CITY OF TAMPA

Jane Castor, Mayor **CONTRACT ADMINISTRATION DEPARTMENT**

Michael W. Chucran, Director

ADDENDUM 3
DATE: June 21, 2019

Contract 18-C-00009; 43rd Street Outfall Regional Stormwater Improvements

Bidders on the above referenced project are hereby notified that the following addendum is made to the Contract Documents. BIDS TO BE SUBMITTED SHALL CONFORM TO THIS NOTICE.

Item 1: The Bid Opening date for this project is hereby changed to July 9, 2019.

Item 2: The Contractor shall re-verify the location and inverts of the existing 42" PCCP via subsurface utility engineering (SUE) at 7th Avenue prior to microtunneling. Payment shall be included under Mobilization. The SUE information used for the plans is attached for review.

Item 3: The CSX agreements are attached.

Item 4: The City has already purchased CSX Railroad Protective Insurance policies for the microtunnel and box culvert open cut CSX crossings.

Item 5: The Contractor shall perform settlement monitoring survey on a daily basis for microtunnel operations under the CSX right-of-way. Payment shall be included under the Microtunnel pay item.

Item 6: The Level II Contamination Report is attached.

Item 7: Replace Plan Sheets 29 and 31 with the attached Plan Sheets 29 and 31.

Item 8: Replace Proposal pages P-2 through P-4 with the attached pages P-2R through P-4R. Proposal includes removed, amended and new pay items.

Item 9: Add the following to the Specific Provisions:

SP-144 Utility relocation reimbursement to AT&T

The Contractor will coordinate and pay AT&T for its utility relocation under the CSX active tracks just south of 7th Avenue from the Contingency Allowance.

Item 10: Requests for additional information received after July 2, 2019 cannot be assured to receive a response.

Item 11: All storm pipe installed by microtunneling shall be Class-V wet cast.

Item 12: Clarification - Payment for work performed pursuant to SP-143 Temporary Construction Easement shall be paid under the Mobilization pay item.

Item 13: Clarification - Contacts for representatives of the temporary construction easement are:

- South Property - Pamela Snead (813) 248-3555
- Recycle Company – Beverly Green (813) 900-3475

Item 14: Clarification - Use the same rail for its replacement

Item 15: All storm pipe installed by microtunneling shall be Class-V wet cast

All other provisions of the Contract Documents and Specifications not in conflict with this Addendum shall remain in full force and effect. Questions are to be e-mailed to Contract Administration@tampagov.net.

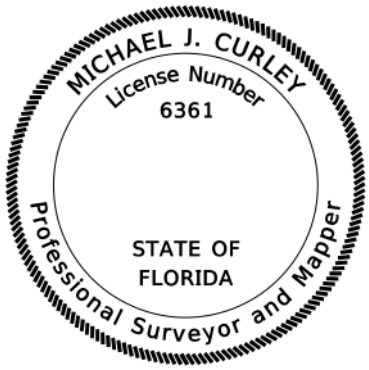
Jim Greiner

Jim Greiner, P.E., Contract Management Supervisor

George F. Young, Inc.
Turning Vision Into Reality
299 Dr. Martin Luther King Jr. Street North
Saint Petersburg, Florida 33701
(727) 822-4317 Fax (727) 551-9395
■ARCHITECTURE ■ ENGINEERING ■ ENVIRONMENTAL ■ LANDSCAPE ARCHITECTURE ■ PLANNING ■ SURVEYING ■ UTILITIES

Surveyor's Report
George F. Young Inc. Project No. 19007300SU
East 7th Avenue at North 43rd Street

1. Record Survey to record the location of specific subsurface utilities at selected areas at the intersection of East 7th Avenue and North 43rd Street, as specified by client provided drawing, City of Tampa, Hillsborough County, Florida.
2. Survey Date: May 4, 2019 – May 6, 2019.
3. Prepared for the exclusive benefit of: City Of Tampa, Stormwater Engineering Division.
4. Coordinates were established by Real-Time Kinematic GPS methodology utilizing the FPRN Network for corrections and tied to NGS Control Point *FS16* (PID=DG8922, Northing=1,319.602.54 and Easting=527,606.48). The Horizontal datum is relative to the Florida State Plane Coordinate System, West Zone, North American Datum of 1983 – Adjustment of 2011 (NAD 83/11). Elevations are relative to the North American Vertical Datum of 1988 (NAVD 88) and are based on Hillsborough County Benchmark VA-915 (Elevation=30.99 Feet).
5. This report contains subsurface utilities physically exposed by vacuum excavation (VVH). Electronically designated lines as shown in the electronic file *19007300SU.dwg* may deviate from the actual utility location and should be considered approximate.
6. Subsurface storm drain and gravity sanitary sewer structures and their associated piping are specifically excluded from this survey.
7. Surface elevations and measure downs (depth of cover) are valid at the date of this survey only as surface grade conditions may change over time.
8. Subsurface Utilities were located by utilizing the Vacmaster System for vacuum excavation with the benefit of electronic designation and Ground Penetrating Radar (GPR).
9. Utilization of the above equipment and methods is the industry recognized procedure for finding and locating underground utilities. Although effective and reliable, there is the possibility that all utilities may not be detected due to environmental conditions, soil conditions, water table, excessive depth, and/or feature makeup.
10. Utility size and material composition were collected by field observation under adverse conditions and should be considered approximate.
11. Utility size reflects the approximate outside diameter unless otherwise specified.
12. Utility owner's names used in this report reflect information obtained from field observations, field meetings, and utility research and may not reflect actual ownership.
13. The electronic file *19007300SU.dwg* (an AutoCAD drawing file containing 1,403,604 bytes, last modified on May 10, 2019, 9:31:04 AM) is an electronic depiction (map of survey) of the information depicted in this report. Neither this report nor the electronic file should be considered complete without the other.
14. The intended display scale of the electronic file *19007300SU.dwg*, depicting the map of survey, is 1" = 20' or 1:240.
15. This survey map and report (if applicable) or the copies thereof are not valid without the original signature and seal of a Florida licensed Surveyor and Mapper.
16. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.
17. This report has been digitally signed and sealed under Rule 5J-17.062 of the Florida Administrative Code.



Michael J. Curley, PSM
Florida Professional Surveyor and Mapper
License Number LS 6361
George F. Young, Inc., LB21

George F. Young, Inc.

299 Dr. Martin Luther King Jr. Street N.
Saint Petersburg, Florida 33701
(727) 822-4317 Fax (727) 551-9395

Subsurface Utility Engineering
Test Hole Field Data

GFY Project No.:	19007300SU	**Date:**	5/10/2019		**Revised:**	xx/xx/xxxx	
Client Name:	City of Tampa, Stormwater Engineering Division	**Vac Truck/Trailer No.:**	168		**SUE Crew:**	KN, RM, JD, BG	
Proj. Road Name:	East 7th Ave at North 43rd St.	**Prepared By:**	NB		**Checked By:**	MC	
Proj. Limits:	As specified on client provided drawing	**Units:**	U.S. Survey Feet		**Field Book(s):**	880,68	
City / County / State:	Tampa/ Hillsborough County / Florida	**Horizontal Datum:**	NAD 83/11		**Vertical Datum:**		NAVD88

Legend:	E-W	East-West	O.D.	Outside Diameter	VVH	Verified Vertical
	N/A	Not Applicable	PVC	Polyvinyl Chloride		

Test Hole Date	Test Hole Number	Utility Size, Material & Type (Size measured in inches and is O.D.)	Northing	Easting	Ground Elevation	Manual Depth (Top)	Utility Elevation (Top)	Utility Owner	Utility Direction	Surface Type
5/4/2019	VVH101	Size Not Field Verified - Force Main	1318473.59	523807.61	30.84'	8.78'	22.06'	City of Tampa	E-W	Asphalt
5/4/2019	VVH102	North Edge Of Force Main	1318475.17	523807.57	30.92'	9.60'	21.32'	City of Tampa	E-W	Asphalt

FACILITY ENCROACHMENT AGREEMENT

THIS AGREEMENT, made and effective as of February 9, 2018, by and between CSX TRANSPORTATION, INC., a Virginia corporation, whose mailing address is 500 Water Street, Jacksonville, Florida 32202, hereinafter called "Licensor," and CITY OF TAMPA, a municipal corporation, political subdivision or state agency, under the laws of the State of Florida, whose mailing address is 306 East Jackson Street, 6n, Tampa, Florida 33629, hereinafter called "Licensee," WITNESSETH:

WHEREAS, Licensee desires to construct (unless previously constructed and designated as existing herein), use and maintain the below described facility(ies), hereinafter called "Facilities," over, under or across property owned or controlled by Licensor, at the below described location(s):

1. One (1) ten foot by four foot (10’x4’) sub-grade box culvert crossing, solely for the conveyance of storm water, located at or near Tampa, Hillsborough County, Florida, Jacksonville Division, Tampa Terminal Subdivision, Milepost A-879.33, Latitude N27:57:28., Longitude W82:24:39.;

2. Two (2) thirty-six inch (36”) sub-grade pipes, to be abandoned per CSX specifications, located at or near Tampa, Hillsborough County, Florida, Jacksonville Division, Tampa Terminal Subdivision, Milepost A-879.33, Latitude N27:57:28., Longitude W82:24:39.;

hereinafter, called the "Encroachment," as shown on print(s) labeled Exhibit "A," attached hereto and made a part hereof;

NOW, THEREFORE, in consideration of the mutual covenants, conditions, terms and agreements herein contained, the parties hereto agree and covenant as follows:

1. LICENSE:

1.1 Subject to Article 17, Licensor, insofar as it has the legal right, power and authority to do so, and its present title permits, and subject to:

(A) Licensor's present and future right to occupy, possess and use its property within the area of the Encroachment for any and all purposes;

(B) All encumbrances, conditions, covenants, easements, and limitations applicable to Licensor's title to or rights in the subject property; and

(C) Compliance by Licensee with the terms and conditions herein contained;

does hereby license and permit Licensee to construct, maintain, repair, renew, operate, use, alter or change the Facilities at the Encroachment above for the term herein stated, and to remove same upon termination.

1.2 The term Facilities, as used herein, shall include only those structures and ancillary facilities devoted exclusively to the transmission usage above within the Encroachment, and as shown on attached Exhibit A.

1.3 No additional structures or other facilities shall be placed, allowed, or maintained by Licensee in, upon or on the Encroachment except upon prior separate written consent of Licensor.

2. ENCROACHMENT FEE; TERM:

2.1 Licensee shall pay Licensor a one-time nonrefundable Encroachment Fee of FIFTEEN THOUSAND SIX HUNDRED AND 00/100 U.S. DOLLARS ($15,600.00) upon execution of this Agreement. Licensee agrees that the Encroachment Fee applies only to the original Licensee under this Agreement. In the event of a successor (by merger, consolidation, reorganization and/or assignment) or if the original Licensee changes its name, then Licensee shall be subject to payment of Licensor's current administrative and document preparation fees for the cost incurred by Licensor in preparing and maintaining this Agreement on a current basis.

2.2 However, Licensee assumes sole responsibility for, and shall pay directly (or reimburse Licensor), any additional annual taxes and/or periodic assessments levied against Licensor or Licensor's property solely on account of said Facilities or Encroachment.

2.3 This Agreement shall terminate as herein provided, but shall also terminate upon: (a) Licensee's cessation of use of the Facilities or Encroachment for the purpose(s) above; (b) removal of the Facilities; (c) subsequent mutual consent; and/or (d) failure of Licensee to complete installation within five (5) years from the effective date of this Agreement.

2.4 In further consideration for the license or right hereby granted, Licensee hereby agrees that Licensor shall not be charged or assessed, directly or indirectly, with any part of the cost of the installation of said Facilities and appurtenances, and/or maintenance thereof, or for any public works project of which said Facilities is a part.

3. CONSTRUCTION, MAINTENANCE AND REPAIRS:

3.1 Licensee shall construct, maintain, relocate, repair, renew, alter, and/or remove the Facilities, in a prudent, workmanlike manner, using quality materials and complying with any applicable standard(s) or regulation(s) of Licensor (CSXT Specifications), or Licensee's particular industry, National Electrical Safety Code, or any governmental or regulatory body having jurisdiction over the Encroachment.

3.2 Location and construction of Facilities shall be made strictly in accordance with design(s) and specifications furnished to and approved by Licensor and of material(s) and size(s) appropriate for the purpose(s) above recited.

3.3 All of Licensee's work, and exercise of rights hereunder, shall be undertaken at time(s) satisfactory to Licensor, and so as to eliminate or minimize any impact on or interference with the safe use and operation of Licensor's property and appurtenances thereto.

3.4 In the installation, maintenance, repair and/or removal of said Facilities, Licensee shall not use explosives of any type or perform or cause any blasting without the separate express written consent of Licensor. As a condition to such consent, a representative will be assigned by Licensor to monitor blasting, and Licensee shall reimburse Licensor for the entire cost and/or expense of furnishing said monitor.

3.5 Any repairs or maintenance to the Facilities, whether resulting from acts of Licensee, or natural or weather events, which are necessary to protect or facilitate Licensor's use of its property, shall be made by Licensee promptly, but in no event later than thirty (30) days after Licensee has notice as to the need for such repairs or maintenance.

3.6 Licensor, in order to protect or safeguard its property, rail operations, equipment and/or employees from damage or injury, may request immediate repair or renewal of the Facilities, and if the same is not performed, may make or contract to make such repairs or renewals, at the sole risk, cost and expense of Licensee.

3.7 Neither the failure of Licensor to object to any work done, material used, or method of construction or maintenance of said Encroachment, nor any approval given or supervision exercised by Licensor, shall be construed as an admission of liability or responsibility by Licensor, or as a waiver by Licensor of any of the obligations, liability and/or responsibility of Licensee under this Agreement.

3.8 All work on the Encroachment shall be conducted in accordance with Licensor's safety rules and regulations.

3.9 Licensee hereby agrees to reimburse Licensor any loss, cost or expense (including losses resulting from train delays and/or inability to meet train schedules) arising from any failure of Licensee to make repairs or conduct maintenance as required by Section 3.5 above or from improper or incomplete repairs or maintenance to the Facilities or Encroachment.

3.10 In the event it becomes necessary for the Licensee to deviate from the approved Exhibit, Licensee shall seek prior approval from Licensor, or when applicable, an official field representative of Licensor permitted to approve changes, authorizing the necessary field changes and Licensee shall provide Licensor with complete As-Built Drawings of the completed work. As-Built Drawings shall be submitted to Licensor in either electronic or hard copy form upon the substantial completion of the project and upon Licensor’s request.

4. PERMITS, LICENSES:

4.1 Before any work hereunder is performed, or before use of the Encroachment for the contracted purpose, Licensee, at its sole cost and expense, shall obtain all necessary permit(s) (including but not limited to zoning, building, construction, health, safety or

environmental matters), letter(s) or certificate(s) of approval. Licensee expressly agrees and warrants that it shall conform and limit its activities to the terms of such permit(s), approval(s) and authorization(s), and shall comply with all applicable ordinances, rules, regulations, requirements and laws of any governmental authority (State, Federal or Local) having jurisdiction over Licensee's activities, including the location, contact, excavation and protection regulations of the Occupational Safety and Health Act (OSHA) (29 CFR 1926.651(b)), et al., and State "One Call" - "Call Before You Dig" requirements.

4.2 Licensee assumes sole responsibility for failure to obtain such permit(s) or approval(s), for any violations thereof, or for costs or expenses of compliance or remedy.

5. MARKING AND SUPPORT:

5.1 With respect to any subsurface installation or maintenance upon Licensor's property, Licensee, at its sole cost and expense, shall:

(A) support track(s) and roadbed in a manner satisfactory to Licensor;

(B) backfill with satisfactory material and thoroughly tamp all trenches to prevent settling of surface of land and roadbed of Licensor; and

(C) either remove any surplus earth or material from Licensor's property or cause said surplus earth or material to be placed and distributed at location(s) and in such manner Licensor may approve.

5.2 After construction or maintenance of the Facilities, Licensee shall:

(A) Restore any track(s), roadbed and other disturbed property; and

(B) Erect, maintain and periodically verify the accuracy of aboveground markers, in a form approved by Licensor, indicating the location, depth and ownership of any underground Facilities or related facilities.

5.3 Licensee shall be solely responsible for any subsidence or failure of lateral or subjacent support in the Encroachment area for a period of three (3) years after completion of installation.

6. TRACK CHANGES:

6.1 In the event that rail operations and/or track maintenance result in changes in grade or alignment of, additions to, or relocation of track(s) or other facilities, or in the event future use of Licensor's rail corridor or property necessitate any change of location, height or depth in the Facilities or Encroachment, Licensee, at its sole cost and expense and within thirty (30) days after notice in writing from Licensor, shall make changes in the Facilities or Encroachment to accommodate such track(s) or operations.

6.2 If Licensee fails to do so, Licensor may make or contract to make such changes at Licensee's cost.

7. FACILITY CHANGES:

7.1 Licensee shall periodically monitor and verify the depth or height of the Facilities or Encroachment in relation to the existing tracks and facilities, and shall relocate the Facilities or change the Encroachment, at Licensee's expense, should such relocation or change be necessary to comply with the minimum clearance requirements of Licensor.

7.2 If Licensee undertakes to revise, renew, relocate or change in any manner whatsoever all or any part of the Facilities (including any change in voltage or gauge of wire or any change in circumference, diameter or radius of pipe or change in materials transmitted in and through said pipe), or is required by any public agency or court order to do so, plans therefor shall be submitted to Licensor for approval before such change. After approval, the terms and conditions of this Agreement shall apply thereto.

8. INTERFERENCE WITH RAIL FACILITIES:

8.1 Although the Facilities/Encroachment herein permitted may not presently interfere with Licensor's railroad or facilities, in the event that the operation, existence or maintenance of said Facilities, in the sole judgment of Licensor, causes: (a) interference (including, but not limited to, physical or interference from an electromagnetic induction, or interference from stray or other currents) with Licensor's power lines, communication, signal or other wires, train control system, or electrical or electronic apparatus; or (b) interference in any manner, with the operation, maintenance or use of the rail corridor, track(s), structures, pole line(s), devices, other property, or any appurtenances thereto; then and in either event, Licensee, upon receipt of written notice from Licensor of any such interference, and at Licensee's sole risk, cost and expense, shall promptly make such changes in its Facilities or installation, as may be required in the reasonable judgment of the Licensor to eliminate all such interference. Upon Licensee's failure to remedy or change, Licensor may do so or contract to do so at Licensee's sole cost.

8.2 Without assuming any duty hereunder to inspect the Facilities, Licensor hereby reserves the right to inspect same and to require Licensee to undertake repairs, maintenance or adjustments to the Facilities, which Licensee hereby agrees to make promptly, at Licensee's sole cost and expense.

9. RISK, LIABILITY, INDEMNITY:

With respect to the relative risk and liabilities of the parties, it is hereby agreed that:

9.1 To the fullest extent permitted by State law (constitutional or statutory, as amended), Licensee hereby agrees to, defend, indemnify, and hold Licensor harmless from and against any and all liability, loss, claim, suit, damage, charge or expense which Licensor may suffer, sustain, incur or in any way be subjected to, on account of death of or injury to any person whomsoever (including officers, agents, employees or invitees of Licensor), and for damage to or loss of or destruction of any property whatsoever, arising out of, resulting from, or in any way

connected with the construction, repair, maintenance, replacement, presence, existence, operations, use or removal of the Facilities or any structure in connection therewith, or restoration of premises of Licensor to good order or condition after removal, EXCEPT when proven to have been caused solely by the willful misconduct or gross negligence of Licensor. HOWEVER, to the fullest extent permitted by State law, during any period of actual construction, repair, maintenance, replacement or removal of the Facilities, wherein agents, equipment or personnel of Licensee are on the railroad rail corridor, Licensee's liability hereunder shall be absolute, irrespective of any joint, sole or contributory fault or negligence of Licensor.

9.2 Use of Licensor's rail corridor involves certain risks of loss or damage as a result of the rail operations. Notwithstanding Section 9.1, Licensee expressly assumes all risk of loss and damage to Licensee's Property or the Facilities in, on, over or under the Encroachment, including loss of or any interference with use or service thereof, regardless of cause, including electrical field creation, fire or derailment resulting from rail operations. For this Section, the term "Licensee's Property" shall include property of third parties situated or placed upon Licensor's rail corridor by Licensee or by such third parties at request of or for benefit of Licensee.

9.3 To the fullest extent permitted by State law, as above, Licensee assumes all responsibility for, and agrees to defend, indemnify and hold Licensor harmless from: (a) all claims, costs and expenses, including reasonable attorneys' fees, as a consequence of any sudden or nonsudden pollution of air, water, land and/or ground water on or off the Encroachment area, arising from or in connection with the use of this Encroachment or resulting from leaking, bursting, spilling, or any escape of the material transmitted in or through the Facilities; (b) any claim or liability arising under federal or state law dealing with either such sudden or nonsudden pollution of air, water, land and/or ground water arising therefrom or the remedy thereof; and (c) any subsidence or failure of lateral or subjacent support of the tracks arising from such Facilities leakage.

9.4 Notwithstanding Section 9.1, Licensee also expressly assumes all risk of loss which in any way may result from Licensee's failure to maintain either required clearances for any overhead Facilities or the required depth and encasement for any underground Facilities, whether or not such loss(es) result(s) in whole or part from Licensor's contributory negligence or joint fault.

9.5 Obligations of Licensee hereunder to release, indemnify and hold Licensor harmless shall also extend to companies and other legal entities that control, are controlled by, subsidiaries of, or are affiliated with Licensor, as well as any railroad that operates over the rail corridor on which the Encroachment is located, and the officers, employees and agents of each.

9.6 If a claim is made or action is brought against Licensor, and/or its operating lessee, for which Licensee may be responsible hereunder, in whole or in part, Licensee shall be notified to assume the handling or defense of such claim or action; but Licensor may participate in such handling or defense.

9.7 Notwithstanding anything contained in this Agreement, the limitation of liability contained in the state statutes, as amended from time to time, shall not limit Licensor's ability to collect under the insurance policies required to be maintained under this Agreement.

10. INSURANCE:

10.1 Prior to commencement of surveys, installation or occupation of premises pursuant to this Agreement, Licensee shall procure and shall maintain during the continuance of this Agreement, at its sole cost and expense, a policy of

(i) Statutory Worker's Compensation and Employers Liability Insurance with available limits of not less than ONE MILLION AND 00/100 U.S. DOLLARS ($1,000,000.00), which must contain a waiver of subrogation against CSXT and its Affiliates;

(ii) Commercial General Liability coverage (inclusive of contractual liability) with available limits of not less than FIVE MILLION AND 00/100 U.S. DOLLARS ($5,000,000.00), naming Licensor, and/or its designee, as additional insured and in combined single limits for bodily injury and property damage and covering the contractual liabilities assumed under this Agreement. The evidence of insurance coverage shall be endorsed to provide for thirty (30) days' notice to Licensor, or its designee, prior to cancellation or modification of any policy. Mail CGL certificate, along with agreement, to CSX Transportation, Inc., Speed Code J180, 500 Water Street, Jacksonville, FL 32202. On each successive year, send certificate to RenewalCOI@csx.com.

(iii) Business automobile liability insurance with available limits of not less than ONE MILLION AND 00/100 U.S. DOLLARS ($1,000,000.00) combined single limit for bodily injury and/or property damage per occurrence;

(iv) Such other insurance as Licensor may reasonably require.

10.2 If Licensee's existing CGL policy(ies) do(es) not automatically cover Licensee's contractual liability during periods of survey, installation, maintenance and continued occupation, a specific endorsement adding such coverage shall be purchased by Licensee. If said CGL policy is written on a "claims made" basis instead of a "per occurrence" basis, Licensee shall arrange for adequate time for reporting losses. Failure to do so shall be at Licensee's sole risk.

10.3 Licensor, or its designee, may at any time request evidence of insurance purchased by Licensee to comply with this Agreement. Failure of Licensee to comply with Licensor's request shall be considered a default by Licensee.

10.4 Securing such insurance shall not limit Licensee's liability under this Agreement, but shall be security therefor.

10.5 (A) In the event Licensee finds it necessary to perform construction or demolition operations within fifty feet (50') of any operated railroad track(s) or affecting any

railroad bridge, trestle, tunnel, track(s), roadbed, overpass or underpass, Licensee shall: (a) notify Licensor; and (b) require its contractor(s) performing such operations to procure and maintain during the period of construction or demolition operations, at no cost to Licensor, Railroad Protective Liability (RPL) Insurance, naming Licensor, and/or its designee, as Named Insured, written on the current ISO/RIMA Form (ISO Form No. CG 00 35 01 96) with limits of FIVE MILLION AND 00/100 U.S. DOLLARS ($5,000,000.00) per occurrence for bodily injury and property damage, with at least TEN MILLION AND 00/100 U.S. DOLLARS ($10,000,000.00) aggregate limit per annual policy period, with Pollution Exclusion Amendment (ISO CG 28 31 11 85) if an older ISO Form CG 00 35 is used. The original of such RPL policy shall be sent to and approved by Licensor prior to commencement of such construction or demolition. Licensor reserves the right to demand higher limits.

(B) At Licensor's option, in lieu of purchasing RPL insurance from an insurance company (but not CGL insurance), Licensee may pay Licensor, at Licensor's current rate at time of request, the cost of adding this Encroachment, or additional construction and/or demolition activities, to Licensor's Railroad Protective Liability (RPL) Policy for the period of actual construction. This coverage is offered at Licensor's discretion and may not be available under all circumstances.

10.6 Notwithstanding the provisions of Sections 10.1 and 10.2, Licensee, pursuant to State Statute(s), may self-insure or self-assume, in any amount(s), any contracted liability arising under this Agreement, under a funded program of self-insurance, which fund will respond to liability of Licensee imposed by and in accordance with the procedures established by law.

11. GRADE CROSSINGS; PROTECTION SERVICES:

11.1 Nothing herein contained shall be construed to permit Licensee or Licensee's contractor to move any vehicles or equipment over the track(s), except at public road crossing(s), without separate prior written approval of Licensor.

11.2 If Licensor deems it advisable, during any construction, maintenance, repair, renewal, alteration, change or removal of said Facilities, to place watchmen, flagmen, or field construction managers for protection of operations of Licensor or others on Licensor's rail corridor at the Encroachment, and to keep persons, equipment or materials away from the track(s), Licensor shall have the right to do so at the expense of Licensee, but Licensor shall not be liable for failure to do so.

12. LICENSOR'S COSTS:

12.1 Any additional or alternative costs or expenses incurred by Licensor to accommodate Licensee's continued use of Licensor's property as a result of track changes or wire changes shall also be paid by Licensee.

12.2 Licensor's expense for wages ("force account" charges) and materials for any work performed at the expense of Licensee pursuant hereto shall be paid by Licensee within

thirty (30) days after receipt of Licensor's bill therefor. Licensor may, at its discretion, request an advance deposit for estimated Licensor costs and expenses.

12.3 Such expense shall include, but not be limited to, cost of railroad labor and supervision under "force account" rules, plus current applicable overhead percentages, the actual cost of materials, and insurance, freight and handling charges on all material used. Equipment rentals shall be in accordance with Licensor's applicable fixed rate. Licensor may, at its discretion, require advance deposits for estimated costs of such expenses and costs.

13. DEFAULT, BREACH, WAIVER:

13.1 The proper and complete performance of each covenant of this Agreement shall be deemed of the essence thereof, and in the event Licensee fails or refuses to fully and completely perform any of said covenants or remedy any breach within thirty (30) days after receiving written notice from Licensor to do so (or within forty-eight (48) hours in the event of notice of a railroad emergency), Licensor shall have the option of immediately revoking this Agreement and the privileges and powers hereby conferred, regardless of encroachment fee(s) having been paid in advance for any annual or other period. Upon such revocation, Licensee shall make removal in accordance with Article 14.

13.2 No waiver by Licensor of its rights as to any breach of covenant or condition herein contained shall be construed as a permanent waiver of such covenant or condition, or any subsequent breach thereof, unless such covenant or condition is permanently waived in writing by Licensor.

13.3 Neither the failure of Licensor to object to any work done, material used, or method of construction or maintenance of said Encroachment, nor any approval given or supervision exercised by Licensor, shall be construed as an admission of liability or responsibility by Licensor, or as a waiver by Licensor of any of the obligations, liability and/or responsibility of Licensee under this Agreement.

14. TERMINATION, REMOVAL:

14.1 All rights which Licensee may have hereunder shall cease upon the date of (a) termination, (b) revocation, or (c) subsequent agreement, or (d) Licensee's removal of the Facility from the Encroachment. However, neither termination nor revocation of this Agreement shall affect any claims and liabilities which have arisen or accrued hereunder, and which at the time of termination or revocation have not been satisfied; neither party, however, waiving any third party defenses or actions.

14.2 Within thirty (30) days after revocation or termination, Licensee, at its sole risk and expense, shall (a) remove the Facilities from the rail corridor of Licensor, unless the parties hereto agree otherwise, (b) restore the rail corridor of Licensor in a manner satisfactory to Licensor, and (c) reimburse Licensor any loss, cost or expense of Licensor resulting from such removal.

15. NOTICE:

15.1 Licensee shall give Licensor at least thirty (30) days written notice before doing any work on Licensor's rail corridor, except that in cases of emergency shorter notice may be given. Licensee shall provide proper notification as follows:

a. For non-emergencies, Licensee shall submit online via the CSX Property Portal from Licensor's web site, via web link: https://propertyportal.csx.com/pub_ps_res/ps_res/jsf/public/index.faces

b. For emergencies, Licensee shall complete all of the steps outlined in Section 15.1 a. above, and shall also include detailed information of the emergency. Licensee shall also call and report details of the emergency to Licensor's Rail Operations Emergency Telephone Number: 1-800-232-0144. In the event Licensor needs to contact Licensee concerning an emergency involving Licensee's Facility(ies), the emergency phone number for Licensee is: 813-274-3101.

15.2 All other notices and communications concerning this Agreement shall be addressed to Licensee at the address above, and to Licensor at the address shown on Page 1, c/o CSXT Contract Management, J180; or at such other address as either party may designate in writing to the other.

15.3 Unless otherwise expressly stated herein, all such notices shall be in writing and sent via Certified or Registered Mail, Return Receipt Requested, or by courier, and shall be considered delivered upon: (a) actual receipt, or (b) date of refusal of such delivery.

16. ASSIGNMENT:

16.1 The rights herein conferred are the privileges of Licensee only, and Licensee shall obtain Licensor's prior written consent to any assignment of Licensee's interest herein; said consent shall not be unreasonably withheld.

16.2 Subject to Sections 2 and 16.1, this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors or assigns.

16.3 Licensee shall give Licensor written notice of any legal succession (by merger, consolidation, reorganization, etc.) or other change of legal existence or status of Licensee, with a copy of all documents attesting to such change or legal succession, within thirty (30) days thereof.

16.4 Licensor expressly reserves the right to assign this Agreement, in whole or in part, to any grantee, lessee, or vendee of Licensor's underlying property interests in the Encroachment, upon written notice thereof to Licensee.

16.5 In the event of any unauthorized sale, transfer, assignment, sublicense or encumbrance of this Agreement, or any of the rights and privileges hereunder, Licensor, at its

option, may revoke this Agreement by giving Licensee or any such assignee written notice of such revocation; and Licensee shall reimburse Licensor for any loss, cost or expense Licensor may incur as a result of Licensee's failure to obtain said consent.

17. TITLE:

17.1 Licensee understands that Licensor occupies, uses and possesses lands, rights-of-way and rail corridors under all forms and qualities of ownership rights or facts, from full fee simple absolute to bare occupation. Accordingly, nothing in this Agreement shall act as or be deemed to act as any warranty, guaranty or representation of the quality of Licensor's title for any particular Encroachment or segment of Rail Corridor occupied, used or enjoyed in any manner by Licensee under any rights created in this Agreement. It is expressly understood that Licensor does not warrant title to any Rail Corridor and Licensee will accept the grants and privileges contained herein, subject to all lawful outstanding existing liens, mortgages and superior rights in and to the Rail Corridor, and all leases, licenses and easements or other interests previously granted to others therein.

17.2 The term "license," as used herein, shall mean with regard to any portion of the Rail Corridor which is owned by Licensor in fee simple absolute, or where the applicable law of the State where the Encroachment is located otherwise permits Licensor to make such grants to Licensee, a "permission to use" the Rail Corridor, with dominion and control over such portion of the Rail Corridor remaining with Licensor, and no interest in or exclusive right to possess being otherwise granted to Licensee. With regard to any other portion of Rail Corridor occupied, used or controlled by Licensor under any other facts or rights, Licensor merely waives its exclusive right to occupy the Rail Corridor and grants no other rights whatsoever under this Agreement, such waiver continuing only so long as Licensor continues its own occupation, use or control. Licensor does not warrant or guarantee that the license granted hereunder provides Licensee with all of the rights necessary to occupy any portion of the Rail Corridor. Licensee further acknowledges that it does not have the right to occupy any portion of the Rail Corridor held by Licensor in less than fee simple absolute without also receiving the consent of the owner(s) of the fee simple absolute estate. Further, Licensee shall not obtain, exercise or claim any interest in the Rail Corridor that would impair Licensor's existing rights therein.

17.3 Licensee agrees it shall not have nor shall it make, and hereby completely and absolutely waives its right to, any claim against Licensor for damages on account of any deficiencies in title to the Rail Corridor in the event of failure or insufficiency of Licensor's title to any portion thereof arising from Licensee's use or occupancy thereof.

17.4 Licensee agrees to fully and completely indemnify and defend all claims or litigation for slander of title, overburden of easement, or similar claims arising out of or based upon the Facilities placement, or the presence of the Facilities in, on or along any Encroachment(s), including claims for punitive or special damages.

17.5 Licensee shall not at any time own or claim any right, title or interest in or to Licensor's property occupied by the Encroachments, nor shall the exercise of this Agreement for

any length of time give rise to any right, title or interest in Licensee to said property other than the license herein created.

17.6 Nothing in this Agreement shall be deemed to give, and Licensor hereby expressly waives, any claim of ownership in and to any part of the Facilities.

17.7 Licensee shall not create or permit any mortgage, pledge, security, interest, lien or encumbrances, including without limitation, tax liens and liens or encumbrances with respect to work performed or equipment furnished in connection with the construction, installation, repair, maintenance or operation of the Facilities in or on any portion of the Encroachment (collectively, "Liens or Encumbrances"), to be established or remain against the Encroachment or any portion thereof or any other Licensor property.

17.8 In the event that any property of Licensor becomes subject to such Liens or Encumbrances, Licensee agrees to pay, discharge or remove the same promptly upon Licensee's receipt of notice that such Liens or Encumbrances have been filed or docketed against the Encroachment or any other property of Licensor; however, Licensee reserves the right to challenge, at its sole expense, the validity and/or enforceability of any such Liens or Encumbrances.

18. GENERAL PROVISIONS:

18.1 This Agreement, and the attached specifications, contains the entire understanding between the parties hereto.

18.2 Neither this Agreement, any provision hereof, nor any agreement or provision included herein by reference, shall operate or be construed as being for the benefit of any third person.

18.3 Except as otherwise provided herein, or in any Rider attached hereto, neither the form of this Agreement, nor any language herein, shall be interpreted or construed in favor of or against either party hereto as the sole drafter thereof.

18.4 This Agreement is executed under current interpretation of applicable Federal, State, County, Municipal or other local statute, ordinance or law(s). However, each separate division (paragraph, clause, item, term, condition, covenant or agreement) herein shall have independent and severable status for the determination of legality, so that if any separate division is determined to be void or unenforceable for any reason, such determination shall have no effect upon the validity or enforceability of each other separate division, or any combination thereof.

18.5 This Agreement shall be construed and governed by the laws of the state in which the Facilities and Encroachment are located.

18.6 If any amount due pursuant to the terms of this Agreement is not paid by the due date, it will be subject to Licensor's standard late charge and will also accrue interest at

eighteen percent (18%) per annum, unless limited by local law, and then at the highest rate so permitted.

18.7 Licensee agrees to reimburse Licensor for all reasonable costs (including attorney's fees) incurred by Licensor for collecting any amount due under the Agreement.

18.8 The provisions of this License are considered confidential and may not be disclosed to a third party without the consent of the other party(s), except: (a) as required by statute, regulation or court order, (b) to a parent, affiliate or subsidiary company, (c) to an auditing firm or legal counsel that are agreeable to the confidentiality provisions, or (d) to Lessees of Licensor's land and/or track who are affected by the terms and conditions of this Agreement and will maintain the confidentiality of this Agreement.

18.9 Licensor shall refund to Licensee any overpayments collected, plus any taxes paid in advance; PROVIDED, however, such refund shall not be made when the cumulative total involved is less than One Hundred Dollars ($100.00).

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement in duplicate (each of which shall constitute an original) as of the effective date of this Agreement.

Witness for Licensor:

_____

CSX TRANSPORTATION, INC.

By:_____

Print/Type Name:_____

Print/Type Title:_____

Witness for Licensee:

_____

CITY OF TAMPA

By:_____

Who, by the execution hereof, affirms that he/she has the authority to do so and to bind the Licensee to the terms and conditions of this Agreement.

Print/Type Name:_____

Print/Type Title:_____

Tax ID No.:_____

Authority under Ordinance or

Resolution No._____,

Dated _____.

500 Water Street, J180
Jacksonville, FL 32202
904.279.3806
Eric_Horton@csx.com

Eric Horton
Real Estate Analyst

May 10, 2019

Agreement No.: CSX049997
Site Location No.: CSX049997007

Yvette Pullara
City of Tampa
306 E. Jackson Street 6N
Tampa, FL 33602

Dear Yvette Pullara,

Reference is made to install facilities within CSX Transportation, Inc.'s property by request from City of Tampa

Agreement Date:	March 1, 2006	**Location:**	Tampa, Hillsborough, FL Milepost A-879.33 Division Jacksonville Subdivision Tampa Terminal
Application Date:	July 31, 2017	**Facility:**	Subgrade Micro Tunnel - Install 48in RCP for the conveyance of stormwater at a minimum depth below rail to top of casing 5.5ft. This supplement cancels and supersedes previous supplement dated February 28,2018.

Subject to the above referenced company scheduling the work as hereafter references, this letter will serve as formal authority to make the installation at the location, in accordance with specifications outlined in your application and subject to the terms of said Agreements. This letter shall constitute a Supplement to said Agreement; please retain it in your file(s) pertaining to the same.

To schedule the work, please visit the CSX Property Portal to complete the Outside Party Number Request Form. Pursuant to terms of the Agreement, the protection services fees will be invoiced upon completion of installation of the facilities.

Should there be any questions, please feel free to give us a call at the above referenced number.

Sincerely,

E. Hort

Eric Horton

CSX Transportation (CSX) General Notes (Bore and Jack):

1) CSX owns its right-of-way for the primary purpose of operating a railroad, and shall maintain unrestricted use of its property for current and future operations. In the event that relocation of facilities becomes necessary to accommodate the movement of rail traffic, Licensee, at its sole risk and expense, shall be required to relocate and/or remove facilities from the rail corridor of Licensor within a time frame mutually agreed.

2) CSX's consent applies to the design and construction of the utility located solely in the right-of-way owned by CSX and assures that CSX and AREMA Standard Specifications are met for tracks owned by others over which CSX operates. It is the utility Owner's (Applicant) responsibility to get permission from the property owner that is other than CSX to access and construct on their property.

3) Refer to the CSX's "Design & Construction Standard Specifications Pipeline Occupancies" revised June 5, 2018 (4.1.2 Bore and Jack (Steel Pipe) and "Design & Construction Standard Specifications Wireline Occupancies" revised December 16, 2016.

4) CSX's signal facilities and/or warning devices at proposed facility crossing, i.e. cantilevers, flashers, and gates are to be located prior to installation.

5) No entry or construction on CSX's railroad corridor is permitted until the utility encroachment review and approval process is completed, you are in receipt of a fully executed License agreement and you have obtained authority from the local Road Master.

6) Front of the pipe shall be provided with mechanical arrangements or devices that will positively prevent the auger from leading the pipe so that no unsupported excavation is ahead of the pipe.

7) Operation shall be progressed on a 24-hour basis without stoppage (except for adding lengths of pipe) until the leading edge of the pipe has reached the receiving pit.

8) In the event an obstruction is encountered, auger and cutting head arrangement shall be removable from within the pipe.

9) If bottom of the pit excavation(s) intersect the TREL, interlocking steel sheet piling, driven prior to excavation, must be used. Design plans and computations, sealed by a Licensed Professional Engineer, for steel sheet piles must be provided prior to construction for review and approval.

10) At locations where open cut is permitted on CSX's right-of-way and/or railroad corridor, contractor must comply with CSX's D&C Standard Specifications section 4.1.7 Open Cut. Please reference this guidance for instructions on restoring site.

11) Manholes shall not be located on CSX's property where possible. At locations where this is not practical, including longitudinal occupancies, manholes shall be precast concrete sections conforming to ASTM Designation C 478, "Specification for Precast Concrete."

12) Pipeline encroachment shall be prominently marked at both sides of the CSX's property lines by durable, weatherproof signs located over the centerline of the pipe in accordance with CSX's D&C Standard Specifications.

13) If required, a dewatering plan in accordance with CSX's D&C Standard Specifications will be submitted to the CSX representative for review and approval prior to any dewatering operations.

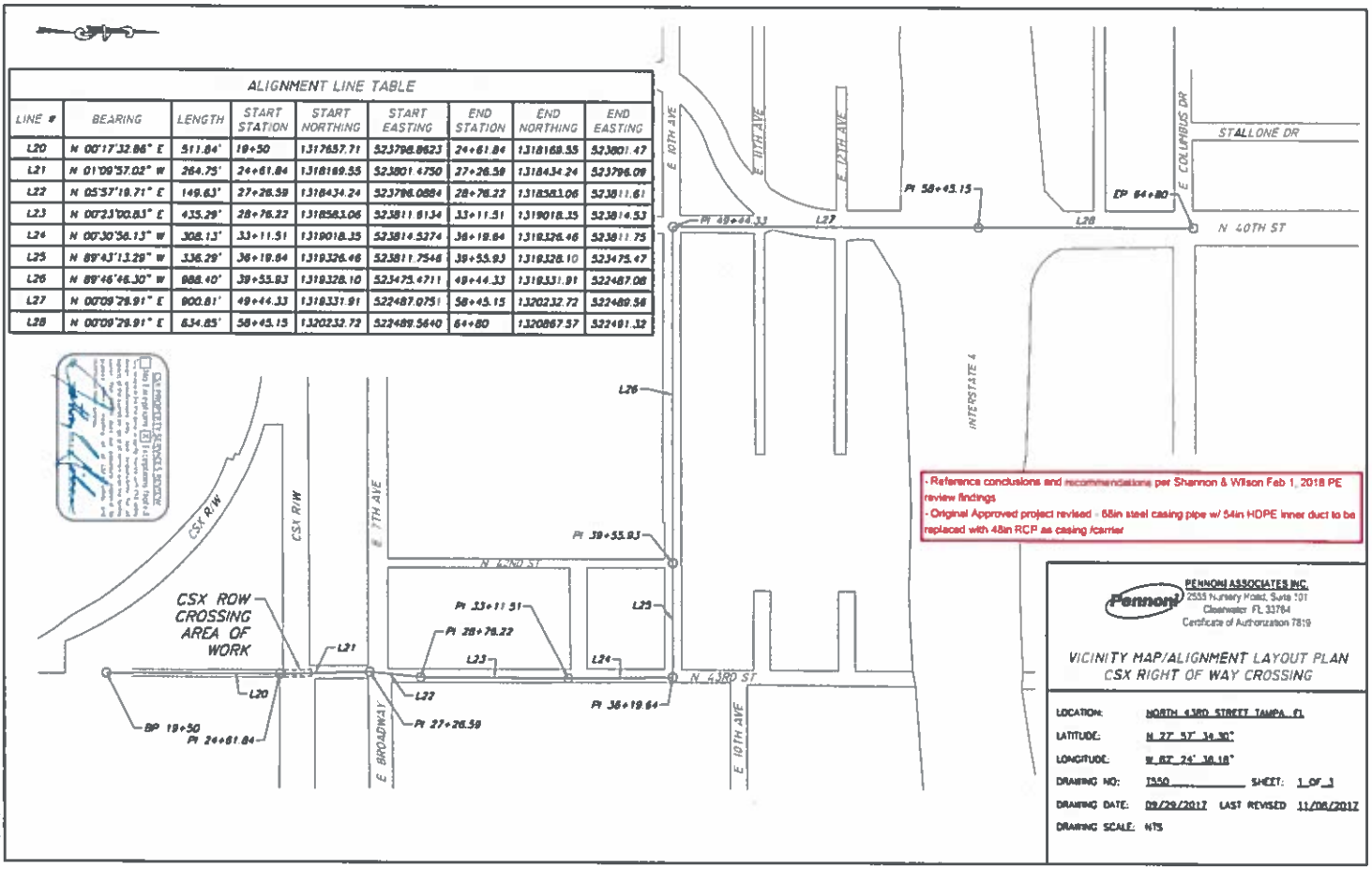
14) Blasting is not permitted on CSX's property.

15) Abandoned pipelines shall be removed or completely filled with cement grout, compacted sand, or other methods, as approved by CSX. Abandoned manholes and other structures shall be removed to a minimum depth of 2 feet below finished grade and completely filled with cement grout, compacted sand, or other methods as approved by CSX.

16) CSX does not grant or convey an easement for this installation.

ALIGNMENT LINE TABLE

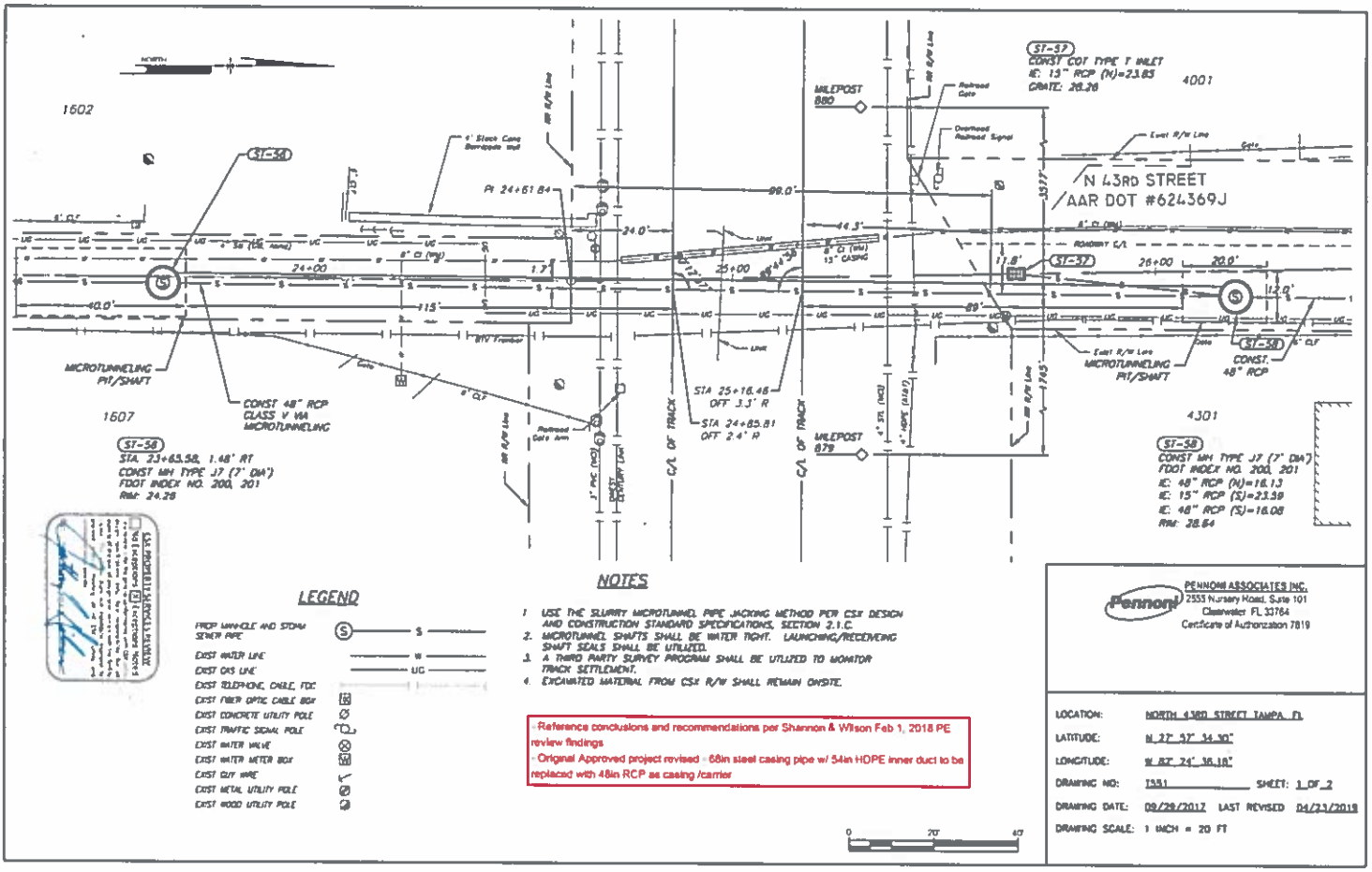
LINE #	BEARING	LENGTH	START STATION	START NORTHING	START EASTING	END STATION	END NORTHING	END EASTING
L20	N 00°17'32.86" E	511.84'	19+50	1317657.71	523798.8623	24+61.84	1318168.55	523801.47
L21	N 01°09'57.02" W	264.75'	24+61.84	1318189.55	523801.4750	27+26.59	1318434.24	523796.09
L22	N 05°37'19.71" E	149.63'	27+26.59	1318434.24	523796.0884	28+76.22	1318583.06	523811.61
L23	N 00°23'00.83" E	435.29'	28+76.22	1318583.06	523811.8134	33+11.51	1319018.35	523814.53
L24	N 00°30'56.13" W	308.13'	33+11.51	1319018.35	523814.5274	36+19.64	1319326.46	523811.75
L25	N 89°43'13.29" W	336.29'	36+19.64	1319326.46	523811.7546	39+55.93	1319328.10	523475.47
L26	N 89°46'46.30" W	988.40'	39+55.93	1319328.10	523475.4711	49+44.33	1319331.91	522487.08
L27	N 00°09'28.91" E	900.81'	49+44.33	1319331.91	522487.0751	58+45.15	1320232.72	522489.58
L28	N 00°09'28.91" E	834.85'	58+45.15	1320232.72	522489.5640	64+80	1320867.57	522491.32



PENNONI ASSOCIATES INC.
2555 Nursery Road, Suite 101
Clearwater FL 33764
Certificate of Authorization 7819

VICINITY MAP/ALIGNMENT LAYOUT PLAN
CSX RIGHT OF WAY CROSSING

LOCATION: NORTH 43RD STREET TAMPA FL
LATITUDE: N 27° 57' 34.30"
LONGITUDE: W 82° 24' 38.18"
DRAWING NO: 7350 ____ SHEET: 1 OF 3
DRAWING DATE: 09/29/2017 LAST REVISED 11/08/2017
DRAWING SCALE: NTS



LEGEND

- PROP MANHOLE AND STORM SEWER PIPE
- EXIST WATER LINE
- EXIST GAS LINE
- EXIST TELEPHONE CABLE, FOC
- EXIST FIBER OPTIC CABLE BOX
- EXIST CONCRETE UTILITY POLE
- EXIST TRAFFIC SIGNAL POLE
- EXIST WATER VALVE
- EXIST WATER METER BOX
- EXIST GUY WIRE
- EXIST METAL UTILITY POLE
- EXIST WOOD UTILITY POLE

NOTES

1. USE THE SLURRY MICROTUNNEL PIPE JACKING METHOD PER CSX DESIGN AND CONSTRUCTION STANDARD SPECIFICATIONS, SECTION 2.1.C.
2. MICROTUNNEL SHAFTS SHALL BE WATER TIGHT. LAUNCHING/RECEIVING SHAFT SEALS SHALL BE UTILIZED.
3. A THIRD PARTY SURVEY PROGRAM SHALL BE UTILIZED TO MONITOR TRACK SETTLEMENT.
4. EXCAVATED MATERIAL FROM CSX R/W SHALL REMAIN ONSITE.

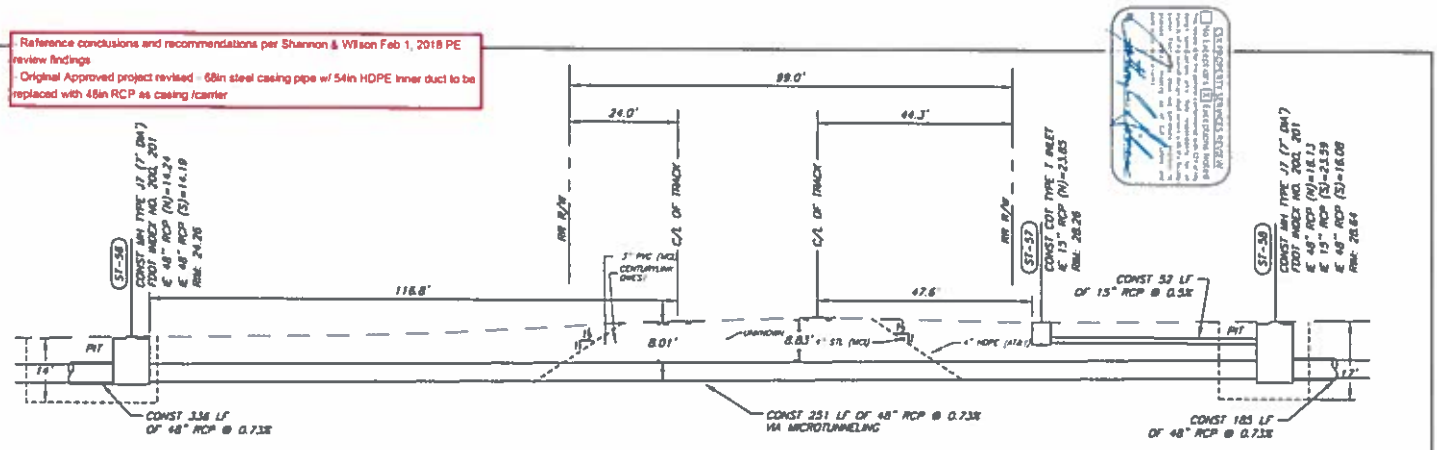
- Reference conclusions and recommendations per Shannon & Wilson Feb 1, 2018 PE review findings
- Original Approved project revised - 68in steel casing pipe w/ 54in HOPE inner duct to be replaced with 48in RCP as casing /carrier

0 20' 40'

PENNONI ASSOCIATES INC.
2553 Nursery Road, Suite 101
Clearwater FL 33764
Certificate of Authorization 7819

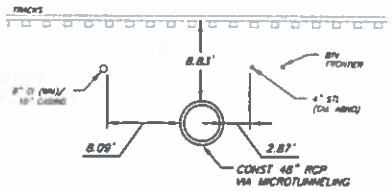
LOCATION: NORTH 43RD STREET TAMPA, FL
LATITUDE: N 27° 57' 54.90"
LONGITUDE: W 82° 24' 16.18"
DRAWING NO: T551 SHEET: 1 OF 2
DRAWING DATE: 09/28/2017 LAST REVISED 04/23/2019
DRAWING SCALE: 1 INCH = 20 FT

- Reference conclusions and recommendations per Shannon & Wilson Feb 1, 2018 PE review findings
- Original Approved project revised - 66in steel casing pipe w/ 54in HDPE inner duct to be replaced with 48in RCP as casing /carrier



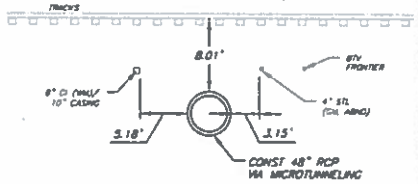
PIPELINE PROFILE VIEW A-A

HORIZ SCALE 1" = 20' VERT SCALE 1" = 20'



CROSS SECTION STA 25+16.50

HORIZ SCALE 1" = 10' VERT SCALE 1" = 10'



CROSS SECTION STA 24+85.84

HORIZ SCALE 1" = 10' VERT SCALE 1" = 10'

NOTES

1. USE THE SLURRY MICROTUNNEL PIPE JACKING METHOD PER CSX DESIGN AND CONSTRUCTION STANDARD SPECIFICATIONS, SECTION 2.1.C.
2. MICROTUNNEL SHAFTS SHALL BE WATER TIGHT. LAUNCHING/RECEIVING SHAFT SEALS SHALL BE UTILIZED.
3. A THIRD PARTY SURVEY PROGRAM SHALL BE UTILIZED TO MONITOR TRACK SETTLEMENT.
4. EXCAVATED MATERIAL FROM CSX R/W SHALL REMAIN ONSITE.

CSXT PIPELINE SPEC REFERENCE	PIPELINE CONTENT DETAILS			
	Commodity Description:	Stormwater		
	Maximum Operating Pressure:	Atmospheric		
	Is Commodity Flammable:	Yes	X No	
	CARRIER/CASING PIPE DETAILS			
		Carrier Pipe		Casing Pipe
	Pipe Material:	RCP		N/A
3.4.6 b)	Material Specifications & Grade:	ASTM C76 CLASS V		N/A
	Specified Minimum Yield Strength:	96,000 LB		N/A
3.4.6 b)	Nominal Size Outside Diameter (Inches):	56" 48in		N/A
3.4.6 b)	Wall Thickness (Inches):	5		N/A
	Type of Seam:	N/A		N/A
3.4.6 e) and f)	Type of Joints:	Torque & Groove/ASTM C 443		N/A
	Tunnel Liner Plates Required:	Yes	X No	
	Cathodic Protection:	Yes	X No	Type:
	Protective Coating:	Yes	X No	Type:
	Temp Track Support or Rip-Rap Req:	Yes	X No	Must Describe & Show on Dwg

PENNONI ASSOCIATES INC.
2555 Ponce de Leon Boulevard, Suite 101
Clearwater, FL 33764
Certificate of Authorization 7819

PIPELINE PROFILE AND CROSS SECTIONS
CSX RIGHT OF WAY CROSSING

LOCATION: NORTH 43RD STREET TAMPA FL
LATITUDE: N 27° 57' 34.90"
LONGITUDE: W 82° 24' 38.18"
DRAWING NO: 7352 SHEET: 3 OF 3
DRAWING DATE: 09/29/2017 LAST REVISED 05/01/2019
DRAWING SCALE: AS SHOWN

TIERRA

November 29, 2017

Pennoni
2555 Nursery Road, Suite 101
Clearwater, Florida 33764

Attn: E. Peter Nikolov, P.E.
Division Manager

RE: Level II Contamination Report
43rd Street Outfall – Regional Stormwater Improvements
Tampa, Hillsborough County, Florida
Tierra Project No: 6511-17-207E

Mr. Nikolov:

Tierra, Inc. (Tierra) has completed the Level II testing for the 43rd Street project. Level II testing was completed as a preliminary measure to determine if this project will include contamination involvement. This report presents the field and laboratory analytical results for soil and groundwater samples collected at 2 locations along 43rd Street.

We appreciate the opportunity to provide you with these services. If you have any questions or comments regarding this report, please feel free to contact us at your convenience.

Respectfully Submitted,

TIERRA, INC.

Michael J. Bair, ASP
Chief Scientist

Donald R. Polanis, CGC, PSSC
Regional Manager

J:\6511\2017 Files\6511-17-207E 43rd Street Level II testing\43rd St Level II Rpt.docx

7351 Temple Terrace Highway · Tampa, Florida 33637
(813) 989-1354 · Fax (813) 989-1355
Florida Certification No. 6486

Project Background

Pennoni is assisting the City of Tampa with the design of regional stormwater improvements along 43rd Street in Tampa, Hillsborough County. Several contamination sites are located adjacent to the project. Preliminary information regarding current contamination levels has been requested for soil and groundwater that may be disturbed during construction to determine if special handling procedures will be necessary.

The study area is located along 43rd Street, south of the CSX railroad tracks. This area is generally identified on plan sheets between Station 22+00 and 24+50. The plans indicate that a 48-inch reinforced concrete pipe is to be installed near the centerline of 43rd Street. The installation will be accomplished with a combination of jack/bore and open trenching and will require disturbance of subsurface soil to approximately 8 to 10 feet below grade. Short-term dewatering may be necessary.

Three contamination sites are located in this area. Because a full assessment of the area has not been requested at this time, limited sampling and testing was completed to provide preliminary information at locations most likely to detect contamination. Samples were collected adjacent to the following site:

Bonded Roofing
Address: 1607 N. 43rd Street, Tampa
Contamination Concern: unresolved petroleum product discharge, chromium, copper, arsenic
FDEP Facility ID: 86/25575, COM_65123

Background: A Discharge Reporting Form (DRF) was filed in 1994 in response to contamination discovered during the closure of a 2,000-gallon diesel fuel underground storage tank (UST). No testing or assessment of this petroleum discharge has been performed since the DRF was filed in 1994 so the extent of contamination is unknown. Although an assessment under the State's Low Score Site Initiative program is scheduled to be completed at some point during 2017, the discharge has not been resolved and is still considered "open" related to permitting for the National Pollutant Discharge Elimination System (NPDES).

A Site Assessment Status Report was issued on February 28, 2017 by Slow Horse, LLC. The report provided an evaluation of contamination levels related to wood treatment activities that were performed at the site from 1963 to 1989. Wood was pressure-treated on-site using Chromated Copper Arsenic, which was reportedly discharged to various portions of the property. The assessment activities identified arsenic, chromium, and copper as the primary contaminants of concern at the site in the soil and groundwater. Contour maps in the report estimate that the contamination plumes encroach into the right-of-way of 43rd Street.

Scope & Methodology

Tierra completed Level II field testing at 2 boring locations for the purpose of identifying contamination involvement with the proposed construction project. The project location and specific sample locations are depicted in **Appendix A**.

At each soil boring, soil samples were retained from two discrete intervals: land surface to 6 inches below grade (0 - 6") and 6 inches to 2 feet below grade (6" - 2'). Samples were collected within the 43rd Street right-of-way using a hand auger and submitted to the laboratory for analysis of arsenic, chromium, and copper by United States Environmental Protection Agency (EPA) Method 6010. These metals were selected to match those identified at the adjacent Bonded Roofing site.

Additionally, each boring was converted to a temporary monitoring well (TMW) to facilitate the collection of groundwater samples for laboratory analysis. Monitoring wells were installed to intersect the shallow groundwater table using a hand auger. Groundwater samples were submitted to the laboratory for analysis of arsenic, chromium, and copper by EPA Method 6010.

Upon completion of the groundwater sampling, the wells were removed and the boreholes backfilled with native material and imported silica sand, as needed. Equipment decontamination, sample collection, field documentation, sample custody, and laboratory analyses were performed in general accordance with the latest version of the Florida Department of Environmental Protection's Standard Operating Procedures (DEP-SOP-001/01). All field services were conducted and/or supervised by Tierra staff and a National Environmental Laboratory Accreditation Conference (NELAC) environmental laboratory performed the chemical testing (Pace Analytical Services, LLC; NELAC #E83079). Laboratory analytical results are presented in tabular form in **Appendix B**. A complete copy of the laboratory analytical report is included in **Appendix C**. Field forms including Soil Boring Logs, Well Construction and Development Logs, and Groundwater Sampling Logs are included in **Appendix D**.

Findings

The soil and groundwater analytical results were compared to the relevant Cleanup Target Levels (CTLs) of Chapter 62-777, Florida Administrative Code (F.A.C.). The findings are provided below.

- Arsenic was detected above Residential and/or Commercial/Industrial Direct Exposure Soil Cleanup Target Level for all four soil samples that were collected.
- The Leachability Soil Cleanup Target Level was exceeded for chromium at SB-2, 6"-2'.
- The depth-to-groundwater in the two temporary monitoring wells was measured between 3 and 4 feet below grade.
- Arsenic was detected in both groundwater samples above the Groundwater Cleanup Target Levels.
- Significantly, arsenic's Natural Attenuation Default Concentration was also exceeded for both groundwater samples.

Conclusions & Recommendations

Based on the results of this Level II field testing, soil and groundwater contamination has been confirmed at two locations along 43rd Street. Arsenic and/or chromium have been detected above their respective Cleanup Target Levels per Chapter 62-777, F.A.C. The soil samples were collected in the upper 2 feet at the site. Groundwater samples were collected from the surficial aquifer which was detected between 3 and 4 feet below grade.

Additional soil and groundwater samples could be collected to further define the vertical and lateral extent of contamination. The sampling program completed to date was limited in nature. Based on these preliminary results, construction tasks such as soil excavations, horizontal drilling, jack and bore, and dewatering will require special handling procedures based on the presence of contamination in the soil and groundwater.

Soil that is disturbed as part of this project should be removed from the site for off-site disposal at an approved landfill. Drilling spoils may have similar contamination levels. Additional characterization testing such as the Toxicity Characterization Leaching Procedure may be requested by the landfill. Any material removed from the project should be replaced with clean fill that has been confirmed to be free of similar contamination levels.

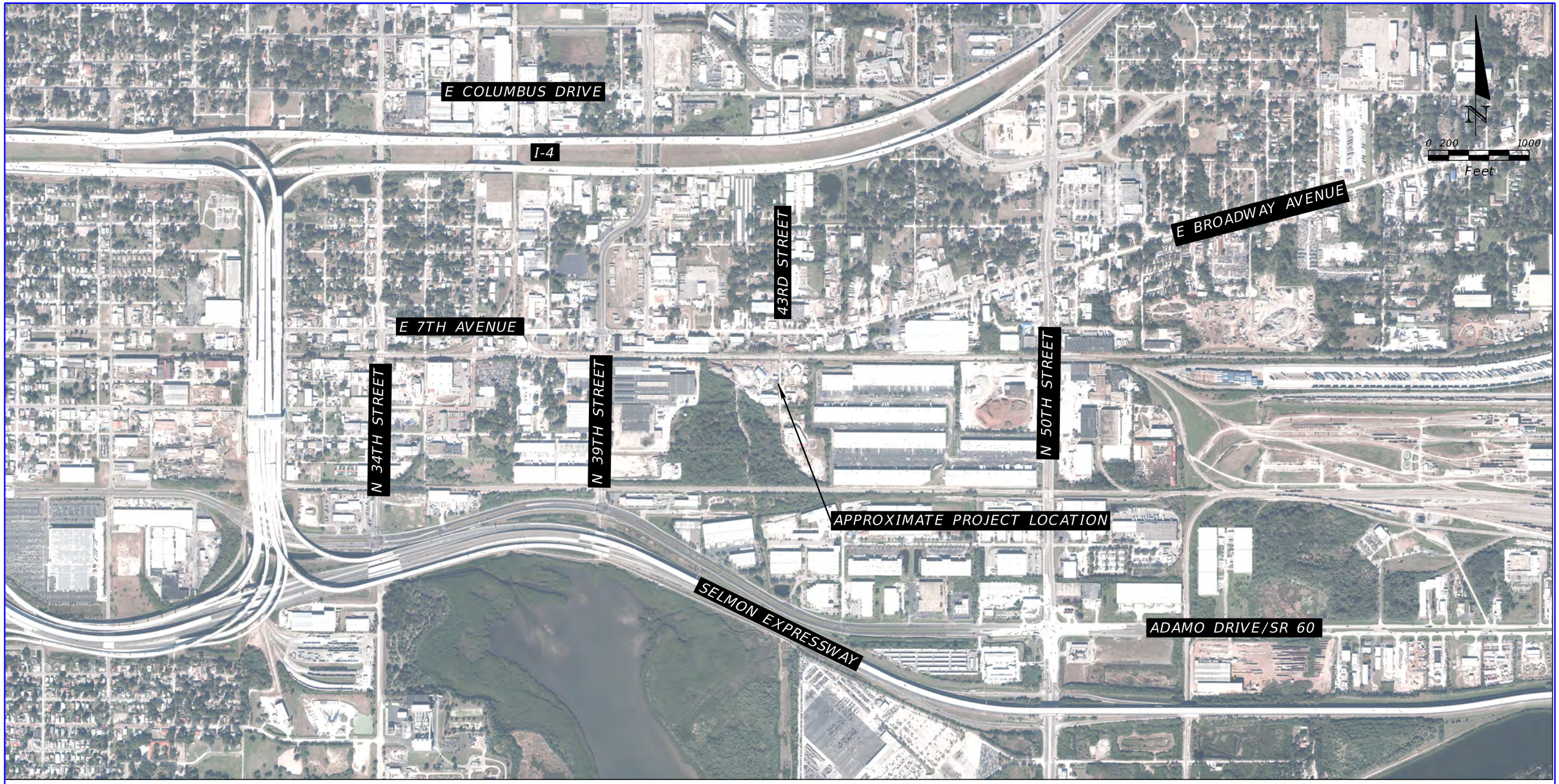
Contaminated groundwater may also be encountered during this project during any necessary dewatering. Based on the contamination levels, coverage under an NPDES permit will not be granted. Alternate groundwater disposal options should be considered such as containerizing the dewatering system effluent, testing, and off-site disposal at a treatment facility.

For this project, the Construction Plans should be marked to alert the Construction Contractor of contamination involvement with the soil and groundwater on this project. All site activities should be completed in accordance with federal, state, and local rules and regulations, including those contained within the Occupational Safety and Health Act (OSHA).

Appendix A

Project Location Map

Sample Location Map



PROJECT LOCATION MAP

REVISIONS				TIERRA, INC. 7351 TEMPLE TERRACE HIGHWAY TAMPA, FLORIDA 33637 CERTIFICATE OF AUTHORIZATION 6486	CITY OF TAMPA			43RD STREET OUTFALL REGIONAL STORMWATER IMPROVEMENTS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
			TIERRA PROJECT NO.: 6511-17-207E			HILLSBOROUGH	NA		A-1

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SOURCE: FDOT SURVEY AND MAPPING DATED 2016

SAMPLE LOCATION MAP

SAMPLE LOCATION

REVISIONS				TIERRA, INC. 7351 TEMPLE TERRACE HIGHWAY TAMPA, FLORIDA 33637 CERTIFICATE OF AUTHORIZATION 6486	CITY OF TAMPA			43RD STREET OUTFALL REGIONAL STORMWATER IMPROVEMENTS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		A-2
			TIERRA PROJECT NO.: 6511-17-207E			HILLSBOROUGH	NA		

bsawaska 11/20/2017 12:19:01 PM J:\6511\2017 Files\6511-17-207E 43rd Street Level II testing\microstation\rdgeoENVSAM

Appendix B

Tables

TABLE 1: SOIL ANALYTICAL SUMMARY

43rd Street Stormwater Improvements

Tierra Project No. 6511-17-207E

Sample Information				Laboratory Results		
Boring No.	Date Collected	Depth to Water (ft)	Sample Interval (fbls)	Arsenic	Chromium	Copper
				(mg/kg)	(mg/kg)	(mg/kg)
SB-1, 0-6''	11/08/2017	~ 3	0 - 6''	**5.9**	**2.7**	**1.1**
SB-1, 6''-2'	11/08/2017	~ 3	6'' - 2'	**17.1**	**16.8**	**10.7**
SB-2, 0-6''	11/08/2017	~3.5	0 - 6''	**39.5**	**21.3**	**0.81**
SB-2, 6''-2'	11/08/2017	~3.5	6'' - 2'	**78.3**	**99.0**	**3.0**
Leachability SCTL Based on Groundwater Criteria (mg/kg)				*	*38*	*
Direct Exposure Residential SCTL (mg/kg)				*2.1*	*210*	*150*
Direct Exposure Commercial/Industrial SCTL (mg/kg)				*12*	*470*	*89,000*

Notes:

mg/kg = milligrams per kilogram

SCTL = Soil Cleanup Target Level per Chapter 62-777, F.A.C.

* = Leachability value may be determined using Synthetic Precipitation Leaching Procedure (SPLP)

Exceeds Leachability SCTL

Exceeds Direct Exposure Residential SCTL

Exceeds Direct Exposure Commercial/Industrial SCTL

TABLE 2: GROUNDWATER ANALYTICAL SUMMARY

43rd Street Stormwater Improvements

Tierra Project No. 6511-17-207E

Sample Information		Laboratory Results		
Location	**Date**	**Arsenic**	**Chromium**	**Copper**
		(ug/L)	(ug/L)	(ug/L)
TMW-1	11/08/2017	**114**	2.5 U	2.5 U
TMW-2	11/08/2017	**379**	**17.8**	2.5 U
	GCTLs	*10*	*100*	*1,000*
	NADCs	*100*	*1,000*	*10,000*

Notes:

ug/L = micrograms per liter

U = not detected above noted concentration

GCTLs = Groundwater Cleanup Target Levels per Chapter 62-777, F.A.C.

NADCs = Natural Attenuation Default Concentrations per Chapter 62-777, F.A.C.

Exceeds GCTL Limit

Exceeds NADC Limit

Appendix C

Laboratory Analytical Report

Pace Analytical Services, LLC
110 South Bayview Blvd.
Oldsmar , FL 34677
(813)881-9401

November 15, 2017

Michael Bair
Tierra, Inc.
7351 Temple Terrace Highway
Tampa, FL 33637

RE: Project: 43rd Street
Pace Project No.: 35346726

Dear Michael Bair:
Enclosed are the analytical results for sample(s) received by the laboratory on November 08, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

LA Palmer

Lori Palmer
lori.palmer@pacelabs.com
(813)881-9401
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 South Bayview Blvd.
Oldsmar , FL 34677
(813)881-9401

CERTIFICATIONS

Project: 43rd Street
Pace Project No.: 35346726

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

Pace Analytical Services, LLC
110 South Bayview Blvd.
Oldsmar , FL 34677
(813)881-9401

SAMPLE SUMMARY

Project: 43rd Street
Pace Project No.: 35346726

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35346726001	**SB-1 0-6''**	Solid	11/08/17 09:00	11/08/17 12:07
35346726002	**SB-1 6''-2'**	Solid	11/08/17 09:00	11/08/17 12:07
35346726003	**SB-2 0-6''**	Solid	11/08/17 09:40	11/08/17 12:07
35346726004	**SB-2 6''-2'**	Solid	11/08/17 09:40	11/08/17 12:07
35346726005	**TMW-1**	Water	11/08/17 10:41	11/08/17 12:07
35346726006	**TMW-2**	Water	11/08/17 11:15	11/08/17 12:07

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SAMPLE ANALYTE COUNT

Project: 43rd Street
Pace Project No.: 35346726

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35346726001	**SB-1 0-6''**	EPA 6010	BTS	3	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35346726002	**SB-1 6''-2'**	EPA 6010	BTS	3	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35346726003	**SB-2 0-6''**	EPA 6010	BTS	3	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35346726004	**SB-2 6''-2'**	EPA 6010	BTS	3	PASI-O
		ASTM D2974-87	RAK	1	PASI-O
35346726005	**TMW-1**	EPA 6010	MMT	3	PASI-O
35346726006	**TMW-2**	EPA 6010	MMT	3	PASI-O

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110 South Bayview Blvd.
Oldsmar , FL 34677
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ANALYTICAL RESULTS

Project: 43rd Street
Pace Project No.: 35346726

Sample: SB-1 0-6" **Lab ID: 35346726001** Collected: 11/08/17 09:00 Received: 11/08/17 12:07 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**5.9**	mg/kg	0.63	0.31	1	11/09/17 07:17	11/13/17 03:13	7440-38-2	
Chromium	**2.7**	mg/kg	0.31	0.16	1	11/09/17 07:17	11/13/17 03:13	7440-47-3	
Copper	**1.1**	mg/kg	0.31	0.16	1	11/09/17 07:17	11/13/17 03:13	7440-50-8	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**20.8**	%	0.10	0.10	1		11/15/17 10:34		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Oldsmar , FL 34677
(813)881-9401

ANALYTICAL RESULTS

Project: 43rd Street
Pace Project No.: 35346726

Sample: SB-1 6''-2' **Lab ID: 35346726002** Collected: 11/08/17 09:00 Received: 11/08/17 12:07 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**17.1**	mg/kg	0.62	0.31	1	11/09/17 07:17	11/13/17 03:19	7440-38-2	
Chromium	**16.8**	mg/kg	0.31	0.16	1	11/09/17 07:17	11/13/17 03:19	7440-47-3	
Copper	**10.7**	mg/kg	0.31	0.16	1	11/09/17 07:17	11/13/17 03:19	7440-50-8	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**31.9**	%	0.10	0.10	1		11/15/17 10:34		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 43rd Street
Pace Project No.: 35346726

Sample: SB-2 0-6" **Lab ID: 35346726003** Collected: 11/08/17 09:40 Received: 11/08/17 12:07 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**39.5**	mg/kg	0.66	0.33	1	11/09/17 07:17	11/13/17 03:24	7440-38-2	
Chromium	**21.3**	mg/kg	0.33	0.16	1	11/09/17 07:17	11/13/17 03:24	7440-47-3	
Copper	**0.81**	mg/kg	0.33	0.16	1	11/09/17 07:17	11/13/17 03:24	7440-50-8	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**8.8**	%	0.10	0.10	1		11/15/17 10:34		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 43rd Street
Pace Project No.: 35346726

Sample: SB-2 6''-2' **Lab ID: 35346726004** Collected: 11/08/17 09:40 Received: 11/08/17 12:07 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**78.3**	mg/kg	0.71	0.36	1	11/09/17 07:17	11/13/17 03:29	7440-38-2	
Chromium	**99.0**	mg/kg	0.36	0.18	1	11/09/17 07:17	11/13/17 03:29	7440-47-3	
Copper	**3.0**	mg/kg	0.36	0.18	1	11/09/17 07:17	11/13/17 03:29	7440-50-8	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**26.9**	%	0.10	0.10	1		11/15/17 10:34		J(D6)

REPORT OF LABORATORY ANALYSIS

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Oldsmar , FL 34677
(813)881-9401

ANALYTICAL RESULTS

Project: 43rd Street
Pace Project No.: 35346726

Sample: TMW-1 **Lab ID: 35346726005** Collected: 11/08/17 10:41 Received: 11/08/17 12:07 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Arsenic	**114**	ug/L	10.0	5.0	1	11/09/17 12:03	11/15/17 15:42	7440-38-2	
Chromium	**2.5 U**	ug/L	5.0	2.5	1	11/09/17 12:03	11/15/17 15:42	7440-47-3	
Copper	**2.5 U**	ug/L	5.0	2.5	1	11/09/17 12:03	11/15/17 15:42	7440-50-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 43rd Street
Pace Project No.: 35346726

Sample: TMW-2 **Lab ID: 35346726006** Collected: 11/08/17 11:15 Received: 11/08/17 12:07 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Arsenic	**379**	ug/L	10.0	5.0	1	11/09/17 12:03	11/15/17 15:47	7440-38-2	
Chromium	**17.8**	ug/L	5.0	2.5	1	11/09/17 12:03	11/15/17 15:47	7440-47-3	
Copper	**2.5 U**	ug/L	5.0	2.5	1	11/09/17 12:03	11/15/17 15:47	7440-50-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 South Bayview Blvd.
Oldsmar , FL 34677
(813)881-9401

QUALITY CONTROL DATA

Project: 43rd Street
Pace Project No.: 35346726

QC Batch: 404329 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET Solid
Associated Lab Samples: 35346726001, 35346726002, 35346726003, 35346726004

METHOD BLANK: 2207030 Matrix: Solid
Associated Lab Samples: 35346726001, 35346726002, 35346726003, 35346726004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/kg	0.28 U	0.57	0.28	11/13/17 01:35	
Chromium	mg/kg	0.14 U	0.28	0.14	11/13/17 01:35	
Copper	mg/kg	0.14 U	0.28	0.14	11/13/17 01:35	

LABORATORY CONTROL SAMPLE: 2207031

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	14.2	14.5	102	80-120	
Chromium	mg/kg	14.2	15.6	110	80-120	
Copper	mg/kg	14.2	15.9	112	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2207032 2207033

Parameter	Units	35346231001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	0.38 U	15	14.7	13.7	14.2	90	94	75-125	3	20	
Chromium	mg/kg	3.9	15	14.7	20.5	20.5	111	113	75-125	0	20	
Copper	mg/kg	1.5	15	14.7	17.3	17.7	106	110	75-125	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 South Bayview Blvd.
Oldsmar , FL 34677
(813)881-9401

QUALITY CONTROL DATA

Project: 43rd Street
Pace Project No.: 35346726

QC Batch: 404394 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 35346726005, 35346726006

METHOD BLANK: 2207600 Matrix: Water
Associated Lab Samples: 35346726005, 35346726006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	5.0 U	10.0	5.0	11/15/17 14:29	
Chromium	ug/L	2.5 U	5.0	2.5	11/15/17 14:29	
Copper	ug/L	2.5 U	5.0	2.5	11/15/17 14:29	

LABORATORY CONTROL SAMPLE: 2207601

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	250	255	102	80-120	
Chromium	ug/L	250	262	105	80-120	
Copper	ug/L	250	265	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2207602 2207603

Parameter	Units	35346890002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	14.6	250	250	271	268	103	101	75-125	1	20	
Chromium	ug/L	2.5 U	250	250	245	248	98	99	75-125	1	20	
Copper	ug/L	2.5 U	250	250	261	264	103	105	75-125	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Oldsmar , FL 34677
(813)881-9401

QUALITY CONTROL DATA

Project: 43rd Street
Pace Project No.: 35346726

QC Batch: 405682 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 35346726001, 35346726002, 35346726003, 35346726004

SAMPLE DUPLICATE: 2215069

Parameter	Units	35345983025 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	8.7	13.4	42	5	J(D6)

SAMPLE DUPLICATE: 2215070

Parameter	Units	35346726004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	26.9	29.2	8	5	J(D6)

SAMPLE DUPLICATE: 2215071

Parameter	Units	35347022003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	13.9	13.8	0	5	

SAMPLE DUPLICATE: 2215072

Parameter	Units	35347248005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	13.6	17.5	25	5	J(D6)

SAMPLE DUPLICATE: 2215073

Parameter	Units	35347654003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	12.2	11.3	8	5	J(D6)

SAMPLE DUPLICATE: 2215074

Parameter	Units	35347881008 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	5.8	5.6	3	5	

SAMPLE DUPLICATE: 2215075

Parameter	Units	35347881017 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	5.6	5.8	3	5	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Oldsmar , FL 34677
(813)881-9401

QUALITY CONTROL DATA

Project: 43rd Street
Pace Project No.: 35346726

SAMPLE DUPLICATE: 2215076

Parameter	Units	35347881027 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	7.9	7.6	4	5	

SAMPLE DUPLICATE: 2215077

Parameter	Units	35347881036 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	6.2	6.2	1	5	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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110 South Bayview Blvd.
Oldsmar , FL 34677
(813)881-9401

QUALIFIERS

Project: 43rd Street
Pace Project No.: 35346726

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O	Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

U	Compound was analyzed for but not detected.
J(D6)	Estimated Value. The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.

Pace Analytical Services, LLC
110 South Bayview Blvd.
Oldsmar , FL 34677
(813)881-9401

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 43rd Street
Pace Project No.: 35346726

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35346726001	**SB-1 0-6"**	EPA 3050	404329	EPA 6010	404376
35346726002	**SB-1 6"-2'**	EPA 3050	404329	EPA 6010	404376
35346726003	**SB-2 0-6"**	EPA 3050	404329	EPA 6010	404376
35346726004	**SB-2 6"-2'**	EPA 3050	404329	EPA 6010	404376
35346726005	**TMW-1**	EPA 3010	404394	EPA 6010	404488
35346726006	**TMW-2**	EPA 3010	404394	EPA 6010	404488
35346726001	**SB-1 0-6"**	ASTM D2974-87	405682		
35346726002	**SB-1 6"-2'**	ASTM D2974-87	405682		
35346726003	**SB-2 0-6"**	ASTM D2974-87	405682		
35346726004	**SB-2 6"-2'**	ASTM D2974-87	405682		

WO# : 35346726

35346726

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Do

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields mus

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:	
Company: Tierra, Inc.	Report To: Bair, Mike	Attention:	
Address: 7351 Temple Terrace Highway	Copy To:	Company Name:	
Tampa, FL 33637		Address:	Regulatory Agency
Email: MBair@tierraeng.com	Purchase Order #:	Pace Quote:	
Phone: Fax:	Project Name: 43rd Street	Pace Project Manager: lori.palmer@pacelabs.com,	State / Location
Requested Due Date: Standard	Project #: 6511-17-207E	Pace Profile #: 7371-17 and 18	FL

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: Cr,Cu,As in soil	Cr,Cu,As in water	Residual Chlorine (Y/N)
1	SB-1 0-6"	SL	C			11/8/17	0900		1										✓		
2	SB-1 6"-2'	SL	C			11/8/17	0900		1										✓		
3	SB-2 0-6"	SL	C			11/8/17	0940		1										✓		
4	SB-2 6"-2'	SL	C			11/8/17	0940		1										✓		
5	TMW-1	WT	/			11/8/17	1041		2											✓	
6	TMW-2	WT	/			11/8/17	1115		2											✓	
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Empty Containers		10/31/17	0620	Samuel Tierra	10/31/17	0620	TEMP in C: TBR
		11/8/17	1205	Tierra Sargent	11/8/17	12:07	Received on Ice (Y/N): 7.6
Proj # 6511-17-207E							Custody Sealed Cooler (Y/N):
							Samples Intact (Y/N):

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Sammy Alward

SIGNATURE of SAMPLER: Sammy Alward

DATE Signed: 11/8/17

Pace Analytical Florida Laboratory	Document Name: Sample Condition Upon Receipt Form	Document Revised: August 2, 2017
	Document No.: F-FL-C-007 rev. 12	Issuing Authority: Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project # WO#: 35346726
Project Manager: PM: LAP Due Date: 11/15/17
Client: CLIENT: 37-TIETPA

Date and Initials of person:
Examining contents: DS
Label: 11/8/17
Deliver:
pH:

Thermometer Used: T-203 Date: 11/8/17 Time: 12:07 Initials: DS

State of Origin: FL

Cooler #1 Temp.°C	9.6 (Visual)	0.0 (Correction Factor)	9.6 (Actual)	☐	Samples on ice, cooling process has begun
Cooler #2 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐	Samples on ice, cooling process has begun
Cooler #3 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐	Samples on ice, cooling process has begun
Cooler #4 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐	Samples on ice, cooling process has begun
Cooler #5 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐	Samples on ice, cooling process has begun
Cooler #6 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐	Samples on ice, cooling process has begun

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace ☐ Other

Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground ☐ International Priority ☐ Other

Billing: ☐ Recipient ☐ Sender ☐ Third Party ☐ Credit Card ☐ Unknown

Tracking #

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No **Seals intact:** ☐ Yes ☑ No **Ice:** ☑ Wet Blue Dry None

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Samples shorted to lab (If Yes, complete) Shorted Date: Shorted Time: Qty:

		Comments:
Chain of Custody Present	☑ Yes ☐ No ☐ N/A	
Chain of Custody Filled Out	☑ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☑ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☑ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☐ Yes ☑ No ☐ N/A	
Sufficient Volume	☑ Yes ☐ No ☐ N/A	
Correct Containers Used	☑ Yes ☐ No ☐ N/A	
Containers Intact	☑ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☑ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked.	☑ Yes ☐ No ☐ N/A	Preservation Information: Preservative: Lot #/Trace #: Date: Time: Initials:
All Containers needing preservation are found to be in compliance with EPA recommendation: Exceptions: VOA, Coliform, TOC, O&G, Carbamates	☑ Yes ☐ No ☐ N/A	
Headspace in VOA Vials? (>6mm):	☐ Yes ☐ No ☑ N/A	
Trip Blank Present:	☐ Yes ☐ No ☑ N/A	

Client Notification/ Resolution:
Person Contacted: Date/Time:

Comments/ Resolution (use back for additional comments):

Project Manager Review: Date:

Appendix D

Field Forms

Florida Department of Environmental Protection - Division of Waste Management - Bureau of Petroleum Storage Systems

BORING LOG

Boring/Well Number:	Permit Number:	FDEP Facility Identification Number:
SB-1 / TMW-1	NA	NA

Site Name/No.: 6511-17-207E 43rd Street Outfall	Borehole Start Date: 11/8/17 End Date: 11/8/17	Borehole Start Time: 0845 End Time: 0910	☑ AM ☐ PM ☑ AM ☐ PM

Environmental Contractor:	Geologist's Name:	Environmental Technician's Name:
TIERRA, INC.	NA	Sammy A.

Drilling Company:	Pavement Thickness (inches):	Borehole Diameter (inches):	Borehole Depth (feet):
TIERRA, INC.	NA	3.25	6

Drilling Method(s):	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well):	OVA (list model and check type):
HA	3	3.16	NA ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☐ Spread ☑ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well TMW-1 ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA						NA	1	Rocks Gr Fl/s w rocks		D	SB-1 @0-6" SB-1 @6"-2'
							2	Br Fl/s + wood debris Dk Br F/s			
							3	▼		W	
							4			S	
							5				
							6	EOB			
							7				
							8				
							9				
							10				
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

Florida Department of Environmental Protection - Division of Waste Management - Bureau of Petroleum Storage Systems

BORING LOG

Boring/Well Number:	Permit Number:	FDEP Facility Identification Number:
SB-2/TMW-2	NA	NA

Site Name/No.: 6511-17-207E 43rd Street Outfall	Borehole Start Date: 11/8/17 End Date: 11/8/17	Borehole Start Time: 0920 End Time: 0940	☑ AM ☐ PM ☑ AM ☐ PM

Environmental Contractor:	Geologist's Name:	Environmental Technician's Name:
TIERRA, INC.	NA	Sammy A.

Drilling Company:	Pavement Thickness (inches):	Borehole Diameter (inches):	Borehole Depth (feet):
TIERRA, INC.	1"	3.25	6 1/2

Drilling Method(s):	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well):	OVA (list model and check type):
HA	3 1/2	3.62	NA ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☐ Spread ☑ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well TMW-2 ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA						NA	1	Asphault Orange Fill w/ rocks		D	SB-2@0-6" SB-2@6"-2'
							2	Dk Br Silty Sand			
							3	Br F/S			
							4	▼		W	
							5			S	
							6				
							7	EOB			
							8				
							9				
							10				
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

Florida Department of Environmental Protection - Division of Waste Management - Bureau of Petroleum Storage Systems

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA

Well Number: TMW-1	Site Name: 6511-17-207E 43rd Street Outfall	FDEP Facility I.D. Number: NA	Well Install Date(s): 11/8/17

Well Location and Type (check appropriate boxes): [x] On-Site [x] Right-of-Way [ ] Off-Site Private Property [ ] Above Grade (AG) [x] Flush-to-Grade
If AG, list feet of riser above land surface: NA

Well Purpose: [ ] Perched Monitoring [x] Shallow (Water-Table) Monitoring [ ] Intermediate or Deep Monitoring [ ] Remediation or Other (describe)

Well Install Method: ~~Direct Push~~ hand auger

Surface Casing Install Method: NA

Borehole Depth (feet): 6	Well Depth (feet): 6	Borehole Diameter (inches): 3.00	Manhole Diameter (inches): NA	Well Pad Size: NA feet by _____ feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
1.0'' PVC	[x] Flush-Threaded [ ] Other (describe)	1 feet; from 0 feet to 1 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
1.0'' PVC	0.010	5 feet; from 1 feet to 6 feet

1st Surface Casing Material: also check: [ ] Permanent [ ] Temporary n/a	1st Surface Casing I.D. (inches):	1st Surface Casing Length: _____ feet; from _____ feet to _____ feet
2nd Surface Casing Material: also check: [ ] Permanent [ ] Temporary	1st Surface Casing I.D. (inches):	2nd Surface Casing Length: _____ feet; from _____ feet to _____ feet
3rd Surface Casing Material: also check: [ ] Permanent [ ] Temporary	1st Surface Casing I.D. (inches):	3rd Surface Casing Length: _____ feet; from _____ feet to _____ feet

Filter Pack Material and Size:	Pre-packed Filter Around Screen (check one):	Filter Pack Length:
20/30 Silica Sand	[x] Yes [ ] No	5 feet; from 1 feet to 6 feet

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
	6 feet; from 0 feet to 6 feet

Surface Seal Material:	Surface Seal Length:
	_____ feet; from _____ feet to _____ feet

WELL DEVELOPMENT DATA

Well Development Date:	Well Development Method (check one):
11/8/17	[ ] Surge/Pum [x] Pump [ ] Compressed Air [ ] Other (describe)

Development Pump Type (check):	Depth to Groundwater (before developing in feet):
[ ] Centrifugal [x] Peristaltic [ ] Submersible [ ] Other (describe)	3.16

5.0920
5.0946

Pumping Rate (gallons per minute):	Maximum Drawdown of Groundwater During Development (feet):	Well Purged Dry (check one):
.20	5.18	[ ] Yes [x] No

Pumping Condition (check one):	Total Development Water Removed (gallons):	Development Duration (minutes):	Development Water Drummed (check one):
[x] Continuous [ ] Intermittent	4	20	[ ] Yes [x] No

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
Br. / None	Clear / None

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

Florida Department of Environmental Protection - Division of Waste Management - Bureau of Petroleum Storage Systems

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA

Well Number: TMW-2	Site Name: 6511-17-207E 43rd Street Outfall	FDEP Facility I.D. Number: NA	Well Install Date(s): 11/8/17

Well Location and Type (check appropriate boxes): ☑ On-Site ☑ Right-of-Way ☐ Off-Site Private Property ☐ Above Grade (AG) ☑ Flush-to-Grade

If AG, list feet of riser above land surface: NA

Well Purpose: ☐ Perched Monitoring ☑ Shallow (Water-Table) Monitoring ☐ Intermediate or Deep Monitoring ☐ Remediation or Other (describe)

Well Install Method: ~~Direct Push~~ hand auger

Surface Casing Install Method: NA

Borehole Depth (feet): 6'12	Well Depth (feet): 6'12	Borehole Diameter (inches): 3.00	Manhole Diameter (inches): NA	Well Pad Size: NA feet by _____ feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
1.0'' PVC	☑ Flush-Threaded ☐ Other (describe)	1.5 feet; from 0 feet to 1.5 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
1.0'' PVC	0.010	5 feet; from 1.5 feet to 6.5 feet

1st Surface Casing Material: also check: ☐ Permanent ☐ Temporary n/a	1st Surface Casing I.D. (inches):	1st Surface Casing Length: _____ feet; from _____ feet to _____ feet
2nd Surface Casing Material: also check: ☐ Permanent ☐ Temporary	1st Surface Casing I.D. (inches):	2nd Surface Casing Length: _____ feet; from _____ feet to _____ feet
3rd Surface Casing Material: also check: ☐ Permanent ☐ Temporary	1st Surface Casing I.D. (inches):	3rd Surface Casing Length: _____ feet; from _____ feet to _____ feet

Filter Pack Material and Size:	Pre-packed Filter Around Screen (check one):	Filter Pack Length:
20/30 Silica Sand	☑ Yes ☐ No	5 feet; from 1.5 feet to 6.5 feet

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
	0.5 feet; from 0 feet to 0.5 feet

Surface Seal Material:	Surface Seal Length:
	_____ feet; from _____ feet to _____ feet

WELL DEVELOPMENT DATA

Well Development Date: 11/8/17	Well Development Method (check one): ☐ Surge/Pum ☑ Pump ☐ Compressed Air ☐ Other (describe)

1060
1020

Development Pump Type (check): ☐ Centrifugal ☑ Peristaltic ☐ Submersible ☐ Other (describe)	Depth to Groundwater (before developing in feet): 3.62

Pumping Rate (gallons per minute):	Maximum Drawdown of Groundwater During Development (feet):	Well Purged Dry (check one): ☐ Yes ☑ No
.20	4.22	

Pumping Condition (check one): ☑ Continuous ☐ Intermittent	Total Development Water Removed (gallons):	Development Duration (minutes):	Development Water Drummed (check one): ☐ Yes ☑ No
	4	20	

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
Br. /None	Clear /None

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME/No.: 6511-17-207E 43rd Street Outfall	SITE LOCATION: Hillsborough County	
WELL NO: TMW- 1	SAMPLE ID: TMW- 1	DATE: 11/8/17

PURGING DATA

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 1 feet to 6 feet	STATIC DEPTH TO WATER (feet): 3.16	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: (only fill out if applicable) **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
= (6 feet – 3.16 feet) X .04 gallons/foot = .11 gallons

EQUIPMENT VOLUME PURGE: (only fill out if applicable) **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
= gallons + (gallons/foot X feet) + 0.13 gallons =

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 4	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 4	PURGING INITIATED AT: 1025	PURGING ENDED AT: 1038	TOTAL VOLUME PURGED (gallons): .50

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN mg/L and % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1032	.32	.32	.03	3.35	6.74	27.17	559	7.86/99.1	7.31	Clear	None
1035	.09	.41	.03	3.35	6.72	27.26	561	7.82/99.1	5.35	"	"
1038	.09	.50	.03	3.35	6.73	27.20	559	7.85/99.1	4.68	"	"
								/			
								/			
								/			
								/			
								/			
								/			
								/			
								/			

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Sammy A / Tierra	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1039	SAMPLING ENDED AT: 1041
PUMP OR TUBING DEPTH IN WELL (feet): 4	TUBING MATERIAL CODE: HDPE,S	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: _____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
TMW- 1	2	P	250mL	Nitric	Lab	Lab	Cr, Cu, As	APP	113.55

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **SM** = Straw Method (Tubing Gravity Drain); **RFPP** = Reverse Flow Peristaltic Pump; **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5%
Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater)
Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME/No.: 6511-17-207E 43rd Street Outfall	SITE LOCATION: Hillsborough County	
WELL NO: TMW- 2	SAMPLE ID: TMW- 2	DATE: 11/8/17

PURGING DATA

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 1.5 feet to 6.5 feet	STATIC DEPTH TO WATER (feet): 3.62	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (6.5 feet – 3.62 feet) X .04 gallons/foot = .11 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gallons + (gallons/foot X feet) + 0.13 gallons =

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 4	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 4 1/2	PURGING INITIATED AT: 1055	PURGING ENDED AT: 1111	TOTAL VOLUME PURGED (gallons): .50

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN mg/L and % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1105	.32	.32	.03	3.72	6.83	26.85	765	6.54/82.0	18.6	Clear	None
1108	.09	.41	.03	3.72	6.83	26.94	768	6.50/82.5	14.1	" "	" "
1111	.09	.50	.03	3.72	6.83	26.94	766	6.52/82.4	11.6	" "	" "
								/			
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								/			

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Sammy A / Tierra	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1112	SAMPLING ENDED AT: 1115
PUMP OR TUBING DEPTH IN WELL (feet): 4 1/2	TUBING MATERIAL CODE: HDPE,S	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: _____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
TMW-2	2	P	250ML	Nitric	Lab	Lab	Cr, Cu, As	APP	113.55

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **SM** = Straw Method (Tubing Gravity Drain); **RFPP** = Reverse Flow Peristaltic Pump; **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5%
Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater)
Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

US Environmental Rental Corporation

(888) 550-8100 www.usenvironmental.com

166 Riverview Ave, Waltham, MA 02453 (781) 899-1560
91 Prestige Park Circle, Suite 5, East Hartford, CT 06108 (860) 289-8700
5C South Gold Dr, Hamilton, NJ 08691 (609) 570-8555
1202 Tech Blvd., Suite 108, Tampa, FL 33619 (813) 628-4200

Order No.: 45444
Date: 11/7/2017
Technician: JS

Company: Tierra
Contact: Sammy Awad
Phone #: #N/A

Packing List

Item	Serial Number	Tech	QC
556	0	✓	
Handheld Display	08K100598	✓	

Item	Tech	QC	Item	Tech	QC
Cable 4 M '	✓		AC Adaptor		
Flow Cell	✓		Stand		
Barb Kit	✓		D.O Kit	✓	
Storage / Cal Cup	✓		Calibration Kit	✓	
Sensor Guard	✓				
Manual					
Sonde Cap					
Software					
Extra Batteries	✓				
Display Comm. Cable					
Sonde Comm. Cable					

Calibration Report

556			0	
Parameter	***Accuracy***	***Before***	***After***	***Lot #***
Conductivy 1000 µs/cm	*(+/-.5%)*	1415	1413	170803B
pH 7 Buffer	*(+/- .2)*	7.02	7.00	170622I
pH mV for 7 Buffer	*(0 +/- 50)*		**-1.3**	
pH 4 Buffer	*(+/- .2)*	4.07	4.00	170803C
pH mV for 4 Buffer	*(180 +/- 50)*		**170.5**	
pH 10 Buffer	*(+/- .2)*	9.95	10.00	170622J
pH mV for 10 Buffer	*(-180 +/- 50)*		**-170.4**	
ORP mV, 237.5	*(+/- 20 mV)*	197.3	200.00	7GI780
DO 100% Sat	*(+/- 2%)*	98.9%	100.5%	
0% DO Check	*(+/- 2%)*		1.80	
Turbidity 0 NTU	*(+/- 5%)*			
Turbidity 126 NTU	*(+/- 5%)*			

Lab Conditions during calibration _____

All calibration standards are NIST traceable. Calibration must be performed according to manufacturer's specifications.

This document certifies that US Environmental Rental Corporation has provided this rental equipment and all accessories in good working order. It is the renter's responsibility to: a) review all included items upon receipt, b) verify that all items are in acceptable condition and function properly, and c) contact a US Environmental associate immediately if any item is missing, damaged, and/or not functioning properly. Any delay in notifying US Environmental will be considered as the Renter taking responsibility for such missing, damaged, and/or malfunctioning item.

Missing, damaged, and/or malfunctioning equipment and accessories will result in additional fees.

43rd Street 0511-17-207E

Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS

INSTRUMENT (MAKER/MODEL#) Hach 2100 Q **INSTRUMENT #** 12090C02275

PARAMETER: *[check only one]*

☐ TEMPERATURE ☐ CONDUCTIVITY ☐ SALINITY ☐ pH ☐ ORP

☒ TURBIDITY ☐ RESIDUAL Cl ☐ DO ☐ OTHER _____

STANDARDS: *[Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]*

Standard A 10 NTU Lot# A7081 Exp June-18

Standard B 20 NTU Lot# A7083 Exp June-18

Standard C 100 NTU Lot# A7074 Exp June-18

DATE (yy/mm/dd)	TIME (hr:min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	% DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
17/11/08	0830	A	10	10	0	Yes	Cont	SA
↓	↓	B	20	19.95	.25	Yes	↓	SA
	↓	C	100	101	1	Yes		SA
	1130	A	10	9.97	.3	Yes		SA
	↓	B	20	19.98	.1	Yes		SA
↓	↓	C	100	100	0	Yes	↓	SA

Boldly "X" this box if there is qualified data on this page.

Form FD9000-8 **CALIBRATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)** 11-10-05

Project/Site: 6511-17207E 43rd St. Outfall Date: 11/8/17 Meter # 08K100598

Temperature (Quarterly) *For Date of Last Temperature Verification see* _____ *in log book*

Dissolved Oxygen	DEP SOP FT 1500	Initials	Date	Time	Probe Charge	Probe Gain	mg/L	Temp °c	% DO	Saturation mg/L (from chart)	Pass or Fail
										Acceptance Criteria: +/- 0.3mg/l	
CAL (ICV) CCV		SA	11/8/17	0830	NA	NA	8.016	26.81	98.7	8.143	(P) F
CAL ICV (CCV)		SA	↓	1140	↓	↓	8.105	26.40	99.5	8.055	(P) F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F

Specific Conductance	DEP SOP FT 1200	Initials	Date	Time	Standard µmhos/cm	Exp. Date	Lot #	Bottle #	Cell Constant	Reading µmhos/cm	Pass or Fail
									Acceptance Criteria: +/- 5%		
CAL (ICV) CCV		SA	11/8/17	0830	1413	Oct-18	7GJ129	NA	NA	1414	(P) F
CAL ICV (CCV)		SA	↓	1140	1413	" "	" "	NA	NA	1410	(P) F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F

pH	DEP SOP FT 1100	Initials	Date	Time	Standard SU	Exp. Date	Lot #	Bottle #	Slope	Reading SU	Pass or Fail
										Acceptance Criteria: +/- 0.2 SU	
CAL (ICV) CCV		SA	11/8/17	0830	7.0	Oct-19	7GJ130	NA	NA	7.01	(P) F
CAL (ICV) CCV		SA	↓	↓	4.0	Oct-19	7GJ128	↓	↓	4.00	(P) F
CAL (ICV) CCV		SA	↓	↓	10.0	June-19	7GF1003	↓	↓	10.00	(P) F
CAL ICV (CCV)		SA	↓	1140	7.0	" "	" "	↓	↓	6.95	(P) F
CAL ICV (CCV)		SA	↓	↓	4.0	" "	" "	↓	↓	3.98	(P) F
CAL ICV (CCV)		SA	↓	↓	10.0	" "	" "	↓	↓	9.97	(P) F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F

Maintenance: Weekly pH Slope: NA Specific Conductance Probe Cleaned? (Yes) No Dissolved Oxygen Membrane Changed: Yes (No)

Notes:

Perform only in Calibrate Mode: **CAL** - Calibrate -
Perform only in Run Mode: **ICV** - Initial Calibration Verification
Perform only in Run Mode: **CCV** - Continuing Calibration Verification

SW

NORTH

MATCH LINE STA. 24+25

1602

N 43RD STREET

Exist Prop Line

6' CLF

Conc Drive

6' CLF

EOP

4" Stl (GM, Abnd)

8" CI (WM)

22+00

CONST 48" RCP
VIA MICROTUNNELING

ST-56

23+00

CONST 48" RCP CLASS V
VIA MICROTUNNELING

24+00

EOP

Gravel Drive

Conc

Exist Prop Line

6' CLF

BTV Frontier

CONST 48" RCP

MICROTUNNELING PIT

CONST 48" RCP
CLASS V VIA
MICROTUNNELING

Gate

1607

Abandoned
Track Rails

MATCH LINE STA. 21+75

ST-56
STA. 22+80.27, 1.24' RT
CONST MH TYPE J7 (6' DIA')
FDOT INDEX NO. 200, 201
IE: 48" RCP (N) = 11.04
IE: 48" RCP (S) = 10.99
RIM: 22.76

NOTE:
SEE SEPARATE PLANS FOR WATER AND WASTEWATER DESIGN

0 20' 40'

No.	DATE	REVISIONS

PENNONI ASSOCIATES INC.
2555 Nursery Road, Suite 101
Clearwater, FL 33764
Certificate of Authorization 7819

E. PETER NIKOLOV, P.E. DATE
P.E. NO. 38766

DES: MCH
DRN: MCH
CKD: EPN
DATE: 6/14/19

CITY of TAMPA
Department of Transportation and Stormwater Services
Stormwater Engineering Division

43RD STREET OUTFALL REGIONAL STORMWATER IMPROVEMENTS
STORMWATER CONSTRUCTION PLAN STA 21+75 TO STA 24+25

SHEET 29

M:\PROJECTS\TMPA\TMPA15001-43RD_STREET\DESIGN_PUBLISH\ADDENDUM 3\T582 ALIGN B STORMWATER PLANS.DWG
PLOTTED: 6/14/2019 11:52:18 AM, BY: MICHAEL HENDERSON PLOTSTYLE: PENNONI NCS.STB, PROJECT STATUS: ---

NORTH

SW

MATCH LINE STA. 24+25

MATCH LINE STA. 26+75

Exist RR R/W Line

Railroad Tracks

Railroad Tracks

Exist RR R/W Line

Railroad Obstruction Arm

Overhead Railroad Signal

4' Stack Conc Barricade Wall

PI 24+61.84

4001 N 43RD STREET

FCIR 1/2" "LB 5985"

Exist R/W Line

Gate

Exist R/W Line

Gravel

UNK

8" CI (WM)

15" CONC CASING

8" CI (WM)

25+00

26+00

4" Stl (GM, Abnd)

BTV Frontier

4" Stl (GM, Abnd)

Exist R/W Line

Gate

6' CLF

6' CLF

CONST 48" RCP CLASS V VIA MICROTUNNELING

TBM #9
EL.=29.81'
N=1318360.39
E=523811.05
NAIL IN POLE

4301

Exist RR R/W Line

Railroad Obsturction Arm

3" PVC (MCI)
QWEST
CENTURY LINK

FN&D "LB 7831"
N=1318189.58
E=523811.56
CENTER OF SECT.16-T29S-R19E

CSX RAILROAD

4" STL (MCI)

4" HDPE (AT&T)

NOTES:

1. SEE SEPARATE PLANS FOR WATER AND WASTEWATER DESIGN

0 20' 40'

No.	DATE	REVISIONS

PENNONI ASSOCIATES INC.
2555 Nursery Road, Suite 101
Clearwater, FL 33764
Certificate of Authorization 7819

E. PETER NIKOLOV, P.E. DATE
P.E. NO. 38766

DES: MCH
DRN: MCH
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DATE: 6/14/19

CITY of TAMPA
Department of Transportation and Stormwater Services
Stormwater Engineering Division

43RD STREET OUTFALL REGIONAL STORMWATER IMPROVEMENTS

STORMWATER CONSTRUCTION PLAN STA 24+25 TO STA 26+75

SHEET 31

Item No.	Description	Unit	Quantity	Unit Price in Words		Unit Price		Total Computed Price
SCHEDULE A - STORMWATER / ROADWAY / SANITARY								
100	CONTINGENCY ALLOWANCE	EA	1	Six Hundred Fifty Five Thousand and No Cents	$	655,000.00	$	655,000.00
100-1	CSX ALLOWANCE	EA	1	Twenty Five Thousand and No Cents	$	25,000.00	$	25,000.00
101	MOBILIZATION	LS	1		$		$	
102	MAINTENANCE OF TRAFFIC	LS	1		$		$	
104-1	SILT FENCE AND EROSION CONTROL	LF	7,200		$		$	
104-2	FLOATING TURBIDITY BARRIER	LF	200		$		$	
104-18	INLET PROTECTION SYSTEM	EA	14		$		$	
110	CLEARING AND GRUBBING	LS	1		$		$	
110-3	GROUTING OF EXISTING STORM PIPE (FLOWABLE FILL)	CY	88		$		$	
120	GRADING	LS	1		$		$	
120-2	DISPOSAL OF UNSUITABLE SOILS	CY	700		$		$	
160	TYPE B STABILIZATION (12")	SY	9,590		$		$	
170	SUNTREE NSBB, MODEL 8-14	EA	1		$		$	
285-1	OPTIONAL BASE, BASE GROUP 06 (CRUSHED CONC) (8")	SY	6,640		$		$	
285-2	OPTIONAL BASE, BASE GROUP 09 (TYPE B-12.5) (6")	TN	990		$		$	
286	TURNOUT CONSTRUCTION - 2" ASPHALT (SP-12.5) AND OPTIONAL BASE GROUP 03	SY	1,000		$		$	
327	MILLING, 1-1/2" THICKNESS	SY	5,200		$		$	
334	SUPERPAVE ASPHALTIC CONCRETE, SP-12.5 (TRAFFIC C)	TN	1,520		$		$	
337	ASPHALTIC CONCRETE FRICTION COURSE, FC-12.5 (TRAFFIC C)	TN	680		$		$	
400-1	CONCRETE RETAINING WALL, CLASS IV	CY	20		$		$	
410-2	BOX CULVERT, PRECAST, 10'X4'	LF	337		$		$	
425-1-60	MANHOLE, TYPE J7, 6' DIA (<10')	EA	7		$		$	
425-1-61	MANHOLE, TYPE J7, 6' DIA (>10')	EA	4		$		$	
425-1-62	MANHOLE, TYPE J7T, CONFLICT, 6'X6' (<10')	EA	1		$		$	
425-1-63	MANHOLE, TYPE J7, CONFLICT, 6'X6' (>10')	EA	3		$		$	
425-1-64	MANHOLE, TYPE J7T, CONFLICT, 6'X7' (<10' UNDER I-4 BRIDGE)	EA	2		$		$	
425-1-65	MANHOLE, TYPE J7T, CONFLICT, 6'X7' (<10')	EA	1		$		$	
425-1-66	MANHOLE, TYPE J7, CONFLICT, 6'X7' (>10')	EA	1		$		$	
425-1-67	MANHOLE, TYPE J7T, CONFLICT 6'X6' (>10')	EA	3		$		$	
425-1-69	MANHOLE, TYPE J7, 7' DIA (<10')	EA	3		$		$	
425-1-71	MANHOLE, TYPE J7T, CONFLICT,(MOD) 7'X10' (<10')	EA	1		$		$	
425-2-41	MANHOLE RISER, TYPE P7 ON BOX CULVERT (<10')	EA	3		$		$	
425-2-42	JUNCTION BOX, TYPE J7T (MOD), 4'X26' WITH WEIR (<10')	EA	1		$		$	
425-2-43	JUNCTION BOX, TYPE J7T, 4'X13' (>10')	EA	1		$		$	
425-1-44	JUNCTION BOX, TYPE J7T, 3.5'X10' (<10')	EA	1		$		$	
425-3-10	DITCH BOTTOM INLET, TYPE C WITH TRANSVERSABLE SLOT (<10')	EA	2		$		$	
425-3-11	INLET, COT TYPE T INLET ON BOX CULVERT (<10')	EA	2		$		$	
425-3-12	INLET, COT TYPE T INLET (<10')	EA	1		$		$	
425-3-13	INLET, FDOT TYPE 5 (<10')	EA	4		$		$	
430-173-218	PIPE CULVERT, 12"x18" ELLIPTICAL (ERCP)	LF	160		$		$	
430-173-260	PIPE CULVERT, 38"x60" ELLIPTICAL (ERCP)	LF	13		$		$	
430-174-112	PIPE CULVERT, 12" ROUND (RCP)	LF	135		$		$	
430-174-118	PIPE CULVERT, 18" ROUND (RCP)	LF	49		$		$	

430-174-136	PIPE CULVERT, 36" ROUND (RCP)	LF	104		$		$	
430-174-148	PIPE CULVERT, 48" ROUND (RCP)	LF	3,704		$		$	
430-174-248	PIPE CULVERT, 48" ROUND (RCP) (UNDER I -4 BRIDGES)	LF	145		$		$	
430-175-008	8" DIA. PVC PIPE (ASTM D 3034)	LF	85		$		$	
430-200-118	END SECTION, MITERED, 12"x18" (4:1)	EA	4		$		$	
515-1	PIPE GUIDERAIL, ALUMINUM	LF	73		$		$	
520-1-10	CONCRETE CURB, TYPE F	LF	2,070		$		$	
520-2-4	CONCRETE CURB, TYPE D	LF	55		$		$	
520-2-9	CONCRETE CURB, VALLEY	LF	110		$		$	
522-1	SIDEWALK CONCRETE, 4" THICK (SIDEWALKS)	SY	1,200		$		$	
522-2	SIDEWALK CONCRETE, 6" THICK (DRIVEWAYS)	SY	250		$		$	
522-3	CURB RAMPS W/ DETECTABLE WARNINGS	EA	11		$		$	
530-1	RUBBLE RIPRAP (OUTFALL)	TN	1,700		$		$	
530-2	ENDWALL, SAND CEMENT (SIDE DRAINS)	CY	20		$		$	
530-3	BEDDING MATERIAL FOR PIPE	TN	600		$		$	
535-1	ENDWALL, CONCRETE, (OUTFALL) PER FDOT INDEX 251	CY	22		$		$	
550-102-18	EXISTING FENCE, (TYPE B), RESETTING	LF	305		$		$	
550-102-19	EXISTING FENCE, (TYPE B), SWING GATE, RESETTING	EA	3		$		$	
556-1	MICROTUNNEL UNDER CSX, 48" RCP CLASS V	LF	541		$		$	
556-2	MICROTUNNEL UNDER CSX, PIT CONSTRUCTION	LS	1		$		$	
700-1-50	SINGLE POST SIGN, RELOCATE	EA	12		$		$	
800-1	ADJUSTMENT OF EXISTING STRUCTURE, SANITARY/STORM MANHOLE	EA	16		$		$	
8901-1	LAWN REPLACEMENT AND SODDING (BAHIA)	SF	73,500		$		$	
8920	CSX RAILROAD TRACK RECONSTRUCTION (BY OUTFALL)	LF	120		$		$	
8950-1	DISPOSAL OF CONTAMINATED SOIL	TN	2,000		$		$	
8950-2	DISPOSAL OF CONTAMINATED SOIL AND GROUNDWATER	GAL	300,000		$		$	
907	6" DIA. PVC PIPE (SS - ASTM D 3034)	LF	10		$		$	
908	8" DIA. PVC PIPE (SS - ASTM D 3034)	LF	1,485		$		$	
1706	6" DIA. PVC PIPE HOUSE LATERAL (SDR-35)	LF	400		$		$	
4000	PRECAST CONCRETE STANDARD OR DOGHOUSE MANHOLE BASE	EA	13		$		$	
4100	PRECAST CONCRETE MANHOLE BARREL	VF	45		$		$	
4200	PRECAST CONCRETE MANHOLE CONE	EA	12		$		$	
4600	CAST IRON MANHOLE FRAME AND COVER	EA	12		$		$	
4660	6" DIAMETER PVC CLEANOUT AND COVER	EA	24		$		$	
4700	DROP MANHOLE PIPE CONNECTION	LF	20		$		$	
4900	CONNECT TO EXISTING MANHOLE	EA	5		$		$	
						Total Schedule A	$	
SCHEDULE B - WATER								
2100	F&I 2" HDPE WM W/FITTINGS	LF	140		$		$	
2102	F&I 6" DUCTILE IRON PIPE	LF	240		$		$	
2104	F&I 8" DUCTILE IRON PIPE	LF	2,090		$		$	
2106	F&I 12" DUCTILE IRON PIPE	LF	80		$		$	
2500	REMOVE 1" - 3" DIAMETER ABANDONED PIPE	LF	900		$		$	
2501	REMOVE 4" - 12" DIAMETER ABANDONED PIPE	LF	800		$		$	

2600	CUT AND PLUG 3" AND SMALLER PIPE	EA	6		$		$	
2601	CUT AND PLUG 4", 6" and 8" PIPE	EA	4		$		$	
2800	F&I 3" AND SMALLER TAPPED CONNECTION (0-15')	EA	3		$		$	
3041	F&I 6" BELL RESTRAINTS ON EXISTING PIPE	EA	1		$		$	
3042	F&I 8" BELL RESTRAINTS ON EXISTING PIPE	EA	6		$		$	
3043	F&I 12" BELL RESTRAINTS ON EXISTING PIPE	EA	3		$		$	
3071	FURNISH 6" PUSH-ON RESTRAINT GASKETS	EA	8		$		$	
3072	FURNISH 8" PUSH-ON RESTRAINT GASKETS	EA	80		$		$	
3073	FURNISH 12" PUSH-ON RESTRAINT GASKETS	EA	4		$		$	
4005	F&I 6" DUCTILE IRON MJ BEND OR SLEEVE	EA	21		$		$	
4006	F&I 6" DUCTILE IRON MJ TEE	EA	1		$		$	
4007	F&I 6" DUCTILE IRON MJ CAP OR PLUG	EA	4		$		$	
4008	F&I 8" DUCTILE IRON MJ CAP OR PLUG	EA	3		$		$	
4009	F&I 8" DUCTILE IRON MJ BEND, SLEEVE OR REDUCER	EA	42		$		$	
4010	F&I 8" X 6" DUCTILE IRON MJ TEE	EA	6		$		$	
4011	F&I 8" X 8" DUCTILE IRON MJ TEE	EA	1		$		$	
4013	F&I 12" DUCTILE IRON MJ BEND OR SLEEVE	EA	9		$		$	
4014	F&I 12" DUCTILE IRON MJ TEE	EA	1		$		$	
5000	F&I FULL FIRE HYDRANT ASSEMBLY ON NEW OR EXISTING MAINS	EA	5		$		$	
5200	REMOVE AND SALVAGE HYDRANT	EA	2		$		$	
6000	F&I 2" GATE VALVE WITH BOX ON DIP, CIP or PVCP	EA	5		$		$	
6001	F&I 6" GATE VALVE OR TAPPING VALVE WITH BOX ON DIP, CIP or PVCP	EA	9		$		$	
6002	F&I 8" GATE VALVE OR TAPPING VALVE WITH BOX ON DIP, CIP or PVCP	EA	9		$		$	
6003	F&I 12" GATE VALVE OR TAPPING VALVE WITH BOX ON DIP, CIP or PVCP	EA	2		$		$	
6108	F&I 12" LINE STOP ON EXISTING WATER MAIN	EA	1		$		$	
7004	F&I 16" TAPPING SLEEVE AND TAP	EA	1		$		$	
7005	F&I 16" TAPPING SADDLE AND TAP (FOR 2" SERVICE LINE)	EA	2		$		$	
8100	FURNISH, TAP AND INSTALL 3/4" OR 1" METER SERVICE (0-15')	EA	4		$		$	
8110	FURNISH, TAP AND INSTALL 3/4" METER SERVICE (+15-80')	EA	20		$		$	
9980	CONTINGENCY ALLOWANCE	EA	1	Fifty Five Thousand and No Cents	$	55,000.00	$	55,000.00
						Total Schedule B	$	
						Total Schedule A and B	$	