



October 29, 2020

Mr. Jonathan A. Batista
Assistant Director
City of Riviera Beach
Utilities Special District Administration
600 West Blue Heron Boulevard
Riviera Beach, FL. 33404

Re: Continuing Engineering Services Agreement – RFQ No. 947-18-1
City of Riviera Beach Utility Special District
Citywide Lift Station Condition Assessment Study
EAC Project No. 18034.WW01

Dear Mr. Batista,

EAC Consulting Inc. (EAC) is pleased to submit this fee proposal to provide civil engineering services on the above referenced project as part of our Continuing Engineering Services Agreement with the City of Riviera Beach. We look forward to working with the City of Riviera Beach (City) on this important project.

PROJECT LIMITS

The project limits are as follows:

- Citywide

PROJECT UNDERSTANDING

The City has requested a fee proposal from EAC to perform a condition assessment on all of its lift stations within the City's limits. It is our understanding that the City currently maintains fifty-one (51) lift stations within the limits of the City, including five (5) lift stations located on the coastal community of Singer Island (Refer to Appendix A). It is also our understanding that two (2) of the existing lift stations are master stations and three (3) are sub-master stations. The City performed a high-level condition assessment of all its lift stations in 2012 and a condition score was developed to rate each station. This information was summarized and included in its 2013 Water and Wastewater Master Plan

It is our understanding that the stations in general are in moderate to poor condition and require either rehabilitation or replacement due to age and deterioration. The City needs to develop a Capital Improvement Plan (CIP) to address these deficiencies and therefore a condition assessment is required to assist the City in prioritizing critical investments that must be made now, as opposed to investments that can occur over time, while maintaining the functionality of the overall system.

The City has fourteen (14) lift stations that are in a critical state and require immediate attention. The City is therefore requesting that this project be phased to address these critical lift stations first. The first phase (Phase I) will consist of the following lift stations: LS 9, 11, 13, 14, 18, 19, 20, 25, 26, 30, 37, 39, 40 & 41. The second phase (Phase II) will consist of the remaining thirty-seven (37) stations. In addition, Phase II will also include an odor control study for three (3) Lift stations (1A, 10 and 12). The odor control study will involve system performance monitoring, condition assessments and providing alternative odor abatement strategies and recommendations.

Our services on this study will be supported by our approved subconsultants:

- Hillers Electrical Engineering, Inc – Electrical and Instrumentation Condition Assessments
- AECOM, Inc. –Structural Condition Assessment and Odor Control Study

SCOPE OF WORK

The scope of work and associated tasks required to perform the lift station condition assessment are as follows:

Task 1 – Project Management and Project Kick-Off Meeting

Project Management

- EAC shall provide Project Management services that will comprise of contract administration, preparation of invoices, coordination with City staff, attending meetings and prepare meeting minutes.
- EAC shall communicate with the City bi-weekly and prepare a monthly progress report to summarize at a high level, the activities and progress achieved during each month.
- Within (2) weeks following Notice-to-Proceed (NTP), EAC shall provide a project schedule and update it monthly to track progress on the project

Kick-Off Meeting

EAC Consulting, Inc. shall coordinate a project kick-off meeting within two (2) weeks after receiving an approved work order and notice-to-proceed from the City. The purpose of this task is to initiate the project, which includes identifying project protocols, establishing points of contact between EAC and City staff.

Deliverables – Meeting Minutes, Monthly Reports and Project Schedule

Task 2 – Existing Data Collection and Review

The City shall provide the following information for EAC'S review and comprehension:

- Lift station As-builts/Record Drawings
- Lift station GIS data
- Previous reports/evaluations that contain information on existing lift stations including but not limited to the City's current Water and Wastewater Master Plan
- Lift station maintenance records and operational information
- Previous reports associated with electrical service failures
- Previous reports or documentation of any sanitary sewer overflows
- Lift station specifications data (pump sizes, pump curves and other performance data)
- Lift station overflows data and SCADA data (including but not limited to pump station run times)
- The results and data from previous drawdown tests performed
- Names of contact person/s with historical knowledge of lift station operational performance and conditions

Deliverables – Organized and archived existing data in electronic form for the City's future reference

Task 3 – Assessment Criteria and Condition Rating System

EAC shall develop an approach for the assessment criteria and rating system methodology that will be applied consistently to each lift station. The assessment criteria and condition rating system will be used to establish the condition of various lift station components and subsequently develop an overall condition rating for each lift station. Once the overall condition rating has been established, we will develop a process to prioritize the lift station assets that are in critical need of replacement or rehabilitation.

The lift station assessment will be limited to visual observations combined with data collected in Task 2 to determine the condition of each lift station in the following categories: civil site, structural, electrical, instrumentation and mechanical characteristics.

Deliverables – Technical memorandum detailing the assessment criteria and condition rating system

Task 4 – Field Inspection Plan

EAC shall develop a field inspection plan that will include an inspection form template. The form will outline all of the condition assessment information to be collected during field inspections and observations as well as document reviews of existing data. This information will include data on the condition assessment of the lift station components being considered, field notes and photos to support condition ratings.

The field inspections will provide information in the following categories based on visible features:

- Civil site infrastructure condition assessment (perimeter/security fencing or enclosure, backflow preventer & hose bib, maintenance access, flooding potential, and exterior lighting)
- Structural condition assessments (building structures, wet well structures, valve vault structures, pump supports)
- Electrical condition assessments (VFD's, conduits, wiring, disconnects, emergency generator connection)
- Instrumentation assessments (control panel, level of instrumentation, SCADA)
- Mechanical equipment and components (pumps, run times, pipes and valves)

Deliverables – Field inspection condition assessment summary sheets

Task 5 – Condition Rating

The purpose of this task is to use the information collected in Task 4 to develop an overall condition rating for each lift station. The condition assessment information will be scrutinized, weighted and processed according the methodology developed in Task 3 for asset prioritization.

Phase I Deliverables – Technical Memorandum that includes the condition rating of the 14 lift stations that are in a critical state and require immediate attention.

Task 6– Odor Control Study

Our team shall measure odor levels at Lift stations 1A, 10 and 12 and will provide the City with the results of the study. In the event that the levels are in excess of industry standards, the recommendations will be provided to control these odors.

Deliverables – The results and recommendations for odor control at the three (3) lift stations will be presented in the draft and final reports shown in Tasks 7 and 8.

Task 7 – Draft Report

- EAC will rank and prioritize the lift stations in accordance with their overall condition ratings and develop recommendations for corrective work to be done at each station.
- Provide recommendations to address identified defects or deficiencies
- In addition, EAC will prepare cost estimates (rough order of magnitude) for recommended improvements.

Deliverables - A draft report will be developed and submitted to the City for review and concurrence. This report will

include the condition assessment and recommendations for all fifty-one (51) lift stations and the odor control study.

Task 8 – Final Report

- EAC will schedule a meeting with the City to discuss one set of consolidated comments and incorporate said comments to produce a final report

Deliverables – A Final Report will be developed and submitted to City for final acceptance

Assumptions and Exclusions

- The City will be responsible for providing one set of consolidated historic records for each lift station. This information will include but not be limited to: lift station as-builts/record drawings, lift station GIS data, lift station reports/evaluations, lift station maintenance records and operational information, information on past electrical service failures, reports or documentation of any sanitary sewer overflows, recorded easements and survey line work as applicable, lift station specifications data (pump sizes, pump curves and other performance data), lift station overflow data and SCADA data (including but not limited to pump station run times), result and data from previous drawdown tests.
- The City will provide access to all lift stations and will provide City maintenance staff to accompany the EAC team during the inspection of each station.
- The City will make provisions with respect to labor and equipment to accommodate pump station drawdown during inspections to allow for observations of wet well walls, pumps, pump supports, and other appurtenances within the wet well.
- No design services or services related to the development of construction services are included in this proposal.
- Cost estimates for improvements will be planning level estimates.

Schedule of Fees

Phase I (14 Lift Stations)	\$
Task 1 – Project Management and Project Kick-Off Meeting	\$12,352.00
Task 2 – Existing Data Collection and Review	\$15,384.00
Task 3 – Assessment Criteria and Condition Rating System	\$16,284.00
Task 4 – Field Inspection Plan	\$21,624.00
Task 5 – Condition Rating	\$14,484.00
Task 5.1 – Technical Memorandum	\$8,172.00
Sub-Total	\$88,300.00
Hillers Electrical Engineering, Inc. (Electrical and Instrumentation)	\$20,900.00
AECOM (Structural)	\$32,806.00
Sub-Total	\$53,706.00
Reimbursable (NTE)	\$2,500.00
Grand Total Fee	\$144,506.00

Phase II (37 Lift Stations and Odor Control Study)	\$
Task 1 – Project Management	\$21,616.00
Task 2 – Existing Data Collection and Review	\$0.00
Task 3 – Assessment Criteria and Condition Rating System	\$0.00
Task 4 – Field Inspection Plan	\$46,000.00
Task 5 – Condition Rating	\$24,748.00
Task 6: Odor Control Study	\$3,064.00
Task 7: Draft Report	\$16,216.00
Task 8: Final Report	\$9,844.00
Sub-Total	\$121,488.00
Hillers Electrical Engineering, Inc. (Electrical and Instrumentation)	\$36,300.00
AECOM (Structural)	\$53,290.00
AECOM (Odor Control)	\$28,562.00
Sub-Total	\$118,152.00
Reimbursable (NTE)	\$5,000.00
Grand Total Fee	\$244,640.00

Anticipated Design Schedule

A schedule for the completion of Phases I and I will be developed in collaboration with the City within 2-weeks after Notice-to-Proceed.

Please find enclosed the following attachments to this fee proposal letter:

- Appendix A - City's Pump Station Location Map
- Appendix B - Overall Fee Breakdown
- Appendix C - Subconsultants' Fee Proposals

Please feel free to call me at 305-265-5444 with any questions or concerns.

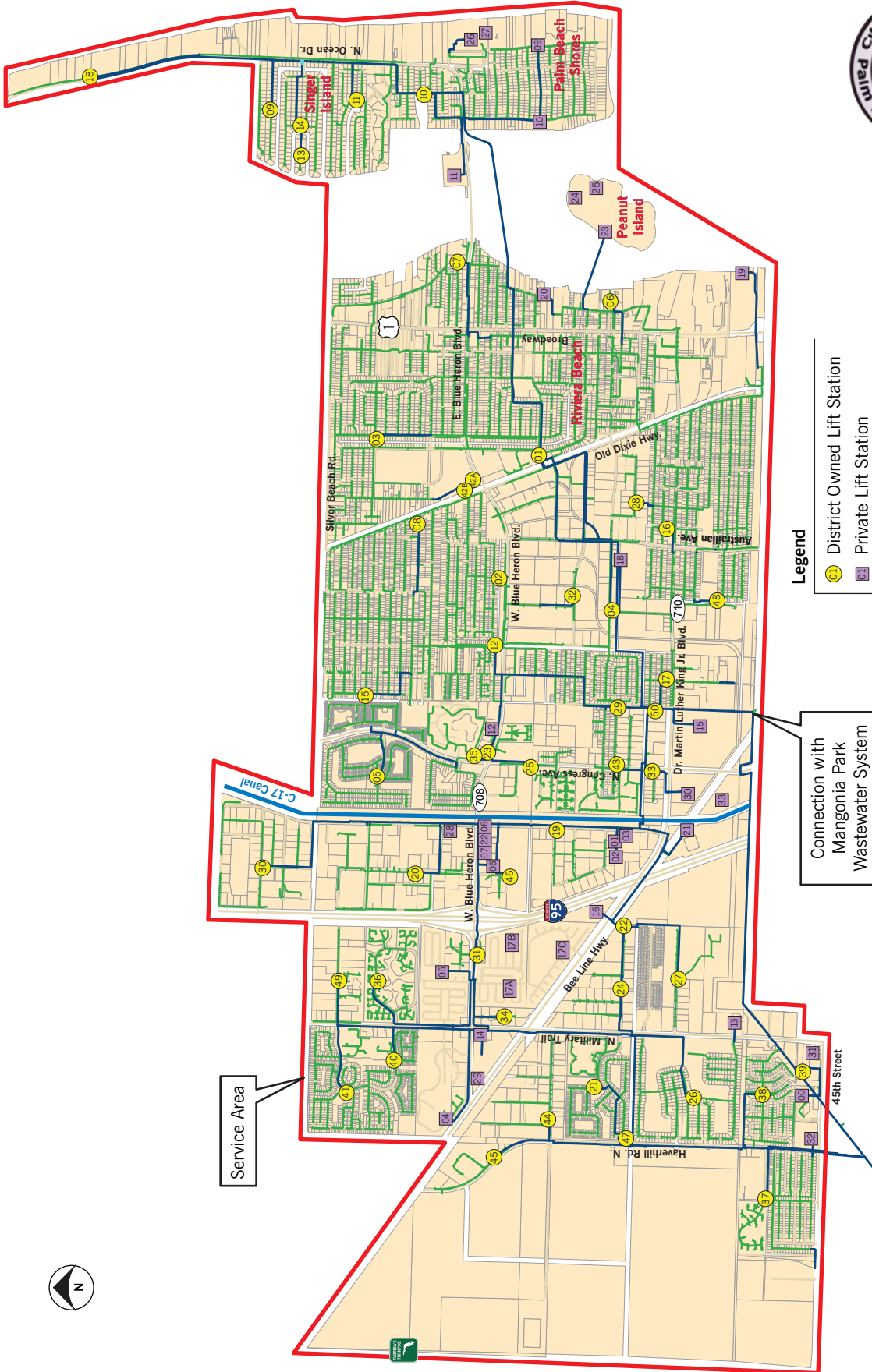
Sincerely,

EAC Consulting, Inc.

Huntley Higgins, P.E., PMP
Vice President (Water Services)

cc: File;
Donna Grace, P.E. – EAC Consulting, Inc.
Stephen McGrew, P.E. – EAC Consulting, Inc.
Mike Adeife, P.E. – EAC Consulting, Inc.

ATTACHMENT – A



- Legend**
- District Owned Lift Station
 - Private Lift Station
 - Gravity Sanitary System
 - Sanitary Force Main

Connection with Mangonia Park Wastewater System

Service Area

To City of Palm Beach East Central Regional (ECR) Water Reclamation Facility

Figure 3-6
Wastewater Collection and Transmission System

ATTACHMENT – B

ATTACHMENT – C



HILLERS ELECTRICAL ENGINEERING, INC.

October 16, 2020

Huntley Higgins, P.E.
EAC Consulting, Inc.
1450 Centrepark Boulevard, Suite 275
West Palm Beach, Florida 33401

Subject: City of Riviera Beach: Lift Station Condition Assessment – Phase I

Dear Huntley:

Hillers Electrical Engineering, Inc. (HEE) is pleased to provide EAC Consulting, Inc. a proposal for the lift station condition assessment services of the electrical, instrumentation & SCADA discipline associated with the above referenced project. The project will include fourteen (14) lift stations which are LS 9, 11, 13, 14, 18, 19, 20, 25, 26, 30, 37, 39, 40 & 41. The scope will consist of the following:

- Task 1 - Project Management and Kick-off Meeting
- Task 2 - Existing Data Collection and Review
- Task 3 - Assessment Criteria and Condition Rating System
- Task 4 - Field Inspection Plan
- Task 5 - Condition Rating
- Task 6 - Odor Control Study
- Task 7 - Draft Report and Cost Estimates
- Task 8 - Final Report Including Meeting

Our proposed lump sum service fee is \$ 20,900.

HEE wishes to thank EAC for the opportunity to provide this proposal. Please do not hesitate to call me if you have any questions regarding this proposal or any other matter.

Sincerely,

Paul Hillers, PE



HILLERS ELECTRICAL ENGINEERING, INC.

October 16, 2020

Huntley Higgins, P.E.
EAC Consulting, Inc.
1450 Centrepark Boulevard, Suite 275
West Palm Beach, Florida 33401

Subject: City of Riviera Beach: Lift Station Condition Assessment – Phase 2

Dear Huntley:

Hillers Electrical Engineering, Inc. (HEE) is pleased to provide EAC Consulting, Inc. a proposal for the lift station condition assessment services of the electrical, instrumentation & SCADA discipline associated with the above referenced project. The project will include thirty-seven (37) lift stations. The scope will consist of the following:

- Task 1 - Project Management and Kick-off Meeting
- Task 2 - Existing Data Collection and Review
- Task 3 - Assessment Criteria and Condition Rating System
- Task 4 - Field Inspection Plan
- Task 5 - Condition Rating
- Task 6 - Odor Control Study
- Task 7 - Draft Report and Cost Estimates
- Task 8 - Final Report Including Meeting

Our proposed lump sum service fee is \$ 36,300.

HEE wishes to thank EAC for the opportunity to provide this proposal. Please do not hesitate to call me if you have any questions regarding this proposal or any other matter.

Sincerely,

Paul Hillers, PE

City of Riviera Beach Odor Abatement and Structural Assessment Services

Prepared by:

AECOM Technical Services, Inc.

October 29, 2020

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Scope of Services

Task 1.0 General Project Management Services

General project management to include project set-up, QMS, invoicing and internal coordination meetings.

Task 2.0 Odor Abatement Infrastructure Assessment

This task starts with observing the existing odor abatement system infrastructure at each of the pump station facilities. This evaluation includes an inspection of the major system components for process, mechanical, structural, HVAC, I&C, and electrical. The AECOM team will evaluate each of the CITY's three pump station odor abatement systems.

The primary objective of this task is to develop, confirm, and maintain up-to-date information on the odor abatement treatment system components, and the current operating and maintenance status. In addition, the system performance will be documented, and an alternative odor abatement evaluation performed.

Task 2.1 Review Historical Information

AECOM will obtain and review relevant information including but not limited to the structural system as-built drawings, odor abatement system as-built drawings, O&M manuals, historical maintenance activities, engineering studies, assessments, and/or system improvement projects. The information will focus the system inspections and subsequent condition assessment towards existing system problem areas to assist with the prioritization procedures. AECOM will review and consider this background information to help establish the condition of the system, system needs, and to what extent any recommended improvements have been implemented.

Task 2.2 Onsite Inspection (3 Pump Stations)

AECOM will organize a core inspection group consisting of CITY operations and maintenance staff and AECOM multi-discipline personnel. This group will inspect buildings, unit process, and appurtenant facilities at the pump stations. Equipment that is deemed to be critical by the pump station operations and maintenance staff for either reliability, safety and compliance issues will be emphasized. AECOM will develop a photo log with basic tagging information. Additional information such as the date placed into service, physical condition, operational issues as well as any occupational health and safety items will be described as part of the condition assessment report.

The inspection will be a non-intrusive and non-destructive form of equipment evaluation, and as such will not require the disassembly of any machines or electrical systems. It will be necessary to open electrical panels and, in some cases, start and stop equipment. None of the evaluation technologies utilized will require the shutdown of any specific piece of equipment for more than a few minutes at a time. Due to the necessity of equipment starts and stops and the opening of electrical panels, it is anticipated that a CITY's electrical staff will accompany the AECOM team during the evaluation.

Task 2.3 System Performance Monitoring

Off-gas odors within the pump station wet pit will be characterized. This task includes installing portable odor monitoring equipment to continuously monitor and log hydrogen sulfide concentrations for up to a period of 5 days. AECOM will procure sampling equipment, and install and remove the equipment when sampling is complete. The CITY will provide access to the onsite sampling locations

and provide pumping activity and flow rates during the time of sampling. Sampling will be conducted by an AECOM Field Technician supervised by an AECOM Engineer. CITY staff will be required to check the analyzers once per day to confirm proper operation such as flow rates, hose connections, battery life, and error codes.

Task 2.4 Condition Assessment

The odor abatement systems will be evaluated by each of the disciplines. The condition assessment generally categorizes the current condition of each equipment unit as being in a critical repair need status (Color Code Red), an alarm condition status (Color Code Yellow) or a no problem status (Color Code Green). In addition to these categorizations, the impact on plant function will be graded and categorized by estimated remaining useful life.

Task 2.5 Alternative Odor Abatement Technology Evaluation

A desk-top evaluation will be performed to identify and evaluate alternative odor abatement technologies. Alternatives will be identified from industry standard technologies and described conceptually with general process information provided. The relative advantages and disadvantages of the individual treatment alternatives will be evaluated in relation to the CITY's site-specific application. The alternatives identified will be examined in more detail to select up to two processes for comparison to the CITY's existing process technology. Non-cost factors such as operation complexity, chemical handling, process reliability, residuals handling, aesthetics, risk and safety, permitting, ease of retrofit, and durability will be considered. Non-cost rankings will be accomplished by tabulating total scores for each alternative. Conceptual level opinions of probable cost will be developed for each evaluated alternative. These costs will serve to compare the conceptual and relative magnitude of the present worth life-cycle cost for ranking the alternatives.

Task 3.0 Structural Assessment & Evaluation

AECOM will perform a structural assessment of each of the CITY's 51 pump stations in two phases:

- Phase 1 – 14 stations
- Phase 2 – 37 stations

This task starts with meeting with the CITY staff to establish the assessment program, reviewing historical documents, and performing an onsite structural assessment of each facility. The task will culminate in a report that includes:

1. a brief description of each facility
2. structural observations
3. recommended structural repairs and improvements
4. opinion of probable cost for the repairs and improvements

In addition to activities described subtasks 3.0 of the fee proposal attached, the structural assessment and evaluation will consist of the following subtasks:

Task 3.1 Structural Onsite Inspection

AECOM will organize a core inspection group consisting of CITY staff and AECOM personnel. This group will inspect the structural condition of each station. For lift station this includes:

- inspection of concrete structure, pavement areas and any perimeter walls or fencing.
- inspection of opening and hatches
- Inspection of the concrete coating in the lift station

For pump station this includes:

- inspection of concrete structure, pavement areas and any perimeter walls or fencing.

- inspection of opening and hatches
- inspection coating in the wet well
- inspection of the building structure including roof, walls, doors, louvers, and windows
- inspection of any cranes to facilitate equipment removal

The inspection will be non-destructive. However, if further testing is required that is destructive in nature or require specialty testing equipment to fully evaluate the structural condition, such testing will be specified in the condition assessment report.

Task 3.2 Structural Condition Assessment Report

A condition assessment report will be provided that will include the following:

- A brief description of the structural system at each station.
- Review of findings from historical documents.
- Observed deficiencies at each station with a photo log
- Recommended structural repairs and improvements
- Opinion of probable cost for the repairs and improvements

Fee and Schedule

AECOM anticipates delivery the scope of services at a lump sum fee of \$118,378.00 within four months of NTP. Refer to Attachment A for fee details.

