32 StrorageTrailer Freight		2.00	1/way	U.S. Dollar	320.00	640.00
UZ-ST-08x32-3	8x32 Trailer Anchor		1.00	Each	U.S. Dollar	100.00	100.00

8.2.1.2.2	1.00	LS	Job boxes			Detail	U.S. Dollar	1,121.50	1,121.50

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UZ-STS-08X32-3	8x32 StrorageTrailer Rental		1.00	Month	U.S. Dollar	481.50	481.50
UZ-STS-08X32-2	8x 20 or32 StrorageTrailer Freight		2.00	1/way	U.S. Dollar	320.00	640.00

8.2.1.2.3	1.00	LS	Utilities			Detail	U.S. Dollar	3,580.00	3,580.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USERV-10.12	Elect'n, truck, plus mate, connecting and installing Temp power pole incl Mats		2.00	Day	U.S. Dollar	1,250.00	2,500.00
USERV-20.12	4/5 cy Garbage Container. Including Changing weekly		2.00	Month	U.S. Dollar	450.00	900.00
USERV-10.50	Portable Toilets incl freight.		2.00	Month	U.S. Dollar	90.00	180.00

Cost Item							
CBS Position Code	Quantity UM	Description		Cost Source	Currency	Unit Cost	Total Cost
8.2.1.3	300.00 LF	Sedimentation and erosion control		Detail	U.S. Dollar	3.88	1,164.06

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00 Each (hourly)	U.S. Dollar	48.54	388.31
SS-1-102-001	Silt fencing 3ft high including posts		3.00 Roll	U.S. Dollar	26.75	80.25
SS-1-103-000	Hay Bales		100.00 Each	U.S. Dollar	6.96	695.50

8.2.1.4	1.00 LS	Site prep		Detail	U.S. Dollar	12,682.80	12,682.80
8.2.1.4.1	1.00 LS	Stabilized construction entrance		Detail	U.S. Dollar	1,673.35	1,673.35

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00 Each (hourly)	U.S. Dollar	48.54	388.31
L-O-E002	Equipment Operator B	8.00	2.00 Each (hourly)	U.S. Dollar	59.02	472.19
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	4.00	1.00 Each (hourly)	U.S. Dollar	105.52	422.09
L-O-DR4	Dump truck Level D driver	4.00	1.00 Each (hourly)	U.S. Dollar	49.31	197.24
E1H-DUMP TRK 0014	14CY Dump Truck	4.00	1.00 Each (hourly)	U.S. Dollar	34.41	137.63
MG-1-10-22	Class A Geofabric as Spec.		55.00 SY	U.S. Dollar	1.02	55.91

8.2.1.4.2	1.00 LS	Minor site clearing		Detail	U.S. Dollar	4,011.50	4,011.50

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	32.00	4.00 Each (hourly)	U.S. Dollar	48.54	1,553.22
L-O-E002	Equipment Operator B	16.00	2.00 Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	8.00	1.00 Each (hourly)	U.S. Dollar	105.52	844.18
L-O-DR4	Dump truck Level D driver	8.00	1.00 Each (hourly)	U.S. Dollar	49.31	394.47
E1H-DUMP TRK 0014	14CY Dump Truck	8.00	1.00 Each (hourly)	U.S. Dollar	34.41	275.25

8.2.1.4.3	1.00 LS	Stockpile areas		Detail	U.S. Dollar	6,997.94	6,997.94
8.2.1.4.3.1	5,000.00 SF	1 to 1 slopes Non Haz/contaminated material		Detail	U.S. Dollar	1.40	6,997.94

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
MF-1-10.108	1 1/2'" Stone /Aggregates		210.33 Ton	U.S. Dollar	17.65	3,713.43
SG-1-10.12SF	6oz Non-woven geo-fabric		7,333.33 SF	U.S. Dollar	0.10	706.20
E1C5006.1001	- Wheeled Loader 928G 149hp a-Monthly	5.33	1.00 Each (hourly)	U.S. Dollar	65.68	350.30
L-O-LHC001	Heavy Constr Skilled Laborer	10.67	2.00 Each (hourly)	U.S. Dollar	79.11	843.82

8.2.1.5	1.00 LS	Survey		Detail	U.S. Dollar	11,820.00	11,820.00
8.2.1.5.1	1.00 LS	Pre-construction survey		Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00 Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00 Day	U.S. Dollar	850.00	2,550.00

8.2.1.5.2	1.00 LS	As-built survey		Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00 Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00 Day	U.S. Dollar	850.00	2,550.00

8.2.1.6	900.00 LF	Construction fencing		Detail	U.S. Dollar	12.00	10,800.00

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost

CBS Position Code	Quantity	UM	Description	Cost Item	Cost Source	Currency	Unit Cost	Total Cost
U-TEMP FENCE 100	6ft High Chain link fencing with post set in ground (not concreted in)			900.00 LF		U.S. Dollar	12.00	10,800.00
8.2.1.7	1.00	LS	General Conditions		Detail	U.S. Dollar	222,422.30	222,422.30
8.2.1.7.1	1.00	LS	Site overhead		Detail	U.S. Dollar	183,830.64	183,830.64

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SS102	Site Superintendent D	880.00	1.00	Each (hourly)	U.S. Dollar	52.13	45,872.15
L-A-QC101	QC Officer	880.00	1.00	Each (hourly)	U.S. Dollar	43.19	38,006.17
L-A-PE101-B	Project Engineer	880.00	1.00	Each (hourly)	U.S. Dollar	79.83	70,246.51
E-PICK UP F150-001	F150 Standard Pick up	2,640.00	3.00	Each (hourly)	U.S. Dollar	11.25	29,705.81

8.2.1.7.2	1.00	LS	Home office support	Detail	U.S. Dollar	38,591.67	38,591.67

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-CM101	Construction Manager	320.00	1.00	Each (hourly)	U.S. Dollar	46.27	14,806.28
L-A-AE101	Senior Estimator	320.00	1.00	Each (hourly)	U.S. Dollar	36.42	11,654.33
L-A-AA101	Admisistrative Assistant	320.00	1.00	Each (hourly)	U.S. Dollar	37.91	12,131.06

8.2.1.8	550.00	LF	Install silt curtain	Detail	U.S. Dollar	33.67	18,519.33

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
SS-1-200-016	6ft Turbidity Curtain plus weights		550.00	LF	U.S. Dollar	12.84	7,062.00
SS-1-200-100	Boom to top of Turbidity Curtain		550.00	LF	U.S. Dollar	16.05	8,827.50
L-O-LHC001 D	Heavy Constr Skilled Laborer	48.00	3.00	Each (hourly)	U.S. Dollar	48.54	2,329.83
	job boat		2.00	Day	U.S. Dollar	150.00	300.00

8.2.2	1.00	LS	Mobilization (2nd year of construction)	Detail	U.S. Dollar	288,546.66	288,546.66
8.2.2.1	1.00	LS	Personel and equipment	Detail	U.S. Dollar	8,120.70	8,120.70

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SF102	Site Foreman	8.00	1.00	Each (hourly)	U.S. Dollar	30.37	242.99
L-O-LHC001 D	Heavy Constr Skilled Laborer	48.00	6.00	Each (hourly)	U.S. Dollar	48.54	2,329.83
L-O-E002	Equipment Operator B	16.00	2.00	Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	105.52	844.18
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	8.00	1.00	Each (hourly)	U.S. Dollar	95.07	760.58
UM-D-10.03	Mobe Demobe equipment >50,000 < 100,000		1.00	LS	U.S. Dollar	750.00	750.00
UM-D-10.02	Mobe Demobe equipment >25,000 < 50,000		1.00	LS	U.S. Dollar	450.00	450.00
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly	16.00	2.00	Each (hourly)	U.S. Dollar	97.64	1,562.21

8.2.2.2	1.00	LS	Temporary facilities	Detail	U.S. Dollar	6,750.55	6,750.55
8.2.2.2.1	1.00	LS	Office trailer	Detail	U.S. Dollar	1,905.29	1,905.29

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UZ-ST-08x32-5	8x32 Trailer Tear Down		1.00	Each	U.S. Dollar	166.00	166.00
UZ-ST-08x32-1	8x32 Trailer		2.00	Month	U.S. Dollar	342.40	684.80
UZ-ST-08x32-4	8x32 Trailer Skirting		1.00	Each	U.S. Dollar	80.00	80.00
UZ-ST-08x32-2	8x32 Trailer Set up		1.00	Each	U.S. Dollar	179.00	179.00
UZ-ST-08x32-6	8x32 StrorageTrailer Freight		2.00	1/way	U.S. Dollar	320.00	640.00
UZ-ST-08x32-3	8x32 Trailer Anchor		1.00	Each	U.S. Dollar	100.00	100.00

8.2.2.2.2	1.00	LS	Job boxes	Detail	U.S. Dollar	1,157.86	1,157.86

CBS Position Code	Quantity	UM	Description	Cost Item Cost Source	Currency	Unit Cost	Total Cost

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UZ-STS-08X32-3	8x32 StrorageTrailer Rental		1.00	Month	U.S. Dollar	481.50	481.50
UZ-STS-08X32-2	8x 20 or32 StrorageTrailer Freight		2.00	1/way	U.S. Dollar	320.00	640.00
	escalation		1.00	Each	U.S. Dollar	36.36	36.36

1.00 LS	Utilities		Detail	U.S. Dollar	3,687.40	3,687.40
8.2.2.2.3						

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USERV-10.12	Elect'n, truck, plus mate, connecting and installing Temp power pole incl Mats		2.00	Day	U.S. Dollar	1,250.00	2,500.00
USERV-20.12	4/5 cy Garbage Container. Including Changing weekly		2.00	Month	U.S. Dollar	450.00	900.00
USERV-10.50	Portable Toilets incl freight.		2.00	Month	U.S. Dollar	90.00	180.00

8.2.2.3	300.00 LF	Sedimentation and erosion control	Detail	U.S. Dollar	3.88	1,164.06

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
SS-1-102-001	Silt fencing 3ft high including posts		3.00	Roll	U.S. Dollar	26.75	80.25
SS-1-103-000	Hay Bales		100.00	Each	U.S. Dollar	6.96	695.50

8.2.2.4	1.00 LS	Site prep	Detail	U.S. Dollar	10,677.05	10,677.05

8.2.2.4.1	1.00 LS	Stabilized construction entrance	Detail	U.S. Dollar	1,673.35	1,673.35

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	8.00	2.00	Each (hourly)	U.S. Dollar	48.54	388.31
L-O-E002	Equipment Operator B	8.00	2.00	Each (hourly)	U.S. Dollar	59.02	472.19
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	4.00	1.00	Each (hourly)	U.S. Dollar	105.52	422.09
L-O-DR4	Dump truck Level D driver	4.00	1.00	Each (hourly)	U.S. Dollar	49.31	197.24
E1H-DUMP TRK 0014	14CY Dump Truck	4.00	1.00	Each (hourly)	U.S. Dollar	34.41	137.63
MG-1-10-22	Class A Geofabric as Spec.		55.00	SY	U.S. Dollar	1.02	55.91

8.2.2.4.2	1.00 LS	Minor site clearing	Detail	U.S. Dollar	2,005.75	2,005.75

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	16.00	4.00	Each (hourly)	U.S. Dollar	48.54	776.61
L-O-E002	Equipment Operator B	8.00	2.00	Each (hourly)	U.S. Dollar	59.02	472.19
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	4.00	1.00	Each (hourly)	U.S. Dollar	105.52	422.09
L-O-DR4	Dump truck Level D driver	4.00	1.00	Each (hourly)	U.S. Dollar	49.31	197.24
E1H-DUMP TRK 0014	14CY Dump Truck	4.00	1.00	Each (hourly)	U.S. Dollar	34.41	137.63

8.2.2.4.3	1.00 LS	Stockpile areas	Detail	U.S. Dollar	6,997.94	6,997.94

8.2.2.4.3.1	5,000.00 SF	1 to 1 slopes Non Haz/contaminated material	Detail	U.S. Dollar	1.40	6,997.94

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
MF-1-10.108	1 1/2'" Stone /Aggregates		210.33	Ton	U.S. Dollar	17.65	3,713.43
SG-1-10.12SF	6oz Non-woven geo-fabric		7,333.33	SF	U.S. Dollar	0.10	706.20
E1C5006.1001	- Wheeled Loader 928G 149hp a-Monthly	5.33	1.00	Each (hourly)	U.S. Dollar	65.68	350.30
L-O-LHC001	Heavy Constr Skilled Laborer	10.67	2.00	Each (hourly)	U.S. Dollar	79.11	843.82

8.2.2.5	1.00 LS	Survey	Detail	U.S. Dollar	11,820.00	11,820.00

CBS Position Code	Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
			Cost Item				
8.2.2.5.1	1.00	LS	Pre-construction survey	Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00	Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00	Day	U.S. Dollar	850.00	2,550.00

8.2.2.5.2	1.00	LS	As-built survey	Detail	U.S. Dollar	5,910.00	5,910.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U Surv-FL_04	Survey Field Crew	24.00	1.00	Each (hourly)	U.S. Dollar	140.00	3,360.00
	Small barge		3.00	Day	U.S. Dollar	850.00	2,550.00

8.2.2.6	200.00	LF	Construction fencing	Detail	U.S. Dollar	12.00	2,400.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
U-TEMP FENCE 100	6ft High Chain link fencing with post set in ground (not concreted in)		200.00	LF	U.S. Dollar	12.00	2,400.00

8.2.2.7	1.00	LS	General Conditions	Detail	U.S. Dollar	229,094.97	229,094.97

8.2.2.7.1	1.00	LS	Site overhead	Detail	U.S. Dollar	189,345.56	189,345.56

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-SS102	Site Superintendent D	880.00	1.00	Each (hourly)	U.S. Dollar	52.13	45,872.15
L-A-QC101	QC Officer	880.00	1.00	Each (hourly)	U.S. Dollar	43.19	38,006.17
L-A-PE101-B	Project Engineer	880.00	1.00	Each (hourly)	U.S. Dollar	79.83	70,246.51
E-PICK UP F150-001	F150 Standard Pick up	2,640.00	3.00	Each (hourly)	U.S. Dollar	11.25	29,705.81

8.2.2.7.2	1.00	LS	Home office support	Detail	U.S. Dollar	39,749.42	39,749.42

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-A-CM101	Construction Manager	320.00	1.00	Each (hourly)	U.S. Dollar	46.27	14,806.28
L-A-AE101	Senior Estimator	320.00	1.00	Each (hourly)	U.S. Dollar	36.42	11,654.33
L-A-AA101	Admisistrative Assistant	320.00	1.00	Each (hourly)	U.S. Dollar	37.91	12,131.06

8.2.2.8	550.00	LF	Install silt curtain	Detail	U.S. Dollar	33.67	18,519.33

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
SS-1-200-016	6ft Turbidity Curtain plus weights		550.00	LF	U.S. Dollar	12.84	7,062.00
SS-1-200-100	Boom to top of Turbidity Curtain		550.00	LF	U.S. Dollar	16.05	8,827.50
L-O-LHC001 D	Heavy Constr Skilled Laborer	48.00	3.00	Each (hourly)	U.S. Dollar	48.54	2,329.83
	job boat		2.00	Day	U.S. Dollar	150.00	300.00

8.3	1.00	LS	Dredge Sediments to 9'	Detail	U.S. Dollar	3,080,982.64	3,080,982.64

8.3.1	2.00	EA	Install floating platform (2 seasons)	Detail	U.S. Dollar	189,106.44	378,212.89

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
	EFP Floating Platform Mob/Demob		100.00	LF	U.S. Dollar	1,850.00	185,000.00
U- CRANE 50 T	50Ton Crane incluing driver Driver. 10 hr day		1.00	Day	U.S. Dollar	2,000.00	2,000.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	128.00	4.00	Each (hourly)	U.S. Dollar	48.54	6,212.89
	EFP Floating Platform Mob/Demob (year 2)		100.00	LF	U.S. Dollar	1,850.00	185,000.00

8.3.2	2.00	EA	Setup piping system (2 seasons)	Detail	U.S. Dollar	13,367.11	26,734.22

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	256.00	4.00	Each (hourly)	U.S. Dollar	48.54	12,425.78
L-O-E002	Equipment Operator B	128.00	2.00	Each (hourly)	U.S. Dollar	59.02	7,555.03

CBS Position Code	Quantity	UM	Description	Hours	Quantity	UM	Cost Source	Currency	Unit Cost	Total Cost
			Cost Item							
E1C5010.1002			- Wheeled Loader 950G S/D 196hp b -Weekly	64.00	1.00	Each (hourly)	U.S. Dollar		105.52	6,753.41
8.3.3	1.00	LS	Setup geotube area (150' x 100') 4 areas				Detail	U.S. Dollar	598,546.75	598,546.75
8.3.3.1	1.00	LS	Construct soil berms				Detail	U.S. Dollar	9,591.18	9,591.18
Resource Code			**Description**	**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
MF-1-14.000			General Fill		300.00	CY	U.S. Dollar		12.84	3,852.00
L-O-LHC001 D			Heavy Constr Skilled Laborer	64.00	4.00	Each (hourly)	U.S. Dollar		48.54	3,106.44
L-O-E002			Equipment Operator B	16.00	1.00	Each (hourly)	U.S. Dollar		59.02	944.38
E1C5010.1002			- Wheeled Loader 950G S/D 196hp b -Weekly	16.00	1.00	Each (hourly)	U.S. Dollar		105.52	1,688.35
8.3.3.2	60,000.00	SF	Install Geotextile cushion layer				Detail	U.S. Dollar	0.51	30,560.12
Resource Code			**Description**	**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
L-O-LHC001 D			Heavy Constr Skilled Laborer	256.00	4.00	Each (hourly)	U.S. Dollar		48.54	12,425.78
L-O-E002			Equipment Operator B	64.00	1.00	Each (hourly)	U.S. Dollar		59.02	3,777.51
E1C5010.1002			- Wheeled Loader 950G S/D 196hp b -Weekly	64.00	1.00	Each (hourly)	U.S. Dollar		105.52	6,753.41
MG-1-10-22			Class A Geofabric as Spec.		7,480.00	SY	U.S. Dollar		1.02	7,603.42
8.3.3.3	60,000.00	SF	Stone bedding (3-inches)				Detail	U.S. Dollar	0.33	20,075.45
Resource Code			**Description**	**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
MF-1-10.108			1 1/2'" Stone /Aggregates		900.00	Ton	U.S. Dollar		17.65	15,889.50
L-O-LHC001 D			Heavy Constr Skilled Laborer	32.00	2.00	Each (hourly)	U.S. Dollar		48.54	1,553.22
L-O-E002			Equipment Operator B	16.00	1.00	Each (hourly)	U.S. Dollar		59.02	944.38
E1C5010.1002			- Wheeled Loader 950G S/D 196hp b -Weekly	16.00	1.00	Each (hourly)	U.S. Dollar		105.52	1,688.35
8.3.3.4	60,000.00	SF	Install HDPE lining				Detail	U.S. Dollar	0.57	34,320.00
Resource Code			**Description**	**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
U-LINERSUB-10-040			40 Mil HDPE liner installed		66,000.00	SF	U.S. Dollar		0.52	34,320.00
8.3.3.5	3,600.00	LF	Geotubes (Engineering, Fabric selection and Sizing) year 1				Detail	U.S. Dollar	70.00	252,000.00
Resource Code			**Description**	**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
			Geotubes		3,600.00	LF	U.S. Dollar		70.00	252,000.00
8.3.3.6	3,600.00	LF	Geotubes (Engineering, Fabric selection and Sizing) year 2				Detail	U.S. Dollar	70.00	252,000.00
Resource Code			**Description**	**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
			Geotubes		3,600.00	LF	U.S. Dollar		70.00	252,000.00
8.3.4	58,800.00	CY	Dredge sediments to 9'				Detail	U.S. Dollar	32.36	1,902,751.26
Resource Code			**Description**	**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
			Dredge pump platforms		41.74	Each	U.S. Dollar		8,600.00	358,956.52
			Dredge Pumps and hydroscreen (3 ea)		62.61	Month	U.S. Dollar		7,500.00	469,565.22
			Flexible pump intake (3 ea)		31.30	Each	U.S. Dollar		8,000.00	250,434.78
L-O-LHC001 D			Heavy Constr Skilled Laborer	14,112.00	6.00	Each (hourly)	U.S. Dollar		48.54	684,971.08
L-O-E002			Equipment Operator B	2,352.00	1.00	Each (hourly)	U.S. Dollar		59.02	138,823.66
8.3.5	1.00	LS	Geotube work area activities				Detail	U.S. Dollar	174,737.52	174,737.52
Resource Code			**Description**	**Hours**	**Quantity**	**UM**	**Currency**		**Unit Cost**	**Total Cost**
L-O-LHC001 D			Heavy Constr Skilled Laborer	3,600.00	2.00	Each (hourly)	U.S. Dollar		48.54	174,737.52
8.4	1.00	LS	Handling/dewatering of sediments				Detail	U.S. Dollar	183,469.89	183,469.89

Cost Item							
CBS Position Code	Quantity UM	Description		Cost Source	Currency	Unit Cost	Total Cost
8.4.1	67,620.00 CY	Load out dewatered sediments		Detail	U.S. Dollar	2.49	168,641.26

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
L-O-LHC001 D	Heavy Constr Skilled Laborer	832.25	2.00 Each (hourly)	U.S. Dollar	48.54	40,395.73
L-O-E002	Equipment Operator B	832.25	2.00 Each (hourly)	U.S. Dollar	59.02	49,122.22
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	832.25	2.00 Each (hourly)	U.S. Dollar	95.07	79,123.31

8.4.2	1.00 LS	Setup water collection area	Detail	U.S. Dollar	14,828.63	14,828.63
8.4.2.1	4.00 Month	Collection Tanks	Detail	U.S. Dollar	3,707.16	14,828.63

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
	Collection Tank (8,000)		4.00 Each	U.S. Dollar	1,250.00	5,000.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	128.00	0.20 Each (hourly)	U.S. Dollar	48.54	6,212.89
U-P 004	Suction hose 10' length		80.00 EA	U.S. Dollar	27.29	2,182.80
U-P 005	6-inch x 50' discharge hose		24.00 Each	U.S. Dollar	59.71	1,432.94

8.5	108,192.00 Ton	Transportation and Disposal of Sediments	Detail	U.S. Dollar	90.00	9,737,280.00

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
UT&D-10.80	T&D non Haz Material		108,192.00 Ton	U.S. Dollar	90.00	9,737,280.00

8.6	1.00 LS	Transportation and Disposal of Decanted Water	Detail	U.S. Dollar	671,455.26	671,455.26
8.6.1	1.00 LS	Collection of decanted water	Detail	U.S. Dollar	11,455.26	11,455.26

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
U- FRAK -001	Frak Tank		4.00 Month	U.S. Dollar	802.50	3,210.00
U- FRAK -FRGHT. 001	Delivery or Pick Up		2.00 EA	U.S. Dollar	200.00	400.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	80.00	1.00 Each (hourly)	U.S. Dollar	48.54	3,883.06
E1XD-1000.1003	100 GPM Deisel Self Priming Pump 3 inch dia	80.00	1.00 Each (hourly)	U.S. Dollar	49.44	3,955.36
E1XD-1000.2014	Piping 20f Lenghts 4 inch dia	320.00	4.00 Each (hourly)	U.S. Dollar	0.02	6.85

8.6.2	1,100,000.00 Gallon	Disposal of treated water	Detail	U.S. Dollar	0.60	660,000.00

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
	Treatment of water at off-site facility		1,100,000.00 Gallon	U.S. Dollar	0.20	220,000.00
	Trasportation of water		1,100,000.00 Gallon	U.S. Dollar	0.40	440,000.00

8.7	52,267.00 CY	Reinstate Lake Bottom	Detail	U.S. Dollar	40.99	2,142,642.79

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
	Barge Mobilization		1.00 LS	U.S. Dollar	15,000.00	15,000.00
L-O-LHC001 D	Heavy Constr Skilled Laborer	5,575.15	4.00 Each (hourly)	U.S. Dollar	48.54	270,607.58
L-O-E002	Equipment Operator B	2,787.57	2.00 Each (hourly)	U.S. Dollar	59.02	164,532.80
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly	1,393.79	1.00 Each (hourly)	U.S. Dollar	95.07	132,510.09
L-A-SF102	Site Foreman	1,393.79	1.00 Each (hourly)	U.S. Dollar	30.37	42,334.78
MF-1-13.000	Sand Washed		39,200.00 CY	U.S. Dollar	12.84	503,328.00
	Barge rental		185.50 Day	U.S. Dollar	500.00	92,750.92
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly	2,787.57	2.00 Each (hourly)	U.S. Dollar	97.64	272,174.20
L-O-DR1	Dump truck driver	2,787.57	2.00 Each (hourly)	U.S. Dollar	81.39	226,889.98
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly	1,393.79	1.00 Each (hourly)	U.S. Dollar	105.52	147,075.16
MF-1-13.000 (1)	Habitat Substrate		13,067.00 CY	U.S. Dollar	21.08	275,439.29

8.8	1.00 LS	Site restoration	Detail	U.S. Dollar	49,840.76	49,840.76
8.8.1	97,400.00 SF	Topsoil and seeding	Detail	U.S. Dollar	0.50	48,765.11

CBS Position Code	Quantity	UM	Description	Cost Item	Cost Source	Currency	Unit Cost	Total Cost
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
E2C0102.0001	Backhoe 420-2WD+IT 15772 lb 85 hp a-Monthly			0.00	1.00	Each (hourly)	U.S. Dollar	24.38	0.00
MF-1-14.101	Topsoil Standard				1,822.99	CY	U.S. Dollar	26.75	48,765.11
8.8.2	30.00	EA	Tree planting				Detail	U.S. Dollar	35.86	1,075.65
8.8.2.1	30.00	Ea.	Planting, trees, shrubs, and ground cover, heavy or stony soil, container, 5 gallon, includes planting only				Detail	U.S. Dollar	35.86	1,075.65
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
CLAB	Common Building Laborers			34.29	2.00	Each (hourly)	U.S. Dollar	35.45	1,215.43
8.9	1.00	LS	Demobilization				Detail	U.S. Dollar	54,463.79	54,463.79
8.9.1	1.00	LS	Site cleanup				Detail	U.S. Dollar	21,579.62	21,579.62
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
L-O-LHC001 D	Heavy Constr Skilled Laborer			240.00	6.00	Each (hourly)	U.S. Dollar	48.54	11,649.17
L-O-E002	Equipment Operator B			40.00	1.00	Each (hourly)	U.S. Dollar	59.02	2,360.95
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly			40.00	1.00	Each (hourly)	U.S. Dollar	105.52	4,220.88
L-O-DR4	Dump truck Level D driver			40.00	1.00	Each (hourly)	U.S. Dollar	49.31	1,972.36
E1H-DUMP TRK 0014	14CY Dump Truck			40.00	1.00	Each (hourly)	U.S. Dollar	34.41	1,376.27
8.9.2	1.00	LS	Personnel and equipment				Detail	U.S. Dollar	32,884.17	32,884.17
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
L-A-SF102	Site Foreman			8.00	1.00	Each (hourly)	U.S. Dollar	30.37	242.99
L-O-LHC001 D	Heavy Constr Skilled Laborer			48.00	6.00	Each (hourly)	U.S. Dollar	48.54	2,329.83
L-O-E002	Equipment Operator B			16.00	2.00	Each (hourly)	U.S. Dollar	59.02	944.38
E1C5010.1002	- Wheeled Loader 950G S/D 196hp b -Weekly			8.00	1.00	Each (hourly)	U.S. Dollar	105.52	844.18
E1C2012.1002	-EXC-Track 322CL 53350lb 165hp b-Weekly			8.00	1.00	Each (hourly)	U.S. Dollar	95.07	760.58
UM-D-10.03	Mobe Demobe equipment >50,000 < 100,000				1.00	LS	U.S. Dollar	750.00	750.00
UM-D-10.02	Mobe Demobe equipment >25,000 < 50,000				1.00	LS	U.S. Dollar	450.00	450.00
E1J6001.1001	Artic Truck D400E 40ton 385hp 32.8 CY H a-Monthly			16.00	2.00	Each (hourly)	U.S. Dollar	97.64	1,562.21
	Demob barge				1.00	Each	U.S. Dollar	25,000.00	25,000.00
8.10	1.00	LS	Payment and Performance Bonds				Detail	U.S. Dollar	180,100.00	180,100.00
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
	Contractor Bond				1.00	Each	U.S. Dollar	180,100.00	180,100.00
8.11	1.00	LS	Contractor Profit				Detail	U.S. Dollar	1,674,400.00	1,674,400.00
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
	Contractor Profit				1.00	Each	U.S. Dollar	1,674,400.00	1,674,400.00
8.12	1.00	LS	Contingency @ 20%				Detail	U.S. Dollar	3,683,500.00	3,683,500.00
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
	Contingency @ 20%				1.00	Each	U.S. Dollar	3,683,500.00	3,683,500.00
8.13	1.00	LS	Engineering/Regulatory oversight				Detail	U.S. Dollar	377,659.06	377,659.06
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
AFC- Field-121-01	Construction Manager Supervisor			1,760.00	1.00	Each (hourly)	U.S. Dollar	105.89	186,357.60
AFC- Field-121-02	Construction QA QC Specialst			1,760.00	1.00	Each (hourly)	U.S. Dollar	91.82	161,601.46

CBS Position Code	Cost Item Quantity	UM	Description	Cost Source	Currency	Unit Cost	Total Cost
U-L&PD 100.101	176.00	Day	Lodging per day	U.S. Dollar		125.00	22,000.00
U-L&PD 100.201	220.00	Day	Per diem perday	U.S. Dollar		35.00	7,700.00

Category	Total
Labor	2,689,150.77
Rented Equip	1,895,905.86
Materials	1,343,366.27
Subcontract	12,756,688.35
Taxes	90,158.53
Allowance	3,683,500.00
Per Diem /Travel	29,700.00

CBS Outline Report
AMEC ENVIRONMENT & INFRASTRUCTURE, INC.
Job Code: NYS-POR-141203
Description: Saranac Lake FS

From Cost Item: . **To Cost Item: .**

Code	Description	Quantity	Unit of Measure	Unit Price	Total Cost (Forecast)	User Defined 1
8	Alternative 3C - Dredging to 9'					
8.1	Work Plans, Schedules and Permits	1.00	LS	72,284.97	72,284.97	
8.1.1	Detailed Construction Plan	1.00	Each	15,302.21	15,302.21	
8.1.2	H&S Plan project	1.00	Each	11,698.23	11,698.23	
8.1.3	Contingency Plan	1.00	Each	11,463.99	11,463.99	
8.1.4	QA/QC Plan	1.00	Each	4,229.73	4,229.73	
8.1.5	Traffic Control Plan	1.00	Each	6,689.11	6,689.11	
8.1.6	Storm Water Management Plan	1.00	Each	5,901.71	5,901.71	
8.1.7	Permits (other than listed in Summary of Work)	1.00	Each	17,000.00	17,000.00	
8.2	Mobilization	1.00	LS	580,390.61	580,390.61	
8.2.1	Mobilization (1st year of construction)	1.00	LS	291,843.96	291,843.96	
8.2.1.1	Personel and equipment	1.00	LS	7,884.17	7,884.17	
8.2.1.2	Temporary facilities	1.00	LS	6,551.30	6,551.30	
8.2.1.2.1	Office trailer	1.00	LS	1,849.80	1,849.80	
8.2.1.2.2	Job boxes	1.00	LS	1,121.50	1,121.50	
8.2.1.2.3	Utilities	1.00	LS	3,580.00	3,580.00	
8.2.1.3	Sedimentation and erosion control	300.00	LF	3.88	1,164.06	
8.2.1.4	Site prep	1.00	LS	12,682.80	12,682.80	
8.2.1.4.1	Stabilized construction entrance	1.00	LS	1,673.35	1,673.35	
8.2.1.4.2	Minor site clearing	1.00	LS	4,011.50	4,011.50	
8.2.1.4.3	Stockpile areas	1.00	LS	6,997.94	6,997.94	
8.2.1.4.3.1	1 to 1 slopes Non Haz/contaminated material	5,000.00	SF	1.40	6,997.94	
8.2.1.5	Survey	1.00	LS	11,820.00	11,820.00	
8.2.1.5.1	Pre-construction survey	1.00	LS	5,910.00	5,910.00	
8.2.1.5.2	As-built survey	1.00	LS	5,910.00	5,910.00	
8.2.1.6	Construction fencing	900.00	LF	12.00	10,800.00	
8.2.1.7	General Conditions	1.00	LS	222,422.30	222,422.30	
8.2.1.7.1	Site overhead	1.00	LS	183,830.64	183,830.64	
8.2.1.7.2	Home office support	1.00	LS	38,591.67	38,591.67	
8.2.1.8	Install silt curtain	550.00	LF	33.67	18,519.33	
8.2.2	Mobilization (2nd year of construction)	1.00	LS	288,546.66	288,546.66	
8.2.2.1	Personel and equipment	1.00	LS	8,120.70	8,120.70	
8.2.2.2	Temporary facilities	1.00	LS	6,750.55	6,750.55	
8.2.2.2.1	Office trailer	1.00	LS	1,905.29	1,905.29	
8.2.2.2.2	Job boxes	1.00	LS	1,157.86	1,157.86	
8.2.2.2.3	Utilities	1.00	LS	3,687.40	3,687.40	
8.2.2.3	Sedimentation and erosion control	300.00	LF	3.88	1,164.06	
8.2.2.4	Site prep	1.00	LS	10,677.05	10,677.05	
8.2.2.4.1	Stabilized construction entrance	1.00	LS	1,673.35	1,673.35	
8.2.2.4.2	Minor site clearing	1.00	LS	2,005.75	2,005.75	
8.2.2.4.3	Stockpile areas	1.00	LS	6,997.94	6,997.94	
8.2.2.4.3.1	1 to 1 slopes Non Haz/contaminated material	5,000.00	SF	1.40	6,997.94	
8.2.2.5	Survey	1.00	LS	11,820.00	11,820.00	
8.2.2.5.1	Pre-construction survey	1.00	LS	5,910.00	5,910.00	
8.2.2.5.2	As-built survey	1.00	LS	5,910.00	5,910.00	

Code	Description	Quantity	Unit of Measure	Unit Price	Total Cost (Forecast)	User Defined 1
8.2.2.6	Construction fencing	200.00	LF	12.00	2,400.00	
8.2.2.7	General Conditions	1.00	LS	229,094.97	229,094.97	
8.2.2.7.1	Site overhead	1.00	LS	189,345.56	189,345.56	
8.2.2.7.2	Home office support	1.00	LS	39,749.42	39,749.42	
8.2.2.8	Install silt curtain	550.00	LF	33.67	18,519.33	
8.3	Dredge Sediments to 9'	1.00	LS	3,080,982.64	3,080,982.64	
8.3.1	Install floating platform (2 seasons)	2.00	EA	189,106.44	378,212.89	
8.3.2	Setup piping system (2 seasons)	2.00	EA	13,367.11	26,734.22	
8.3.3	Setup geotube area (150' x 100') 4 areas	1.00	LS	598,546.75	598,546.75	
8.3.3.1	Construct soil berms	1.00	LS	9,591.18	9,591.18	
8.3.3.2	Install Geotextile cushion layer	60,000.00	SF	0.51	30,560.12	
8.3.3.3	Stone bedding (3-inches)	60,000.00	SF	0.33	20,075.45	
8.3.3.4	Install HDPE lining	60,000.00	SF	0.57	34,320.00	
8.3.3.5	Geotubes (Engineering, Fabric selection and Sizing) year 1	3,600.00	LF	70.00	252,000.00	
8.3.3.6	Geotubes (Engineering, Fabric selection and Sizing) year 2	3,600.00	LF	70.00	252,000.00	
8.3.4	Dredge sediments to 9'	58,800.00	CY	32.36	1,902,751.26	
8.3.5	Geotube work area activities	1.00	LS	174,737.52	174,737.52	
8.4	Handling/dewatering of sediments	1.00	LS	183,469.89	183,469.89	
8.4.1	Load out dewatered sediments	67,620.00	CY	2.49	168,641.26	
8.4.2	Setup water collection area	1.00	LS	14,828.63	14,828.63	
8.4.2.1	Collection Tanks	4.00	Month	3,707.16	14,828.63	
8.5	Transportation and Disposal of Sediments	108,192.00	Ton	90.00	9,737,280.00	
8.6	Transportation and Disposal of Decanted Water	1.00	LS	671,455.26	671,455.26	
8.6.1	Collection of decanted water	1.00	LS	11,455.26	11,455.26	
8.6.2	Disposal of treated water	1,100,000.00	Gallon	0.60	660,000.00	
8.7	Reinstate Lake Bottom	52,267.00	CY	40.99	2,142,642.79	
8.8	Site restoration	1.00	LS	49,840.76	49,840.76	
8.8.1	Topsoil and seeding	97,400.00	SF	0.50	48,765.11	
8.8.2	Tree planting	30.00	EA	35.86	1,075.65	
8.8.2.1	Planting, trees, shrubs, and ground cover, heavy or stony soil, container, 5 gallon, includes planting only	30.00	Ea.	35.86	1,075.65	
8.9	Demobilization	1.00	LS	54,463.79	54,463.79	
8.9.1	Site cleanup	1.00	LS	21,579.62	21,579.62	
8.9.2	Personnel and equipment	1.00	LS	32,884.17	32,884.17	
8.10	Payment and Performance Bonds	1.00	LS	180,100.00	180,100.00	
8.11	Contractor Profit	1.00	LS	1,674,400.00	1,674,400.00	
8.12	Contingency @ 20%	1.00	LS	3,683,500.00	3,683,500.00	
8.13	Engineering/Regulatory oversight	1.00	LS	377,659.06	377,659.06	
Total:	**Alternative 3C - Dredging to 9'**				**22,488,469.78**	
Grand Total:					**22,488,469.78**	

Alternative 3 - Dredging
Prepared By/Date: SB 12/12/14
Revised By/Date: JW 1/30/15

Task	Description	Quantity	Unit of Measure	Mateiral Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Comments/ Assumptions
CAPITAL COSTS								
Pre-Design								
Pre-Design Investigation								
	Drill Rig & Crew	5	WK	$ -	$ 7,500.00	$ -	$ 37,500.00	Cost to mobilize and keep onsite for 5 weeks
	Field Technician 1	250	HR	$ -	$ 80.00	$ -	$ 20,000.00	Assume 2 technicians for 5 weeks
	Field Technician 2	250	HR	$ -	$ 80.00	$ -	$ 20,000.00	
	Sediment/Soil Samples	35	EA	$ 200.00	$ -	$ -	$ 7,000.00	Sediment and soil samples
	Surface Water/GW Seepage Samples	10	EA	$ 200.00	$ -	$ -	$ 2,000.00	
	GeoTech Sample Analysis	10	EA	$ 500.00	$ -	$ -	$ 5,000.00	
Site Investigations								
	Site/Bathymetric Survey	1	LS	$ 10,000.00	$ -	$ -	$ 10,000.00	
	Habitat Characterization (1 technician)	40	HR	$ -	$ 80.00	$ -	$ 3,200.00	1 person, 5 days (includes per diem)
	Biota Lab Analysis	20	EA	$ 500.00	$ -	$ -	$ 10,000.00	20 samples for biota analysis
	Hydrogeo Modelling for GW Seepage	1	LS	$ 15,000.00	$ -	$ -	$ 15,000.00	
	Ecological Risk Assessment	1	LS	$ 20,000.00	$ -	$ -	$ 20,000.00	
Task Subtotal							**$ 149,700.00**	
Full-Scale Dredging								
Alternative 3A - Dredging with Capping								
	Dredging with Capping Implementation	1	LS	$ 4,842,984.00	$ -	$ -	$ 4,842,984.00	See Engineer's cost estimate, minus contingency
	Dredging w/out T&D	1	LS	$ 3,356,669.00	$ -	$ -	$ 3,356,669.00	For indirect cost calcs
	Confirmatory Sampling	0	EA	$ 150.00	$ -	$ -	$ -	Not required for capping alternative
	Disposal Characterization	8	EA	$ 750.00	$ -	$ -	$ 6,000.00	1 sample for every 1,000 CY of sediment
Task Subtotal							**$ 4,848,984.00**	
Alternative 3B - Dredging to Meet Class A SVGs								
	Dredging Implementation	1	LS	$ 7,733,402.00	$ -	$ -	$ 7,733,402.00	See Engineer's cost estimate, minus contingency
	Dredging w/out T&D/backfill	1	LS	$ 3,410,980.00			$ 3,410,980.00	For indirect cost calcs
	Confirmatory Sampling	31	EA	$ 150.00	$ -	$ -	$ 4,650.00	sampling on a 50 ft x 50 ft grid (2,500 SF)
	Disposal Characterization	24	EA	$ 750.00	$ -	$ -	$ 18,000.00	1 sample every 1,000 CY of sediment
Task Subtotal							**$ 7,756,052.00**	
Alternative 3C - Dredging to Pre-Disposal Conditions								
	Dredging Implementation	1	LS	$ 18,804,970.00	$ -	$ -	$ 18,804,970.00	See Engineer's cost estimate, minus contingency
	Dredging w/out T&D/backfill	1	LS	$ 6,253,592.00	$ -	$ -	$ 6,253,592.00	For indirect cost calcs
	Confirmatory Sampling	59	EA	$ 150.00	$ -	$ -	$ 8,850.00	sampling on a 50 ft x 50 ft grid (2,500 SF)
	Disposal Characterization	68	EA	$ 750.00	$ -	$ -	$ 51,000.00	1 sample every 1,000 CY of sediment
Task Subtotal							**$ 18,864,820.00**	
ALTERNATIVE 3 ANNUAL COSTS								
3A Long-Term Monitoring for Sediment Cap (per annual inspection)								
Annual Cap Inspection								
	Boat Rental	2	DAY	$ 68.00	$ -	$ -	$ 136.00	
	Field Technician 1	18	HR	$ -	$ 80.00	$ -	$ 1,440.00	
	Field Technician 2	18	HR	$ -	$ 80.00	$ -	$ 1,440.00	
	Sediment samples	4	EA	$ 200.00	$ -	$ -	$ 800.00	3 sediment, 1 surface water
Task Subtotal							**$ 3,816.00**	
Annual Reporting								
Eng. Est.	Annual Report	1	LS	$ -	$ 8,000.00	$ -	$ 8,000.00	
Task Subtotal							**$ 8,000.00**	
3B/C Long-Term Monitoring (per annual inspection)								
Annual Cap Inspection								
	Field Technician 1	9	HR	$ -	$ 80.00	$ -	$ 720.00	
	Sediment samples	4	EA	$ 200.00	$ -	$ -	$ 800.00	3 sediment, 1 surface water
Task Subtotal							**$ 1,520.00**	
Annual Reporting								
Eng. Est.	Annual Report	1	LS	$ -	$ 5,000.00	$ -	$ 5,000.00	
Task Subtotal							**$ 5,000.00**	

PRESENT VALUE OF ANNUAL AND PERIODIC COSTS FOR ALTERNATIVES 3

Alternative 3A **Year**	**Cost***	**Number of Annual Periods**	**Annual Discount Rate**	**Number of 2-Year Periods**	**2-Year Discount Rate**	**Number of 4-Year Periods**	**4-Year Discount Rate**	**Total Non-Discounted Cost**	**Present Value Cost**
Capital (Year 0)	$ 6,514,000	1	0	NA	NA	NA	NA	$ 6,514,000.00	$ 6,514,000.00
Annual Long Term Monitoring and Reporting (Years 1-30)	$ 14,000	30	0.05	NA	NA	NA	NA	$ 420,000.00	$ 215,214.31
Totals								**$ 6,934,000.00**	**$ 6,729,214.31**

*Annual and periodic costs include 10% for technical support and 15% contingency for unforeseen project complexities, including insurance, taxes, and licensing costs.
Capital costs include 25% contingency, as well as project management, remedial design, and construction management costs per DER-10 guidance.
Discount rate of 5% (for 30-years) percent based on NYSDEC PRAP Outline / Instructions.

Alternative 3B **Year**	**Cost***	**Number of Annual Periods**	**Annual Discount Rate**	**Number of 2-Year Periods**	**2-Year Discount Rate**	**Number of 4-Year Periods**	**4-Year Discount Rate**	**Total Non-Discounted Cost**	**Present Value Cost**
Capital (Year 0)	$ 9,872,000	1	0	NA	NA	NA	NA	$ 9,872,000.00	$ 9,872,000.00
Annual Long Term Monitoring and Reporting (Years 1-30)	$ 9,000	30	0.05	NA	NA	NA	NA	$ 270,000.00	$ 138,352.06
Totals								**$ 10,142,000.00**	**$ 10,010,352.06**

Alternative 3C **Year**	**Cost***	**Number of Annual Periods**	**Annual Discount Rate**	**Number of 2-Year Periods**	**2-Year Discount Rate**	**Number of 4-Year Periods**	**4-Year Discount Rate**	**Total Non-Discounted Cost**	**Present Value Cost**
Capital (Year 0)	$ 23,293,000	1	0	NA	NA	NA	NA	$ 23,293,000.00	$ 23,293,000.00
Annual Long Term Monitoring and Reporting (Years 1-30)	$ 9,000	30	0.05	NA	NA	NA	NA	$ 270,000.00	$ 138,352.06
Totals								**$ 23,563,000.00**	**$ 23,431,352.06**

Prepared By/Date: SB 12/11/14
Checked By/Date: JW 12/16/14

APPENDIX B

QUANTITY CALCULATIONS

Job No.	3612132271	Sheet	1	of	1
Phase	03	Task	****		
Job Name	Saranac Lake - OU03 FS				
By	SLB	Date	12/17/2014		
Checked By	JDW	Date	1/21/2015		

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Purpose: To calculate the quantity of sediment that would be removed from Pontiac Bay, stockpiled on-site, transported and disposed of, and used for backfilling for each remedial alternative.

Method: An interpreted area of varying depths containing MGP-impacted sediment was estimated using a combination of visual observations and analytical results from the Remedial Investigation (RI) using Tecplot (see Appendix B.1). Similarly, RI data was used to estimate the volume of sediment that would need to be removed to reach non-detectable levels of total PAH in Pontiac Bay. These estimated volumes were used to establish the extent of sediment removal and for cost estimating purposes for each remedial alternative. Backfill volumes for Alternatives 2B, 2C, 3B, and 3C were calculated based on increasing the average depth within the area of work by 1 foot.

Assumptions: The volume of the first 2.5 feet of MGP-impacted sediment was an estimated 7,040 cubic yards and applies to Alternatives 2A and 3A
The volume of MGP-impacted sediment exceeding 4 ppm total PAH was an estimated 16,900 cubic yards, an average depth of 6 feet, and applies to Alternatives 2B and 3B
The volume of sediment with detectable concentrations of TPAH was an estimated 49,000 cubic yards, an average depth of 9 feet, and applies to Alternatives 2C and 3C
Due to the uncertainty of the extent of MGP-impacted sediment in the bay, a contingency of 20% additional sediment volume has been added for costing purposes.

Constants and Inputs:

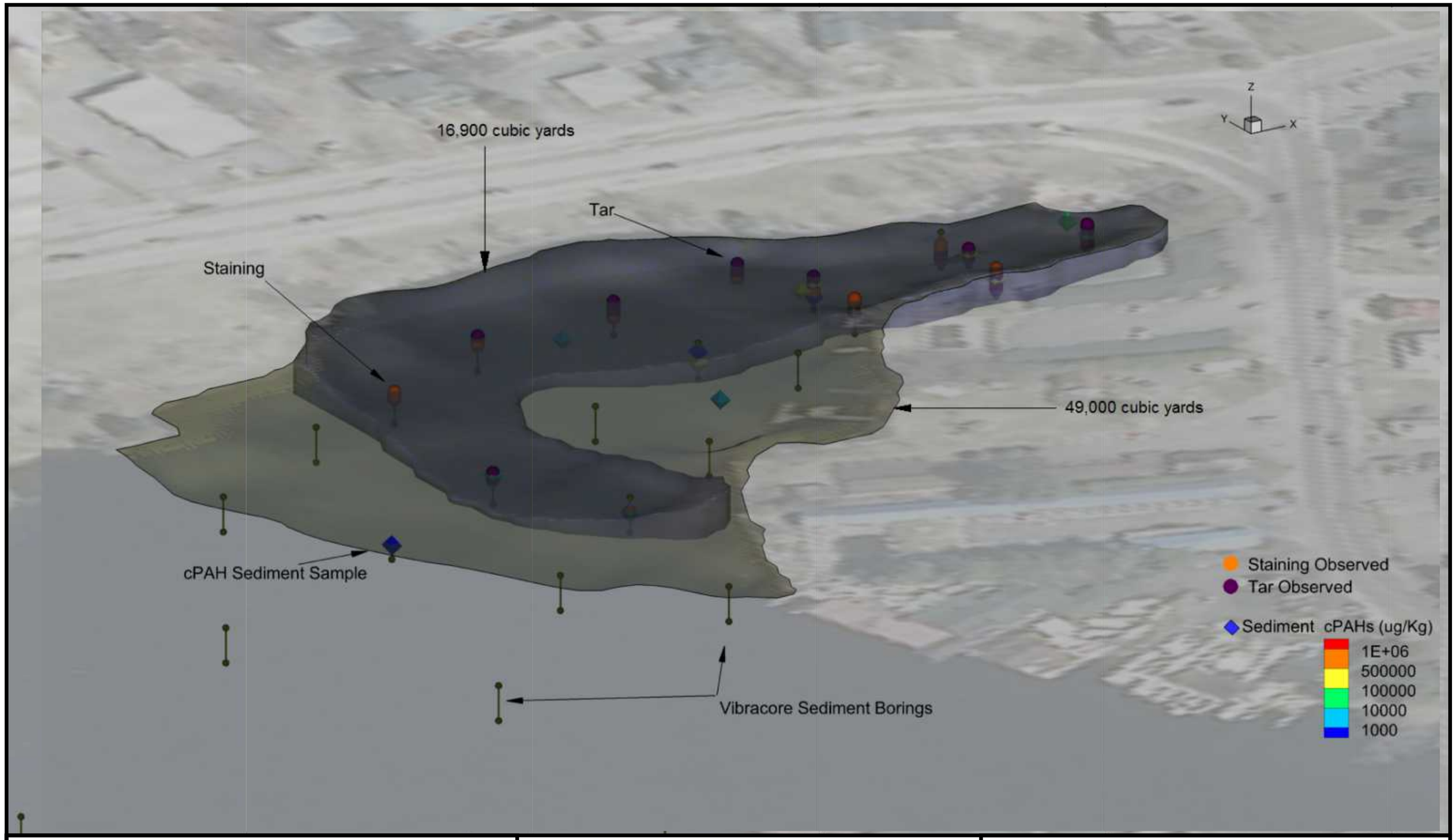
Sediment volume for Alternatives 2A and 3A:	7,040	cubic yards	
Sediment volume for Alternatives 2B and 3B:	16,900	cubic yards	
Sediment volume for Alternatives 2C and 3C:	49,000	cubic yards	
Average depth of Excavation for Alternatives 2A and 3A	2.5	feet	
Average depth of Excavation for Alternatives 2B and 3B	6	feet	
Average depth of Excavation for Alternatives 2C and 3C	9	feet	
Sediment volume contingency factor:	1.2	20% for unknowns,	
Bulking factor:	1.15		
Conversion factor from cubic yards to tons for Alternatives 2	1.7	Includes Portland cement (more dense)	
Conversion factor from cubic yards to tons for Alternatives 3	1.6	Not as dense as Alternative 2	

References: MACTEC Engineering and Consulting, P.C., 2014. *Remedial Investigation Report – Saranac Lake Gas Company Site.* Prepared for New York State Department of Environmental Conservation, Albany, New York. December 12 2014.

Calculations:

			Tons for Alternative 2	Tons for Alternative 3
Quantity of excavated/dredged sediment for Alternatives 2A and 3A	8,448	cubic yards		
Quantity of excavated/dredged sediment for Alternatives 2B and 3B	20,280	cubic yards		
Quantity of excavated/dredged sediment for Alternatives 2C and 3C	58,800	cubic yards		
Quantity of sediment to be transported and disposed of after bulking for Alternatives 2A and 3A	9,715	cubic yards	16,516	15,544
Quantity of sediment to be transported and disposed of after bulking for Alternatives 2B and 3B	23,322	cubic yards	39,647	37,315
Quantity of sediment to be transported and disposed of after bulking for Alternatives 2C and 3C	67,620	cubic yards	114,954	108,192
Quantity of backfill (habitat substrate over cap) for Alts 2A and 3B	6,758	cubic yards		
Quantity of backfill for Alts 2B and 3B (sand and habitat substrate)	16,900	cubic yards	10,140 sand; 6,760 substrate	
Quantity of backfill for Alts 2C and 3C (sand and habitat substrate)	52,267	cubic yards	39,200 sand; 13,067 substrate	

Conclusion: The above sediment volume and weight calculations can be used to verify the basis costing for sediment excavation/dredging, transportation and disposal, as well as backfilling provided in both the text and in Appendix A.



NYSDEC – Site # 516008 **Saranac Lake Gas Company** **Saranac Lake, New York**	MACTEC	**Interpretation of the Volume of MGP-Impacted Sediment in OU03** **Project 3612132271 Appendix B.1**