Addendum No. 2  
to the Bidding Documents  
New Dog Park Roadway  
City of Quincy  
Quarry Street, Quincy Massachusetts  
Issued August 6, 2019

Under the provisions of Article 7 of Section 00200, Instructions to Bidders, Bidders are informed that the Bidding Documents for the above-mentioned Project are modified, corrected, and/or supplemented as follows. Addendum No. 2 becomes part of the Bidding Documents and Contract Documents.

Acknowledge receipt of this addendum by inserting its number on Page 00410-9, Article 5.2 of the Bid form. Failure to acknowledge receipt of the Addendum may subject the Bidder to disqualification.

Project Manual Changes

Item 1-1  Section 00410 – Bid Form  
Delete Section 00410 in its entirety and replace it with the attached Section 00410 - Bid Form.

Item 1-2  Section 00520 – Agreement  
Delete Section 00520 in its entirety and replace it with the attached Section 00520 – Agreement.

Item 1-3  Section 00550 – Notice to Proceed  
Delete Section 00550 in its entirety and replace it with the attached Section 00550 – Notice to Proceed.

Item 1-4  Section 01270 – Measurement and Payment  
Delete Section 01270 in its entirety and replace it with the attached Section 01270 – Measurement and Payment.

Item 1-5  Section 02760 – Pavement Striping  
Delete Section 02760 in its entirety and replace it with the attached Section 02760 – Pavement Striping.

Item 1-6  Appendix A  
Add Appendix A in its entirety to the end of the project manual.

Item 1-7  Appendix B  
Add Appendix B in its entirety to the end of the project manual.
**Additional Bidding Period Questions & Responses**

The following responses/clarifications are based on questions raised by bidders through the Owners bidding site:

1. ITB states owner anticipates start date of 8/19/19, multiple places in bid docs state start date of no earlier than 3/15/20, please advise.

   A. The anticipated start date as stated by the owner is 8/19/2019. Sections 00520 & 00550 have been revised to reflect this date as well.

2. Under M&P section 01270 1.6 (B) (2) it states "payment...shall not include process gravel for road base. Payment for road base gravel is included in the applicable pavement repair item", please confirm this is incorrect and associated 675 CY with this bid item is for the 6" crushed gravel base under the proposed paving.

   A. Confirmed. The processed gravel borrow under this section includes the processed gravel borrow for the roadway pavement section.

3. Provide additional information for AUL areas showing locations, depths, sections of remedial cap/contaminated areas.

   A. The Protective Cover Materials Sketch Plan for Lot 9 has been provided as part of appendix A to the project manual.

4. Provide cover maintenance and post closure monitoring plan for bidding purposes on how to deal with maintenance/restoration of cap/cover.

   A. The Cover Maintenance and Post-Closure Monitoring Plan has been provided as part of Appendix A to the project manual. Also included on the detail sheets as part of Addendum 1 are capping details.

5. Please confirm all utility and service fees including water connection, sewer connection, telecommunication, electrical & all gas utility provider fees for design/construction to be paid by town.

   A. It is anticipated that the City of Quincy will be waiving fees for connection to the City’s Water and Sewer Systems. It is unknown if the City will be paying for the utility provider fees for design/construction.

6. Confirm all communication for work orders/design & scheduling with electrical/communication/tel/data and gas companies to be city's responsibility.

   A. It is unknown if all the communication for work orders/design & scheduling with electrical/communication/tel/data and gas companies will be the City's responsibility.

7. Bid Item 10 states 6 Manholes, only 5 shown on plans (PSMH 1-5), please advise.

   A. There are only five (5) new sewer manholes as part of the project. An additional bid item has been added for the relocation of the pond outlet structure.
8. Given there are no bid items for the gas work, confirm all associated costs including tie-ins/streetwork/excavation/backfill/gas line construction will be by others and not included in this project.

   A. As per Utility Note #10. Contractor shall provide excavation, bedding, backfill and compaction for natural gas service. An additional bid item has been added for this work.

9. Has gas company been contacted and what is the status of the design/work order?

   A. The gas company has not been contacted regarding the design/work order for the project.

10. Has communications/electric companies been contacted and what is the status of the design/work orders?

    A. The communications/electric companies have not been contacted regarding the design/work order for the project.

11. Will any handholes be required for the electrical run given the long distance run?

    A. It is unknown if any handholes will be required for the projects electrical run.

12. Confirm police details to be paid by city.

    A. All traffic control costs are the responsibility of the contractor.

13. Confirm contractor will be responsible to complete water main tap work/tie in and to incorporate costs in bid item #13.

    A. Confirmed. The measurement and payment section for bid item #13 has been revised to reflect this.

14. Please specify electrical conduit type, sch 40 or 80.

    A. The required electrical conduit type for the projects electrical run is unknown.

15. 02760 has both water based and thermoplastic pavement markings, please confirm which is required.

    A. Water based pavement markings will be required for the project. Specification section 02760 has been revised to reflect this.

16. Confirm all excess fill can be used/lost onsite to avoid costs associated with exporting potentially contaminated/hazardous fill, or provide unit prices for this.

    A. The intent of the project is that all excess fill will be used/lost onsite, and no contaminated/hazardous material will need to be removed from the site. However, an additional bid item has been added to the bid form to account for the potential need to remove contaminated materials from the site.

17. What is schedule of proposed dog park project? Will they run concurrently with this roadway project, before or after?
A. The schedule for the proposed dog park project is unknown and will need to be coordinated with the contractor for the project. However, it is anticipated that the project will run concurrently. Access to the dog park project is through the existing developed site and not to be through the roadway project site.

18. For Bid Item 4 Earth Excavation, please provide method engineer will use to quantify cubic yardage.

   A. Prior to construction engineer and contractor will review the excavation quantities based on the surveyed existing surface and the proposed surface.

19. Bid Item 4, Item payment states removal/disposal is included in this item, please provide quantity of removal/disposal for this item, is contractor to assume all 2,775 CY of material to be disposed of offsite? Does this include quantities from road & site cuts/fills as well as material labeled "existing gravel road to be removed" and "existing loam/riprap piles" onsite?

   A. As identified in Addendum 1 bid item 4 is now identified as waste material to be relocated on site and as stated above it is the intent of the project to use/loss all waste fills on site.

20. 01270 1.23(a)(5) states loam and seed for access road sideslopes are not included in this pay item, please confirm this is incorrect and that loam and seed required for entirety of project will be paid for under this item.

   A. Confirmed, the loam and seed requirements for the entire project will be paid for under this item. The specification section 01270 has been revised to reflect this.

21. C-102 labels areas of "existing gravel road to be removed", "existing loam pile to be removed" and "existing rip-rap to be removed" but does not provide any depths for removal, please confirm this item will be covered under pay item 4 and measured in CY.

   A. As identified in Addendum 1 these labels have been clarified and the pay measurements for each have been updated accordingly.

22. C-103 states "contractor to coordinate with city traffic engineer to provide additional site distance in this area", confirm this area to be paid for by unit rates in pay items 3/4/22.

   A. Confirmed.

23. Provide geotechnical report with borings.

   A. The available geotechnical information for the project has been provided as part of appendix B to the project manual.

END OF ADDENDUM NO. 2
SECTION 00410-UP

BID FORM

PROJECT IDENTIFICATION:

New Dog Park Roadway

TABLE OF ARTICLES

1. Bid Recipient
2. Bidder’s Acknowledgements
3. Bidder’s Representations
4. Bidder’s Certifications
5. Basis of Bid
6. Time of Completion
7. Attachments to This Bid
8. Bid Submittal

ARTICLE 1 - BID RECIPIENT

1.1 This Bid is submitted to:

City of Quincy
1305 Hancock Street
Quincy, Massachusetts, 02169

1.2 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 - BIDDER’S ACKNOWLEDGEMENTS

2.1 Bidder accepts all of the terms and conditions of the Advertisement for Bids and Instructions to Bidders, including without limitation, those dealing with the disposition of Bid deposit. The Bid will remain subject to acceptance for 30 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

2.2 The Work under this Contract shall be subject to the provisions of Chapter 30, Section 39M of the Massachusetts General Laws.

ARTICLE 3 - BIDDER’S REPRESENTATIONS

3.1 In submitting this Bid, Bidder represents, as set forth in the Agreement, that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents and hereby acknowledges the receipt of all Addenda.
B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and has satisfied itself as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder’s safety precautions and programs.

F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.

J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

K. Bidder is aware that the estimated quantities on the Bid Form are subject to Article 13.03 of the General Conditions (Section 00700).

ARTICLE 4 - BIDDER’S CERTIFICATION

4.1 Bidder hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work, that all employees to be employed at the Site will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish
documentation of successful completion of said course with the first certified payroll report for each employee, and that Bidder will comply fully with all laws and regulations applicable to awards made subject to MGL Chapter 149, Section 44A.

4.2 Bidder certifies that, under penalty of perjury, Bidder is not presently debarred from doing public construction work in the Commonwealth under the provisions of MGL Chapter 29, Section 29F or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder; and is not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency.

4.3 Pursuant to M.G.L.c.62C, s49A, bidder hereby certifies under the penalties of perjury, to the best of Bidder’s knowledge and belief, that Bidder has complied with all laws of the commonwealth related to taxes, reporting of employees and contractors, and withholding and remitting of child support.

4.4 Bidder hereby certifies under the penalties of perjury, to the best of Bidder’s knowledge and belief, that Bidder has filed all State tax returns and paid all State taxes required by law.

4.5 Bidder hereby certifies Bidder will comply with the minority workforce percentage ratio and specific affirmative action steps contained in the EEO/AA provisions of this Contract, including compliance with the Minority/Woman Business Enterprise as required under these contract provisions. The Bidder, if this Bid is accepted, shall be required to obtain from each of its subcontractors a copy of the certification by said subcontractor, regardless of tier, that it will comply with the minority workforce ratio and specific affirmative action steps contained in these EEO/AA contract provisions and submit it to Owner prior to the award of such subcontract.

4.6 Bidder certifies under penalties of perjury that this Bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used herein the word “person” shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

4.7 Bidder certifies that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

4.8 Bidder certifies that Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

4.9 Bidder certifies that Bidder has not solicited or induced any individual or entity to refrain from bidding; and

4.10 Bidder certifies that Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph:

A. “corrupt practice” means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;

B. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of the Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
C. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

D. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 - BASIS OF BID

5.1 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):
<table>
<thead>
<tr>
<th>Item Number</th>
<th>Item Name and Unit Bid Prices Written in Words and Figures</th>
<th>Estimated Quantity</th>
<th>Total Amount of Item (in figures)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobilization and Demobilization, per lump sum, the price of:</td>
<td></td>
<td>lump sum* = $__________________</td>
</tr>
<tr>
<td></td>
<td>($)</td>
<td></td>
<td>*Not to exceed 5 percent of the total Bid price</td>
</tr>
<tr>
<td>2</td>
<td>Traffic Control, per lump sum, the price of:</td>
<td></td>
<td>lump sum = $__________________</td>
</tr>
<tr>
<td></td>
<td>($)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Clearing and Grubbing, per square yard, the price of:</td>
<td>x 750 s.y. =</td>
<td>$__________________</td>
</tr>
<tr>
<td></td>
<td>($)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Earth Excavation and replacement of waste material, per cubic yard, the price of:</td>
<td>x 2,775 c.y. =</td>
<td>$__________________</td>
</tr>
<tr>
<td></td>
<td>($)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Processed Gravel Borrow, per cubic yard, the price of:</td>
<td>x 1,500 c.y. =</td>
<td>$__________________</td>
</tr>
<tr>
<td></td>
<td>($)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Gravel Borrow, per cubic yard, the price of:</td>
<td>x 675 c.y. =</td>
<td>$__________________</td>
</tr>
<tr>
<td></td>
<td>($)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Ordinary Borrow, per cubic yard, the price of:</td>
<td>x 5,500 c.y. =</td>
<td>$__________________</td>
</tr>
<tr>
<td></td>
<td>($)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
8 Siltation Fence, per linear foot, the price of:

($ ) x 2,250 l.f. = $_________________

9 Catch Basin Sedimentation Control, each, the price of:

($ ) x 9 each = $_________________

10 48-inch Precast Concrete Manholes, each, the price of:

($ ) x 5 each = $_________________

11 Catch Basins, each, the price of:

($ ) x 8 each = $_________________

12 Mainline PVC Gravity Pipe, per linear foot, the price of:

($ ) x 810 l.f. = $_________________

13 6-inch Ductile Iron Pipe & Fittings, per linear foot, the price of:

($ ) x 1210 l.f. = $_________________

14 6 inch Gate Valves with Boxes, each, the price of:

($ ) x 6 each = $_________________

15 Hydrant Assemblies, each, the price of:

($ ) x 1 each = $_________________
16 Fine Grading & Compaction, per square yard, the price of:

($____________________) x 9000 s.y. = $____________________

17 Roadway HMA, per ton, the price of:

($____________________) x 775 ton. = $____________________

18 Portland Cement Concrete Sidewalk, per square yard, the price of:

($____________________) x 675 s.y. = $____________________

19A Vertical Granite Curb, per linear foot, the price of:

($____________________) x 1150 l.f. = $____________________

19B Sloped Granite Curb, per linear foot, the price of:

($____________________) x 1150 l.f. = $____________________

20 Painted Pavement Markings, per linear foot, the price of:

($____________________) x 1250 l.f. = $____________________

21 Guardrail, per linear foot, the price of:

($____________________) x 1000 l.f. = $____________________

22 Loam & Seed, per square yard, the price of:

($____________________) x 5500 s.y. = $____________________
23 Electrical & Telecommunications Duct Bank, per linear foot, the price of:

$_________________ x 1215 l.f. = $_________________

24A 12” HDPE Drain line, per linear foot, the price of:

$_________________ x 235 l.f. = $_________________

24B 24” HDPE Drain line, per linear foot, the price of:

$_________________ x 20 l.f. = $_________________

25A 6’ high chain link fence, per linear foot, the price of:

$_________________ x 430 l.f. = $_________________

25B 6’ high chain link fence gate, each, the price of:

$_________________ x 1 ea. = $_________________

26 Relocation of existing rip rap slopes, per square yard, the price of:

$_________________ x 725 sy. = $_________________

27 Removal of existing rip rap stones, per cubic yard, the price of:

$_________________ x 15 cy. = $_________________
28 Removal of ledge, per cubic yard, the price of:

($____________________________) x 30 cy. = $___________________

29 Removal of waste material, per cubic yard, the price of:

($____________________________) x 30 cy. = $___________________

30 Relocation of existing outlet structure, each, the price of:

($____________________________) x 1 ea. = $___________________

31 Excavation, backfill, and compaction for gas line, per linear foot, the price of:

($____________________________) x 1215 f. = $___________________

TOTAL AMOUNT OF BID – Items 1 through 31

$_____________________________ dollars

5.2 This Bid includes Addenda numbered ________________.

ARTICLE 6 - TIME OF COMPLETION

6.1 Bidder agrees that the Work will be substantially completed and ready for final payment in accordance with paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

6.2 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times as stated in the Agreement.

ARTICLE 7 - ATTACHMENTS TO THIS BID

7.1 The following documents are attached to and made a condition of this Bid:
A. Bid deposit in the amount of __________________________ dollars ($_______ ______), consisting of a bid bond in the amount of five percent of the total amount of Bid

B. Evidence of authority to sign

C. List of Project References

D. Statement of Bidder's Qualifications

E. Certificate of Acknowledgment of Contractor For Bid

F. Signature Authorization

G. Certificate of Non-Collusion

H. Tax Compliance Certificate

I. Certification of Bidder Regarding Equal Employment Opportunity

J. Right-To-Know Law

K. Non-Collusion Affidavit

L. Certification Non-Segregated Facilities

M. Affidavit Regarding Prior Labor Disputes

N. Certification Internal Accounting

O. Certification of Bidders/Sub-Bidders on Public Construction Projects

P. List of Subcontractors
ARTICLE 8 - BID SUBMITTAL

BIDDER: [Indicate correct name of bidding entity]

________________________________________________________________________

By: 
[Signature]  ____________________________________________________________

[Printed name] __________________________________________________________

(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: 
[Signature]  ____________________________________________________________

[Printed name] __________________________________________________________

Title: 
________________________________________________________

Submittal Date:  ________________________________________________________

Address for giving notices:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Telephone Number:  ______________________________________________________

Fax Number:

Contact Name and e-mail address: __________________________________________

________________________________________________________________________

Bidder’s License No.:  ____________________________________________________

(where applicable)

END OF SECTION
SECTION 00520

AGREEMENT

This Agreement is made this ______________ day of __________________ in the year two thousand nineteen between the City of Quincy, MA, as requested by its Department of Public Works hereinafter called Owner and ______________ hereinafter called Contractor.

Owner and Contractor hereby agree as follows:

ARTICLE 1 WORK

1.1 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described with the following title: “Quincy Dog Park Access Road”.

ARTICLE 2 ENGINEER

2.1 The Project has been designed by Tighe & Bond, Inc., 177 Corporate Drive, Portsmouth, New Hampshire 03801 who is hereinafter called Engineer. Engineer will act as Owner’s representative, assuming all duties and responsibilities, rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 3 CONTRACT TIMES

3.1 Dates for Substantial Completion and Final Payment

A. With Notice to Proceed being issued the Contractor will be authorized to proceed with submittals and precast forming. Work associated with field construction will be substantially completed ready for final payment in accordance with Paragraph 15.06 of the General Conditions no later than 250 days starting not earlier than August 19th, 2019. This start date is weather dependent and subject to approval by the Owner and Engineer.

3.2 Liquidated Damages

A. Contractor and Owner recognize that time is of the essence and that Owner will suffer financial loss if the Work is not completed within the times specified in Paragraph 3.1 above, plus any extensions thereof allowed in accordance with Article 11 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner $1,000 for each day that expires after the time specified in Paragraph 3.1 above for Substantial Completion until the Work is substantially complete. After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by Owner, Contractor shall pay Owner $1,000 for each day that expires after the time specified in Paragraph 3.1 for completion and readiness for final payment until the Work is completed and ready for final payment.

ARTICLE 4 CONTRACT PRICE

4.1 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the prices stated in Contractor’s Bid, attached hereto as an exhibit.
4.2 The total amount will be adjusted by measurement of actual installed quantities in strict conformity with the provisions contained herein.

ARTICLE 5 PAYMENT PROCEDURES

5.1 Applications for Payment shall be processed in accordance with Article 15 of the General Conditions and in accordance with Massachusetts General Law.

5.2 Owner shall make progress payments on account of the Contract Price on the basis of processed Applications for Payment monthly during construction, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract.

5.3 Owner shall retain from progress payments 5 percent of the value of Work completed.

ARTICLE 6 CONTRACTOR’S REPRESENTATIONS

6.1 Contractor makes the following representations:

A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

B. Contractor has visited the site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and (3) Contractor’s safety precautions and programs.

E. Based on the information and observations referenced in Paragraph 6.1 above, Contractor does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

F. Contractor is aware of the general nature of Work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

G. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

H. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 7 CONTRACT DOCUMENTS

7.1 Contents
A. The Contract Documents consist of the following:

1. This Agreement (pages 00520-1 to 00520-6, inclusive);
2. Performance Bond;
3. Payment Bond;
4. General Conditions (title pages, table of contents, and pages 00700-1 to 00700-65, inclusive);
5. Supplementary Conditions (pages 00800-1 to 00800-13, inclusive);
6. General Requirements (Division 1);
7. Specifications (Divisions 2 through 16);
8. Drawings consisting of a complete set of 13 sheets, inclusive, with each sheet bearing the following general title: Quincy Dog Park Access Road;
9. Addenda (numbers _____ to _____, inclusive);
10. Exhibits to this Agreement (enumerated as follows):
   a. Contractor’s Bid (pages 00410-1 to 00410-11, inclusive);
   b. Documentation submitted by Contractor prior to Notice of Award;
11. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
   a. Notice to Proceed;
   b. Written Amendments;
   c. Work Change Directives;
   d. Change Order(s).

B. The documents listed in Paragraph 7.1.A are attached to this Agreement (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 7.

D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 8 MISCELLANEOUS

8.1 Terms
A. Terms used in this Agreement will have the meanings indicated in the General Conditions and the Supplementary Conditions.

8.2 Assignment of Contract
A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may
be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

8.3 Successors and Assigns

A. Owner and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

8.4 Severability

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

8.5 Contractor Certifications

A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 8.5:

1. “corrupt practice” means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;

2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and

4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement. Counterparts have been delivered to Owner and Contractor. All portions of the Contract Documents have been signed or identified by Owner and Contractor or on their behalf.

This Agreement will be effective on _______________________, _____ (which is the Effective Date of the Agreement).

OWNER: ____________________________
Title: ____________________________

______________________________ [CORPORATE SEAL]

By: ____________________________ Attest ____________________________

Q0019-0104 - 08/06/19 00520-4 Agreement
Address for giving notices:

______________________________________
______________________________________
______________________________________

(If Owner is a corporation, attach evidence of
authority to sign. If Owner is a public body,
attach evidence of authority to sign and resolution
of other documents authorizing execution of
Owner-Contractor Agreement.)

CONTRACTOR:

______________________________________

By: ____________________________

Title: ____________________________

[CORPORATE SEAL]

Attest ____________________________

Address for giving notices:

______________________________________
______________________________________

License No. ________________
(Where applicable)

(If Contractor is a corporation or a
partnership, attach evidence of authority to
sign.)
Certified as to the availability of funds:

____________________________
Date

____________________________
Signed

____________________________
Title

END OF SECTION

J:\Q\Q0019 Quincy, MA Consultant Review Services\Q0019-014 Avalon Dog Park\Specs\Roadway\Bid Addenda - 2\00520.docx
NOTICE TO PROCEED

TO:________________________________ DATE:__________________________

________________________________ Project:

________________________________

You are hereby notified to commence WORK on or before

In accordance with contract documents the contract time is:  With Notice to Proceed being issued
the Contractor will be authorized to proceed with submittals and precast forming. Work associated
with field construction will be substantially completed ready for final payment in accordance with
Paragraph 15.06 of the General Conditions no later than 250 days starting not earlier than August
19th, 2019. This start date is weather dependent and subject to approval by the Owner and Engineer.

BY:

Name: Alfred J. Grazioso
Title: Commissioner of Public Works

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by:

(Company Name)

Signature: __________________________ Date: _________________________

Print Name: _________________________ Title: _________________________
SECTION 01270  
MEASUREMENT AND PAYMENT  

PART 1  GENERAL  

1.1 DIVISION 0 AND DIVISION 1 WORK INCIDENTAL TO THE CONTRACT PRICE  

A. No separate measurement or payment will be made for Work called for in Division 0 or Division 1 of the Specifications, unless specifically covered under the Bid items listed below. All costs associated with this Work will be considered incidental to the Contract Bid price. 

B. Division 2 Work will be measured and paid for at the Contractor’s unit Bid price or lump sum item cost as indicated on the Bid form. Those payable Work items, and related prices as Bid, will be the basis for all compensation to the Contractor for Work performed under this Contract. Work not specifically included as a Bid item, but which is required to properly and satisfactorily complete the Work is considered ancillary and incidental to the Bid item Work, and payment for such Work is considered to be included in the values as Bid for payable items. Compensation for all unit Bid price Work will be made based on the measured quantity of Work under the appropriate Bid items. 

1.2 MOBILIZATION AND DEMOBILIZATION (ITEM 1)  

A. Measurement 
   1. There will be no measurement for the mobilization and demobilization to the Site as this Work will be on a lump sum basis. 

B. Payment 
   1. Payment of the lump sum Bid price will be paid in two equal installments. The first installment will occur at the time the first payment requisition is submitted after the Contractor has initiated full-time construction activity. Payment for the second installment will be included in the first payment request after Substantial Completion has been reached and all equipment has been removed from the Site. In no case will the total of both installments exceed 5 percent of the base Bid price. 

1.3 TRAFFIC CONTROL (ITEM 2)  

A. Measurement 
   1. There will be no measurement for traffic control as this Work will be on a lump sum basis. 

B. Payment 
   1. Payment of the lump sum Bid price will be full compensation for all labor, equipment and materials required for or incidental to the traffic control Work. 
   2. Payments will be made on a monthly basis as a percentage of the lump sum Bid and the amount of Work for that particular month. 

1.4 CLEARING AND GRUBBING (ITEM 3)  

A. Measurement
1. Measurement for clearing and grubbing of the site will be on a square yard basis as measured in the field by the Engineer. In no case will payment be made for Work beyond the area to be cleared and grubbed, as defined by the Contract Documents.

B. Payment

1. Payment of the Bid price for clearing and grubbing will be full compensation for all labor, equipment and materials required for or incidental to the Work.

1.5 EARTH EXCAVATION AND REPLACEMENT OF WASTE MATERIAL (ITEMS 4)

A. Measurement

1. Measurement for earth excavation and replacement of waste material will be on a cubic yard basis as measured in the field by the Engineer

B. Payment

1. Payment of the Bid price for earth excavation will be full compensation for all excavation, backfill, cutting of surfaces, compaction, compaction testing, removing and disposing of excess materials, placing and removing sheeting or bracing, protection of or removal and replacement of existing shrubs, trees, signs, fences, property markers and other features, and restoration of all areas not otherwise specifically included in other items. Such payment will include the furnishing of all labor, equipment and materials required for or incidental to the Work.

1.6 PROCESSED GRAVEL BORROW (ITEM 5)

A. Measurement

1. Measurement for processed gravel borrow will be by the cubic yard.

B. Payment

1. Payment of the Bid price for processed gravel borrow will be full compensation for furnishing, hauling, placing, spreading, and compacting, and include all labor, equipment and materials required for or incidental to the Work.

2. Payment of the Bid price shall not include processed gravel for road base. Payment for road base gravel is included in the applicable pavement repair item.

1.7 GRAVEL BORROW (ITEM 6)

A. Measurement

1. Measurement for gravel borrow will be on a cubic yard basis. The depth of gravel borrow will be the actual depth placed in the completed Work, but in no case shall this exceed the depth approved by the Engineer.

B. Payment

1. Payment of the Bid price for gravel borrow will be full compensation for furnishing, hauling, placing, spreading, and compacting, and include all labor, equipment and materials required for or incidental to the Work.

1.8 ORDINARY BORROW (ITEM 7)
A. Measurement
1. Measurement for ordinary borrow will be on a cubic yard basis. The depth of ordinary borrow will be actual depth placed in the completed Work, but in no case will this exceed the depth approved by the Engineer.

B. Payment
1. Payment of the Bid price for ordinary borrow will be full compensation for furnishing, hauling, placing, spreading, and compacting, and includes all labor, equipment, and materials required for or incidental to the Work.

1.9 SILTATION FENCE (ITEM 8)

A. Measurement
1. Measurement for siltation fence will be on a linear foot basis. The length of siltation fence will be the actual approved length of siltation fence measured in place by the Engineer.
2. Siltation fencing used by the Contractor for staging areas and stockpiles shall not be measured.

B. Payment
1. Payment of the Bid price for siltation fence will be full compensation for installation and removal of the siltation fence, and the restoration of the area disturbed by its placement including all labor, equipment and materials required for or incidental to the Work.

1.10 CATCH BASIN SEDIMENTATION CONTROL (ITEM 9)

A. Measurement
1. Measurement for catchbasin sedimentation control will be a count of the catchbasins where sedimentation control measures are implemented as approved by the Engineer.

B. Payment
1. Payment of the Bid price for sedimentation control at each catchbasin will be full compensation for installation, maintenance and removal of the haybales and filter fabric, thorough cleaning of the catch basins after the controls are removed, and all labor, equipment and materials required for or incidental to the Work.

1.11 PRECAST CONCRETE MANHOLES (ITEM 10)

A. Measurement
1. Measurement for 48 inch diameter precast concrete sewer manholes will be a count of the number of precast concrete sewer manholes provided.

B. Payment
1. Payment of the Bid price for each 48-inch precast concrete sewer manholes will be full compensation for the structure, frame and cover, invert, installation, testing, adjustment of frame and cover prior to paving, and all labor, equipment and materials required for or incidental to the Work.
2. A 10 percent retainage will be held on payment for Items 22 through 25 until the required leakage testing Work is complete and satisfactory to the Engineer.

1.12 CATCH BASINS (ITEMS 11)
   A. Measurement
      1. Measurement for new catch basins and replacement of an existing catch basin will be a count of the number of catch basins provided or removed and replaced.
   B. Payment
      1. Payment of the Bid price for new catch basin and replacement of an existing catch basin will be full compensation for removal and proper disposal of the old structure; providing the new structure including sump, frame and grate; installation; adjustment of frame and grate prior to paving; and all labor, equipment and materials required for or incidental to the Work.

1.13 MAINLINE PVC GRAVITY PIPE (ITEMS 12)
   A. Measurement
      1. Measurement for mainline PVC gravity pipe will be on a linear foot basis and will be along the ground surface above and parallel to the pipeline from and to the inside face of structures. No deductions will be made for the length of fittings.
      2. 3/4 inch crushed stone required for PVC gravity pipe bedding and backfill to 6 inches above the pipe will be included as part of the installation cost of mainline PVC pipe.
   B. Payment
      1. Payment of the Bid price for mainline PVC gravity pipe will be full compensation for providing and testing of all pipes, 3/4 inch crushed stone, warning tape, and all labor, equipment and materials required for or incidental to the Work.
      2. A 10 percent retainage will be held on payment for Items 33 through ___ until the required leakage testing Work is complete and satisfactory to the Engineer.

1.14 DUCTILE IRON PIPE AND FITTINGS (ITEM 13)
   A. Measurement
      1. Measurement for ductile iron pipe and fittings will be on a linear foot basis and will be along the ground surface above and parallel to the pipeline from the point of beginning to the point of termination. No deductions will be made for the length of valves and fittings. Allowances for the cost of main line fittings and tees shown on the Drawings shall be included in the pipe unit price. Valves shall be paid for under the applicable item.
   B. Payment
      1. Payment of the Bid price for ductile iron pipe tap work and tie in ti existing main will be full compensation for all excavation, backfill, and compaction; trench dewatering; clearing and grubbing; disposal of unsuitable material; for providing all pipes, fittings, thrust blocks and other materials for thrust restraint; provisions
for electrical continuity; warning tape; disinfection; flushing; testing; and all labor, equipment and materials required for or incidental to the Work.

2. A 10 percent retainage will be held on payment for Item 13 until the required leakage testing Work is complete and satisfactory to the Engineer.

1.15 GATE VALVES WITH BOXES (ITEM 14)
A. Measurement
1. Measurement for gate valves with boxes will be a count of the number of gate valves with boxes provided.

B. Payment
1. Payment of the Bid price will be full compensation for each gate valve with box provided, including all labor, equipment and materials required for or incidental to the Work.

1.16 HYDRANT ASSEMBLIES (ITEM 15)
A. Measurement
1. Measurement for hydrant assemblies will be a count of each hydrant assembly provided and connected to the proposed water main.

B. Payment
1. Payment of the Bid price for each hydrant assembly provided will be full compensation for the hydrant, main line tee, stone drain pocket, excavation, backfill, dewatering, compaction, clearing and grubbing, thrust block, hydrant lateral valve and box, all required 6 inch DI pipe, and all labor, equipment, and material required for or incidental to the Work. Included in the Bid price will be the additional hydrant components specified herein. In areas where extensions are required to bring the hydrant to grade, the cost will be included in the hydrant assembly item.

1.17 FINE GRADING AND COMPACTION (ITEM 16)
A. Measurement
1. Measurement for fine grading and compacting new roadway, driveway, and sidewalk sub-base areas will be on a square yard basis as measured in the field by the Engineer.

B. Payment
1. Payment of the Bid price for fine grading and compaction will be full compensation for fine grading the sub grade of the roadway, driveway, and sidewalk areas, and all labor, equipment and materials required for or incidental to the Work.

1.18 PERMANENT BITUMINOUS CONCRETE PAVEMENT (ITEM 17)
A. Measurement
1. Measurement for permanent bituminous concrete pavement will be on a ton basis as measured in the field by the Engineer.
B. Payment
1. Payment of the Bid price for permanent bituminous concrete pavement will be full compensation for saw cutting, furnishing, hauling, placing, spreading, and compacting the bituminous concrete, including all labor, equipment and materials required for or incidental to the Work.

1.19 PORTLAND CEMENT CONCRETE SIDEWALK (ITEM 18)
A. Measurement
1. Measurement for portland cement concrete will be on a square yard basis as measured in the field by the Engineer.

B. Payment
1. Payment of the Bid price for portland cement concrete, including gravel base and installation, will be full compensation for furnishing, hauling, placing, spreading, finishing and curing the concrete, and all labor, equipment and materials required for or incidental to the Work.

1.20 GRANITE CURB (VERTICAL & SLOPED) (ITEM 19)
A. Measurement
1. Measurement for granite curb will be on a linear foot basis as measured in the field by the Engineer. The length will be the actual length of granite curb installed.

B. Payment
1. Payment of the Bid price for granite curb, including gravel base, pointing, and all required backup material (gravel or loaming and seeding) will be full compensation for furnishing, hauling, and placing, and all labor, equipment and materials required for or incidental to the Work.

1.21 PAINTED PAVEMENT MARKINGS (ITEM 20)
A. Measurement
1. Measurement for pavement markings will be on a linear foot basis as measured in the field by the Engineer. The length of solid lines will be the actual length of the markings applied. The length of broken lines will be one quarter of the results obtained for solid lines.

B. Payment
1. Payment of the Bid price for pavement markings will be full compensation for all labor, equipment, and materials required for or incidental to the Work, including providing both temporary markings, and permanent markings.
2. Separate payment will not be made for temporary markings.

1.22 GUARD RAIL (ITEM 21)
A. Measurement
1. Measurement for the installation of guardrail will be on a linear foot basis as measured in the field by the Engineer.
B. Payment

1. Payment of the Bid price for guardrail, including the posts, guardrail, grounding rod, grounding wires, will be full compensation for all labor, equipment and materials required for or incidental to the Work.

1.23 LOAM AND SEED (ITEM 22)

A. Measurement

1. Measurement for loam and seed will be on a square yard basis as measured in the field by the Engineer. The length of the repair will be the actual length of the trench loamed and seeded.

2. Measurement for payment under this item will be for loam and seed Work as required for lawn restoration and/or for "lawn quality" restoration of disturbed areas. Restoration of all other unpaved areas will be as "vegetative cover" using salvaged topsoil material and erosion control planting to restore the site to its original condition and/or to establish a satisfactory vegetative cover.

3. Placement of vegetative cover is incidental to the Contractor's excavation and other Work on this project. No separate measurement or payment for this Work will be made under this contract.

B. Payment

1. Payment of the Bid price for loam and seed will be full compensation for all labor, equipment, and materials required for or incidental to the Work.

1.24 ELECTRICAL & TELECOMMUNICATIONS DUCT BANK (ITEM 23)

A. Measurement

1. Measurement for the electric utility duct bank will be on a linear foot basis as measured in the field by the Engineer.

B. Payment

1. Payment of the Bid price for electric utility duct bank will be full compensation for all labor, equipment and materials required for or incidental to the Work.

1.25 HDPE DRAIN PIPE (ITEM 24)

A. Measurement

1. Measurement for HDPE drain pipe will be on a linear foot basis and will be along the ground surface above and parallel to the pipeline from and to the inside face of structures. No deductions will be made for the length of fittings.

B. Payment

1. Payment of the Bid price for HDPE pipe will be full compensation for providing and testing of all pipes, warning tape, and all labor, equipment and materials required for or incidental to the Work.

1.26 6’ HIGH CHAIN LINK FENCE (ITEM 25)

A. Measurement
1. Measurement for the installation of chain-link fence will be on a linear foot basis as measured in the field by the Engineer.

B. Payment
1. Payment of the Bid price for chain-link fence will be full compensation for all labor, equipment and materials required for or incidental to the Work.

1.27 RELOCATION OF EXISTING RIP RAP SLOPES (ITEM 26)
A. Measurement
1. Measurement for the relocation of the rip rap slopes will be on a square yard basis as measured in field by the Engineer.

B. Payment
1. Payment of the Bid price for relocation of rip rap slopes will be full compensation for all labor, equipment and materials required for or incidental to the Work.

1.28 REMOVAL OF EXISTING RIP RAP STONES (ITEM 27)
A. Measurement
1. Measurement for the removal of the rip rap stones will be on a cubic yard basis as measured in field by the Engineer.

B. Payment
1. Payment of the Bid price for removal of rip rap stones will be full compensation for all labor, equipment and materials required for or incidental to the Work.

1.29 REMOVAL OF LEDGE (ITEM 28)
A. Measurement
1. Measurement for the removal of ledge will be on a cubic yard basis as measured in field by the Engineer.

B. Payment
1. Payment of the Bid price for removal of ledge will be full compensation for all labor, equipment and materials required for or incidental to the Work.

1.30 REMOVAL OF WASTE MATERIAL (ITEM 29)
A. Measurement
1. Measurement for the removal of waste material will be on a cubic yard basis as measured in field by the Engineer.

B. Payment
1. Payment of the Bid price for removal of waste material will be full compensation for all labor, equipment and materials required for or incidental to the Work.

1.31 RELOCATION OF EXISTING OUTLET STRUCTURE (ITEM 30)
A. Measurement
1. Measurement for relocation of existing outlet structure will be on per unit basis as measured in field by the Engineer.

B. Payment

1. Payment of the Bid price for relocation of the existing outlet structure will be full compensation for all labor, equipment and materials required for or incidental to the Work.

1.32 EXCAVATION, BACKFILL, AND COMPACTION FOR GAS LINE (ITEM 31)

A. Measurement

1. Measurement for the excavation, backfill, and compaction for gas line will be on a linear foot basis as measured in the field by the Engineer.

B. Payment

1. Payment of the Bid price for the excavation, backfill, and compaction for gas line will be full compensation for all labor, equipment and materials required for or incidental to the Work.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION
SECTION 02760
PAVEMENT STRIPING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes

1. All labor, materials, accessories, service and equipment necessary to furnish and apply all pavement striping, parking stalls, and traffic markings as indicated on the Drawings and as specified herein.
   a. New painted pavement markings
   b. Replacement of pavement markings disturbed as part of construction activities
   c. Replacement of pavement markings in permanent pavement repair areas

1.2 PRICE AND PAYMENT PROCEDURES

A. Measurement and Payment

1. There is no individual payment item for pavement markings. This item is incidental to the pavement repair items and payment shall be included within those Bid items. Refer to Sections 00410 (Bid Form) and 01270 (Measurement and Payment).

B. Related Sections

1. Section 00800 – Supplementary Conditions
   a. Massachusetts Department of Transportation – Highway Division Permit

2. Section 02740 - Bituminous Concrete Pavement

1.3 REFERENCES


1.4 SUBMITTALS

A. Submit manufacturers literature and material specifications for all materials furnished under this Section including, but not limited to, the following:

1. Pavement marking paint
2. Reflectorized glass beads

B. Submit affidavit stating submitted materials comply with the above-noted Standards.

1.5 WARRANTY
A. Provide a written one-year unconditional guarantee against fading, chipping, peeling, wearing, etc.

PART 2 PRODUCTS

2.1 MATERIALS

A. Waterborne Pavement Marking Paint

1. In accordance with the Commonwealth of Massachusetts Department of Public Works "Standard Specifications for Highways and Bridges", 1988 Edition, as amended, pavement marking paint shall conform to the requirements of Articles M.7.01.10 and M.7.01.11 for waterborne pavement marking paint.

2. All paint for parking stall and traffic markings shall be fast drying white or yellow traffic paint complying with the applicable paragraphs of the Standard Specifications. The paint shall be capable of being applied to bituminous and portland cement concrete pavements with striping equipment that does not require heating above ambient temperatures.

3. The following additional pavement marking paint requirements shall be met:
   a. The total nonvolatile content shall not be less than 70% by weight.
   b. Pigment shall be 45-55% by weight.
   c. Weight per gallon shall not be less than 12.5 pounds.
   d. Drying time to no pickup shall be 15 minutes.

4. No reflective glass beads will be required.

5. The material shall not lift from the pavement in the freezing weather, and shall not smear or spread under normal traffic conditions or at temperature below 120 degrees F.

6. The paint shall not deteriorate by contact with sand, sodium, chloride, calcium chloride or other chemicals used against the formation of ice on the pavement, because of the oil content of pavement materials, or from gasoline, grease and oil drippings from vehicles.

PART 3 EXECUTION

3.1 PREPARATION

A. Protect the building, walks, pavement, curbing, trees, shrubs, mulch, etc. from overspray of paint and damage.

B. Clean and sweep all areas to be striped or re-striped of all sand, dirt, grease, oil, etc. Large areas of tar, grease or foreign materials may require sand blasting, steam cleaning or power brooming to accomplish complete removal.

C. Application of markings shall not proceed until authorization is received from Engineer.

D. Bituminous concrete pavements shall have been in place for at least 7 days prior to the application of pavement markings.
3.2 INSTALLATION

A. Installation shall be by skilled workers who are experienced and normally employed in the Work of installing pavement markings.

B. All permanent pavement repair areas shall be repainted to match the original pavement markings.

C. New pavement markings shall be as shown on the Drawings and as specified herein.

D. Painting shall be in accordance with Section 860 of the Massachusetts DPW “Standard Specifications for Highway and Bridges”, 1988 Edition, as amended.

E. Stripe all stalls as shown on the Drawings, accurately and paint all parking stall striping in white four (4) inch wide single stripes. Stripping, symbols, and arrows shall be painted to the size, length, and spacing as specified and indicated on the Drawings.

F. All stripes shall be applied one coat with brush, spray or marking machine over dry clean pavement only.

G. All paint shall be installed at a rate of not more than 300 linear feet of 4- inch wide lines per gallon of paint (approximately 0.016 inch dry film thickness).

H. If material is applied to the pavement by an extrusion method, one side of the shaping die shall be the pavement and the other three sides are contained by, or are part of, suitable equipment for controlling the flow of paint.

I. Where entire areas are to be cross-hatched as directed by the Drawings, the 4-inch-wide straight white parallel stripes 36 inches on center shall be laid out and painted in solid lines.

J. After application and proper drying time, the material shall show no appreciable deformation or discoloration under traffic conditions and in air and/or road temperature ranging from 0 - 120 degrees F.

K. The stripe shall maintain its original dimensions and placement. The exposed surface shall be free from tack. Cold ductility of the material shall permit normal movement with the pavement surface without chipping or cracking.

L. No paint or pavement marking material shall be heated above the temperature allowed per manufacturer’s instructions.

M. All painting shall be performed in a neat and workmanlike manner.

N. Lines shall sharp and clear with no feathered edging or fogging.

O. If, for any reason, material is spilled or tracked on the pavement or any markings applied by Contractor, in Engineer’s judgment, are not acceptable, then the Contractor shall remove such material by a method that shall not damage the roadway surface and is acceptable to Engineer, clean and prepare the surface for a reapplication of markings, and reapply the markings as directed.

P. Application Requirements

1. Marking paint shall be applied at a rate of 100 to 115 square feet per gallon.

2. Material application temperature shall be from 40°F to 120°F.
3. No thinners shall be used for the above listed pavement marking applications except in accordance with the manufacturer's specifications and at the direction of the Engineer.

4. Minimum finished paint thickness shall be 15 mils.

3.3 PROTECTION

A. Markings shall remain protected until sufficiently dry to bear traffic on roadways that are open to traffic.

B. Precautions shall be taken to prevent tracking by tires of the striping equipment.

C. Traffic cones used for protection of markings shall be not less than 28 inches in height.

END OF SECTION
Appendix A
INTRODUCTION

Cover maintenance and post-closure monitoring will be performed at the Highpoint Development (the "Site") in Quincy, Massachusetts (Project Locus, Figure 1) to verify that Site conditions do not change sufficiently to alter the conclusion that the Site poses "No Significant Risk" to human health, welfare, safety, and the environment. A Cover Plan is included on Figure 2.

The objectives of cover maintenance and post-closure monitoring are as follows: 1) verify compliance with the terms of the Activity and Use Limitations (AULs); 2) evaluate the condition of the cover materials, including paving and landscaped areas, and make repairs as necessary; and 3) assess the inaccessible zones of the Site for evidence of erosion and siltation, and repair problem areas as needed.

Cover maintenance and post-closure monitoring will be performed by a qualified environmental professional who is familiar with the regulatory history of the Site, including the assumptions and methodology used in Risk Characterization, and the content and purpose of the AULs. Post-closure monitoring will be conducted twice annually for the first two years, and once annually thereafter.

COMPLIANCE WITH ACTIVITY AND USE LIMITATIONS

Two identical AULs representing the two ownership entities of the Site have been registered with the Norfolk Registry District Land Court. The AULs encompass the entire Site. The AULs implement the following controls:

1. Prohibit cultivation of plants for human consumption in all areas of the Site.
2. Prohibit residential development in the inaccessible areas shown on Figure 1.
3. Maintain the cover materials to ensure that the thickness of cover remains consistent with the design outlined in the Phase IV Remedial Implementation Plan.
4. Any excavation of soil must be performed in accordance with requirements of a Soil Management Plan.

To protect the marker barrier and clean fill, each contractor performing excavation work on the Site shall sign an acknowledgment that the contractor has been informed about the clean cover layer, marker barrier, and contaminated soil and agrees to immediately report to the Project Management office and Inspectional Services Department if the marker barrier is breached and any contaminated soil exposed. Copies of signed acknowledgements shall be maintained at the Project Management office and made available for inspection by the Inspectional Services Department.

Post-closure monitoring will assess whether the Site is in compliance with the AULs, through visual inspection of the Site to verify that no development has taken place in the inaccessible areas, and that no
cultivation of plants for human consumption is taking place in any area of the Site. Photographs will be taken of areas where the AULs have been violated, and the areas will be identified on a Site plan. Copies of the Site plan and photographs will be submitted to the owner. The owner will be required to address the violations of the AULs by discontinuing development plans, or informing tenants that gardening is not allowed on-site. If cultivation of plants for human consumption is documented, edibles will be removed from the gardening plots.

Monitoring of Site cover materials will consist of visual inspection of paved areas for potholes and landscaped areas for surface erosion. In these problem areas, thickness of cover materials will be checked with a hand auger. Problem areas will be photographed and identified on a Site plan, copies of which will be furnished to the owner. The owner will be required to replace cover as needed to maintain the cover thickness required per the Remedy Implementation Plan, and patch and repave pothole areas or fill and reseed landscaped areas, as appropriate.

**EROSION AND SILTATION MONITORING**

Landscaped areas and undeveloped Site buffer zones will be visually inspected during the late fall and late spring, when visibility and access in the buffer zone areas are optimum. Wetland areas will also be observed at this time for evidence of siltation resulting from erosion and runoff from the Site. Areas of erosion and siltation will be photographed and will be identified on a Site plan. Copies of the photographs and Site plan (showing the problem areas) will be furnished to the owner. The owner will fill eroded cover areas to maintain cover thickness, stabilize the erosion areas, reseed, and monitor the repaired area until vegetation is established. Re-grading or other treatment may be required in areas where erosion and siltation persist despite these remedial measures. Siltation in wetland areas will be monitored for vegetation growth. If vegetation fails to re-establish itself in siltation areas, the soils will be removed by hand or machine excavation as approved by the Conservation Commission.

Attachment:

- Figure 1: Project Locus
- Figure 2: Cover Plan

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Appendix B
### Quincy Dog Park
**51 Quary Road**
**Quincy, MA**

**T&B Rep.:** T. Poole
**Contractor:** Global Remediation
**Operator:** Chuck O'Connor
**Date:** 02/07/18
**Ground Elev.:** ± 113'
**Time Started:** 8:15 AM
**Time Completed:** 8:50 AM

<table>
<thead>
<tr>
<th>Depth</th>
<th>Soil Description</th>
<th>Sample No.</th>
<th>PID Reading (ppm)</th>
<th>Excav. Effort</th>
<th>Boulder Count/Class</th>
<th>Note No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8'</td>
<td>Topsoil</td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1'</td>
<td>Brown, fine to coarse SAND, little Gravel, little Silt</td>
<td></td>
<td></td>
<td>E</td>
<td>5-A</td>
<td></td>
</tr>
<tr>
<td>2'</td>
<td>Brown, fine to coarse SAND, trace Silt, trace Cobbles</td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3'</td>
<td>Brown, fine to coarse SAND, trace Silt, trace Cobbles</td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3'</td>
<td>(SOIL CAP)</td>
<td></td>
<td></td>
<td>E</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4.5'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
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<tr>
<td>5'</td>
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<td></td>
<td>E</td>
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<tr>
<td>6'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8'</td>
<td>Red to black, BRICK, ANGLE IRON/STEEL, COAL/WOOD ASH, REFUSE, some fine to coarse Sand, some Cobbles</td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10'</td>
<td></td>
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<td></td>
<td>E</td>
<td></td>
<td></td>
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<tr>
<td>11'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>13'</td>
<td>Bottom of Exploration at 12.5 feet due to refusal on bedrock</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14'</td>
<td></td>
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<td></td>
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<tr>
<td>15'</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>16'</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
1 - Orange marker barrier was observed at 3'

---

**Test Pit Log**

- **Letter Designation:**
  - **A**: 6" - 17"
  - **B**: 18" - 36"
  - **C**: 36" +

- **Excavation Effort:**
  - E-----Easy
  - M-----Moderate
  - D-----Difficult

- **Proportions Used:**
  - **TRACE (TR.)**: 0 - 10%
  - **LITTLE (LI.)**: 10 - 20%
  - **SOME (SO.)**: 20 - 35%
  - **AND**: 35 - 50%

- **Abbreviations:**
  - F = Fine
  - M = Medium
  - C = Coarse
  - V = Very
  - F/M = Fine to medium
  - F/C = Fine to coarse
  - GR = Gray
  - BN = Brown
  - YEL = Yellow

**GROUNDWATER**

- ( ) Encountered
- (X) Not Encountered

**Elapsed Time**
- Reading to Groundwater

**Volume:** ± 33 cu. yd.
**Test Pit Logs**

**TP-2**

**Project/Site Information**

Quincy Dog Park  
51 Quarry Road  
Quincy, Massachusetts

**T&B Rep.**  
T. Poole  

**Operator**  
Global Remediation  

**Make**  
CAT  

**Model**  
321D  

**Ground Elev.**  
± 114’  

**Date**  
02/07/18  

**Weather**  
25°F, Overcast  

**Time Started**  
9:00  

**Time Completed**  
9:50  

<table>
<thead>
<tr>
<th>Depth</th>
<th>Soil Description</th>
<th>Sample No.</th>
<th>PID Reading (ppm)</th>
<th>Excav. Effort</th>
<th>Boulder Count/Class</th>
<th>Note No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Topsoil</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1'</td>
<td></td>
<td>S-1</td>
<td>0</td>
<td>E</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>2'</td>
<td>Gray, CLAY, trace Cobbles</td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3'</td>
<td>Gray, CLAY, trace Cobbles</td>
<td>(SOIL CAP)</td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3'</td>
<td>(SOIL CAP)</td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
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<tr>
<td>5'</td>
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<td></td>
<td>E</td>
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<tr>
<td>6'</td>
<td></td>
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<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8'</td>
<td>Brown, fine to coarse SAND and BRICK, METAL, trace Cobbles, trace Silt</td>
<td>S-2</td>
<td>0</td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10'</td>
<td>(FILL)</td>
<td></td>
<td></td>
<td>M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11'</td>
<td></td>
<td></td>
<td></td>
<td>M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12'</td>
<td>Bottom of Exploration at 12.5 feet due to abundance of metal</td>
<td>(FILL)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13'</td>
<td></td>
<td></td>
<td></td>
<td>M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14'</td>
<td></td>
<td></td>
<td></td>
<td>D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Volume:**  
±33 cu. yd.

**Notes:**

1 - Orange marker barrier was observed at 3 feet

**Abbreviations**

- F = Fine
- M = Medium
- C = Coarse
- V = Very
- F/M = Fine to medium
- F/C = Fine to coarse
- GR = Gray
- BN = Brown
- YEL = Yellow

**GROUNDWATER**

( ) Encountered  
( X ) Not Encountered

<table>
<thead>
<tr>
<th>Elapsed Time to Reading</th>
<th>Groundwater Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Excavation Effort**

- E-----Easy
- M-----Moderate
- D-----Difficult

**Proportions Used**

- TRACE (TR.) 0 - 10%
- LITTLE (LI.) 10 - 20%
- SOME (SO.) 20 - 35%
- AND 35 - 50%

**Boulder Class**

Letter Designation  
A  
B  
C

Size Range Classification  
6’-9’  
18’-36’  
36’+

Class Designation  
TRACE (TR.) 0 - 10%
LITTLE (LI.) 10 - 20%
SOME (SO.) 20 - 35%
AND 35 - 50%
### Project/Site Information

**Quincy Dog Park**  
51 Quarry Road  
Quincy, Massachusetts

---

**Test Pit No.**  
TP-3  
**Page No.**  
1 of 1  
**File No.**  
Q-0019014  
**Checked By:**  
D. Brogan

---

### T&B Rep.  
T. Poole  
**Contractor**  
Global Remediation  
**Operator**  
Chuck O’Connor  
**Date**  
02/07/18  
**Weather**  
25°F, Overcast  
**Make**  
CAT  
**Model**  
321D  
**Capacity**  
1 yd  
**Reach**  
15 ft.

---

### Depth | Soil Description | Sample No. | PID Reading (ppm) | Excav. Effort | Boulder Count/Class | Note No.
---|---|---|---|---|---|---
1.5' | Topsoil | | | E | | 1
2' | Brown, fine to coarse SAND, trace Silt, trace Gravel | | | E | | 1
3' | | | | E | | 1
4.5' | | | | E | | 1
5' | | | | M | 3-B | 1
6' | | | | M | 3-B | 1
7' | | | | M | 3-B | 1
8' | Brown, fine to coarse SAND, some Cobbles, little Silt | | | M | 3-B | 1
9' | | | | M | 2-B | 1
10' | | | | D | C | 1
11' | | | | | | 1
12' | Bottom of Exploration at 12.5 feet due to Class C boulders | | | | | 1
13' | | | | | | 1
14' | | | | | | 1
15' | | | | | | 1
16' | | | | | | 1

### Notes:

1 - Marker barrier was observed at 1.5 feet

---

**Test Pit Plan**

- **Volume:** ± 30.5 cu. yd.

---

**Boulder Class**

- **Letter Designation:** A  
  **Size Range Classification:** 6” - 12”
  **Class:** Trace

- **Letter Designation:** B  
  **Size Range Classification:** 13” - 36”
  **Class:** Little

- **Letter Designation:** C  
  **Size Range Classification:** 36” +
  **Class:** Some

**Proportions Used**

- **Trace (TR.)** 0 - 10%
- **Little (LI.)** 10 - 20%
- **Some (SO.)** 20 - 35%
- **AND** 35 - 50%

**Abbreviations**

- F = Fine
- M = Medium
- C = Coarse
- V = Very
- F/M = Fine to medium
- F/C = Fine to coarse
- GR = Gray
- BN = Brown
- YEL = Yellow

**GROUNDWATER**

( ) Encountered  
( X ) Not Encountered

- **Elapsed Time to Reading:**
- **Groundwater Depth:**
- **Time to Reading Groundwater:**
Project/Site Information

Quincy Dog Park
51 Quarry Street
Quincy, Massachusetts

Test Pit No.: TP-4
Page No.: 1 of 1
File No.: Q-0019014
Checked By: D. Brogan

T&B Rep.: T. Poole
Contractor: Global Remediation
Operator: Chuck O’Connor
Date: 02/07/18
Ground Elev.: ± 140'
Time Started: 11:00
Time Completed: 11:45

Weather: 25°F, Overcast
Make: CAT
Model: 321D
Capacity: 1 yd
Reach: 15 ft.

Depth | Soil Description | Sample No. | PID Reading (ppm) | Excav. Effort | Boulder Count/Class | Note No.
--- | --- | --- | --- | --- | --- | ---
0 | Topsoil | | | E | | |
1' | Brown, fine to coarse SAND and BRICK, METAL, CONCRETE, some Clay & Silt, trace Boulders | | | E | | |
5' | (FILL) | S-1 | 0 | E | | |
10' | Bottom of Exploration at 10 feet due to sidewall collapse | | | | | |

Notes:
1 - No marker barrier was observed
2 - Wheels and suspension of a trolley cart were observed at approximately 7 feet

<table>
<thead>
<tr>
<th>Test Pit Plan</th>
</tr>
</thead>
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<tr>
<td>6'</td>
</tr>
<tr>
<td>33.3 cu. yd.</td>
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<th>Boulder Class</th>
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<tr>
<td>Letter</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>A</td>
</tr>
<tr>
<td>B</td>
</tr>
<tr>
<td>C</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Proportions Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRACER (TR.)</td>
</tr>
<tr>
<td>LITTLE (LI.)</td>
</tr>
<tr>
<td>SOME (SO.)</td>
</tr>
<tr>
<td>AND</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>F = Fine</td>
</tr>
<tr>
<td>M = Medium</td>
</tr>
<tr>
<td>C = Coarse</td>
</tr>
<tr>
<td>V = Very</td>
</tr>
<tr>
<td>F/M = Fine to medium</td>
</tr>
<tr>
<td>F/C = Fine to coarse</td>
</tr>
<tr>
<td>GR = Gray</td>
</tr>
<tr>
<td>BN = Brown</td>
</tr>
<tr>
<td>YEL = Yellow</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GROUNDWATER</th>
</tr>
</thead>
<tbody>
<tr>
<td>( ) Encountered</td>
</tr>
<tr>
<td>( X ) Not Encountered</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Elapsed Time to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading to Groundwater</td>
</tr>
<tr>
<td>(Hours)</td>
</tr>
</tbody>
</table>

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\tighebond.com\data\Data\Projects\Q\Q0019 Quincy, MA Consultant Review Services\Q0019-014 Avalon Dog Park\Data\Test Pits\Test Pit Logs.xls\TP-4
Volume = 26.6 cu. yd.

Notes:
1 - Orange marker barrier was observed a 3'

GROUNDWATER
( ) Encountered
( X ) Not Encountered

Elapsed Time to Reading
Ground-water

---
<table>
<thead>
<tr>
<th>Depth</th>
<th>Soil Description</th>
<th>Sample No.</th>
<th>PID Reading (ppm)</th>
<th>Excav. Effort</th>
<th>Boulder Count/Class</th>
<th>Note No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Topsoil</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1'</td>
<td>Brown, fine to coarse SAND, some Cobbles, trace Silty Clay</td>
<td>E</td>
<td>5-A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2'</td>
<td>Brown to black, WOOD, METAL, BRICK and REFUSE, some fine to coarse Sand, some Cobbles</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3'</td>
<td>(SOIL CAP)</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>4'</td>
<td></td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5'</td>
<td></td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6'</td>
<td></td>
<td>E</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7'</td>
<td></td>
<td>E</td>
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</tr>
<tr>
<td>8'</td>
<td></td>
<td>E</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>9'</td>
<td></td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10'</td>
<td>(FILL)</td>
<td>S-1</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11'</td>
<td>Bottom of Exploration at 10.5 feet due to sidewall collapse</td>
<td>E</td>
<td></td>
<td>D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12'</td>
<td></td>
<td>E</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>13'</td>
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<tr>
<td>14'</td>
<td></td>
<td>E</td>
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<td></td>
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<tr>
<td>15'</td>
<td></td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16'</td>
<td></td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

1 - Orange marker barrier was observed a 3'

---

**Test Pit Plan**

- **5'**
- **12'**

**Excavation Effort**

- E-----Easy
- M-----Moderate
- D-----Difficult

**Volume:** 23 cu. yd.
## Test Pit Information

**Location:** Quincy Dog Park, 51 Quarry Street, Quincy, Massachusetts

**T&B Rep.:** T. Poole  
**Contractor:** Global Remediation  
**Operator:** Chuck O'Conn  
**Date:** 02/07/18  
**Weather:** 25°F, Overcast  
**Make:** CAT  
**Model:** 321D  
**Capacity:** 1 yd  
**Reach:** 15 ft.  

### Depth

<table>
<thead>
<tr>
<th>Depth</th>
<th>Soil Description</th>
<th>Sample No.</th>
<th>PID Reading (ppm)</th>
<th>Excav. Effort</th>
<th>Boulder Count/Class</th>
<th>Note No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Topsoil</td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1'</td>
<td>Brown, fine to coarse SAND, trace roots, trace Silt</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2'</td>
<td>Brown, fine to coarse SAND and BRICK, CONCRETE, COAL/ASH, trace Boulders, trace Silt (SOIL CAP)</td>
<td>E</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3'</td>
<td>Brown, fine to coarse SAND and BRICK, CONCRETE, COAL/ASH, trace Boulders, trace Silt</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4'</td>
<td>Brown, fine to coarse SAND and BRICK, CONCRETE, COAL/ASH, trace Boulders, trace Silt</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5'</td>
<td>Brown, fine to coarse SAND and BRICK, CONCRETE, COAL/ASH, trace Boulders, trace Silt</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6'</td>
<td>Brown, fine to coarse SAND and BRICK, CONCRETE, COAL/ASH, trace Boulders, trace Silt</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7'</td>
<td>Brown, fine to coarse SAND and BRICK, CONCRETE, COAL/ASH, trace Boulders, trace Silt</td>
<td>E</td>
<td></td>
<td>1-C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8'</td>
<td>Brown, fine to coarse SAND and BRICK, CONCRETE, COAL/ASH, trace Boulders, trace Silt</td>
<td>S-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9'</td>
<td>Brown, fine to coarse SAND and BRICK, CONCRETE, COAL/ASH, trace Boulders, trace Silt</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10'</td>
<td>Brown, fine to coarse SAND and BRICK, CONCRETE, COAL/ASH, trace Boulders, trace Silt</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11'</td>
<td>Brown, fine to coarse SAND and BRICK, CONCRETE, COAL/ASH, trace Boulders, trace Silt</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12'</td>
<td>Brown, fine to coarse SAND and BRICK, CONCRETE, COAL/ASH, trace Boulders, trace Silt</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13'</td>
<td>Brown, fine to coarse SAND and BRICK, CONCRETE, COAL/ASH, trace Boulders, trace Silt</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14'</td>
<td>Bottom of Exploration at 14' due to sidewall collapse</td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>15'</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>16'</td>
<td></td>
<td></td>
<td></td>
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</table>

### Notes:

1 - Orange marker barrier was observed at 2'

---

**Test Pit Plan**

<table>
<thead>
<tr>
<th>Letter</th>
<th>Designation</th>
<th>Size Range Classification</th>
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<tbody>
<tr>
<td>A, B</td>
<td>6&quot; - 12&quot;</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>18&quot; - 36&quot;</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>36&quot; +</td>
<td></td>
</tr>
</tbody>
</table>

**Excavation Effort:**

- E-----Easy
- M-----Moderate
- D-----Difficult

**Groundwater**

- ( ) Encountered
- (X) Not Encountered

**Abbreviations**

- F = Fine
- M = Medium
- C = Coarse
- V = Very
- F/M = Fine to medium
- F/C = Fine to coarse
- GR = Gray
- BN = Brown
- YEL = Yellow

**GROUNDWATER**

<table>
<thead>
<tr>
<th>Elapsed Time</th>
<th>Depth</th>
<th>Groundwater Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Hours)</td>
<td>(Ft.)</td>
<td></td>
</tr>
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**Volume:** 37.3 cu. yd.
### Test Pit Logs

**Project/Site Information**

**Quincy Dog Park**

**51 Quarry Road**

**Quincy, Massachusetts**

<table>
<thead>
<tr>
<th>T&amp;B Rep.</th>
<th>T. Poole</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor</td>
<td>Global Remediation</td>
</tr>
<tr>
<td>Operator</td>
<td>Chuck O’Connor</td>
</tr>
<tr>
<td>Date</td>
<td>02/07/18</td>
</tr>
</tbody>
</table>

**Weather**

25°F, Overcast

**Make**

CAT

**Model**

321D

**Capacity**

1 yd

**Ground Elev.**

± 160' ±

**Time Started**

2:00 PM

**Time Completed**

2:30 PM

---

<table>
<thead>
<tr>
<th>Depth</th>
<th>Soil Description</th>
<th>Sample No.</th>
<th>PID Reading (ppm)</th>
<th>Excav. Effort</th>
<th>Boulder Count/Class</th>
<th>Note No.</th>
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<tbody>
<tr>
<td>0'</td>
<td>Topsoil</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1'</td>
<td>Brown, fine to coarse SAND, little Gravel, trace Silt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5'</td>
<td>Brown, fine to coarse SAND, little Gravel, trace Silt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(SOIL CAP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brown, fine to coarse SAND, some Cobbles, trace silt, trace Gravel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6'</td>
<td>(FILL)</td>
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<tr>
<td>6.5'</td>
<td>Bottom of Exploration at 6.5 feet due to refusal on bedrock</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>7'</td>
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<tr>
<td>8'</td>
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</tr>
<tr>
<td>9'</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10'</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>11'</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12'</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>13'</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>14'</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>15'</td>
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<td></td>
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</tr>
<tr>
<td>16'</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

### Notes:

1- Orange Marker Barrier observed at 2.5'

---

**Test Pit Plan**

**Letter Designation**

A

B

C

**Size Range Classification**

6' - 12'

18' - 36'

36' +

**Excavation Effort**

E----Easy

M-----Moderate

D-----Difficult

**Proportions Used**

TRACE (TR.) | 0 - 10%

LITTLE (LI.) | 10 - 20%

SOME (SO.) | 20 - 35%

AND | 35 - 50%

**Abbreviations**

F = Fine

M = Medium

C = Coarse

V = Very

F/M = Fine to medium

F/C = Fine to coarse

GR = Gray

BN = Brown

YEL = Yellow

**GROUNDWATER**

( ) Encountered

( X ) Not Encountered

**Elapsed Time to Reading**

( Hours )

**Depth**

( Feet )

---

**Volume:**

11.5 cu. yd.
**Project/Site Information**

**Quincy Dog Park**

51 Quarry Street

Quincy, Massachusetts

---

**Test Pit No.**

TP-11

**Page No.**

1 of 1

**File No.**

Q-0019-0014

**Checked By:**

D. Brogan

---

**T&B Rep.**

T. Poole

**Operator**

Chuck O’Connor

**Make**

CAT

**Model**

321D

**Ground Elev.**

± 162'

---

**Date**

02/07/18

**Time Started**

14:35

**Time Completed**

15:00

---

**Weather**

25°F, Overcast

**Make**

CAT

**Model**

321D

**Capacity**

1 yd

---

**Depth**

**Soil Description**

**Sample No.**

**PID Reading (ppm)**

**Excav. Effort**

**Boulder Count/Class**

**Note No.**

---

0' — Topsoil

---

1'

Brown, fine to coarse SAND, trace Gravel, trace Silt, trace Refuse

E

---

2'

(FOIL CAP)

---

3'

Black, fine to coarse SAND and BRICK, ASH, REFUSE, trace Cobbles, trace

Gravel

S-1

---

12' — Bottom of Exploration at 12' due to sidewall collapse

---

**Notes:**

1 - Orange marker barrier was observed at 3'

---

**Excavation Effort**

- **TRABC**
  - **A*** Easy
  - **B*** Moderate
  - **C*** Difficult

**Proportions Used**

- **TRACE (TR.)**
  - 0 - 10%
- **LITTLE (LI.)**
  - 10 - 20%
- **SOME (SO.)**
  - 20 - 35%
- **AND**
  - 35 - 50%

**Abbreviations**

- **F** = Fine
- **M** = Medium
- **C** = Coarse
- **V** = Very
- **F/M** = Fine to medium
- **F/C** = Fine to coarse
- **GR** = Gray
- **BN** = Brown
- **YEL** = Yellow

---

**GROUNDWATER**

- **( )** Encountered
- **( X )** Not Encountered

- **Elapsed Time to Reading**
- **Groundwater Depth**

---

**Test Pit Plan**

6'

---

12'

---

Volume = 0.00 cu. yd.
<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Soil Description</th>
<th>Sample No.</th>
<th>PID Reading (ppm)</th>
<th>Excav. Effort</th>
<th>Boulder Count/Class</th>
<th>Note</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>Topsoil</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Brown, fine to coarse SAND, trace Gravel, trace silt, trace Municipal Solid Waste</td>
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<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Black, fine to coarse SAND and BRICK, REFUSE, trace Gravel, trace Silt</td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>(SOIL CAP)</td>
<td></td>
<td></td>
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<td>1</td>
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</tr>
<tr>
<td>4</td>
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<td>5</td>
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<td>E</td>
<td></td>
<td></td>
</tr>
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<td>6</td>
<td></td>
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<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Bottom of Exploration at 12' due to sidewall collapse</td>
<td></td>
<td></td>
<td>E</td>
<td>1-C</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
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<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

1 - Orange marker barrier was observed at 3’
### Project/Site Information

**Quincy Dog Park**  
51 Quarry Street  
Quincy, Massachusetts

### Test Pit Plan

- **Letter Designation:** A
- **Size Range Classification:** 6" - 17"  
  18" - 36"  
  36" +
- **Excavation Effort:** Easy
- **Boulder Class:**
  - ** Latter:** A
  - **Designation:** 6" - 17"
  - **Classification:** Easy
- **Proportions Used:**
  - **TRACE (TR.):** 0 - 10%
  - **LITTLE (LI.):** 10 - 20%
  - **SOME (SO.):** 20 - 35%
  - **AND:** 35 - 50%
- **Abbreviations:**
  - **F:** Fine
  - **M:** Medium
  - **C:** Coarse
  - **V:** Very
  - **F/M:** Fine to medium
  - **F/C:** Fine to coarse
  - **GR:** Gray
  - **BN:** Brown
  - **YEL:** Yellow
- **GROUNDWATER:** ( ) Encountered  
  ( X ) Not Encountered
- **Elapsed Time to Reading:**
- **Groundwater Depth:**
- **Depth:**
- **Volume:**
- **Cu. Yd.**

### Notes:

1. Orange marker barrier was observed at 3 feet

### Soil Description

- **Depth:** 0'  
  **Soil Description:** Topsoil
- **Sample No.:** E
- **PID Reading (ppm):** E
- **Excav. Effort:** E
- **Boulder Count/Class:** E
- **Note No.:** E
- **Depth:** 1'  
  **Soil Description:** Brown, fine to coarse SAND, some Silty Clay, trace Cobbles
- **Sample No.:** E
- **PID Reading (ppm):** 0
- **Excav. Effort:** E
- **Boulder Count/Class:** 1
- **Note No.:** E
- **Depth:** 3'  
  **Soil Description:** Gray, Silty CLAY, trace Gravel
- **Sample No.:** E
- **PID Reading (ppm):** E
- **Excav. Effort:** E
- **Boulder Count/Class:** E
- **Note No.:** E
- **Depth:** 7'  
  **Soil Description:** Brown, fine to coarse SAND, some Brick, some Metal, trace Cobbles, trace Ash, trace Silt
- **Sample No.:** E
- **PID Reading (ppm):** E
- **Excav. Effort:** E
- **Boulder Count/Class:** E
- **Note No.:** E
- **Depth:** 13'  
  **Soil Description:** Bottom of Exploration at 13.5 feet due to abundance of metal

### Boulder Class

- **Letter Designation:** A
- **Designation:** 6" - 17"
- **Classification:** Easy

---

"\tighebond.com\data\Data\Projects\Q\Q0019 Quincy, MA Consultant Review Services\Q0019-014 Avalon Dog Park\Data\Test Pits\Test Pit Logs.xls\TP-13"
**Project/Site Information**

**Quincy Dog Park**
51 Quarry Street
Quincy, Massachusetts

**Test Pit Plan**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Soil Description</th>
<th>Sample No.</th>
<th>PID Reading (ppm)</th>
<th>Excav. Effort</th>
<th>Boulder Count/Class</th>
<th>Note No.</th>
</tr>
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<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1'</td>
<td>Topsoil</td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2'</td>
<td>Brown, fine to coarse SAND, trace Gravel, trace Silt</td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4'</td>
<td>Gray, Silty CLAY, trace Cobbles</td>
<td>S-1</td>
<td>0</td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(SOIL CAP)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>(FILL)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Bottom of Exploration at 6.5 feet due to refusal on bedrock</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Notes:**
1 - Orange marker barrier was observed at 4 feet

---

**Excavation Effort**

- **F** = Fine
- **M** = Medium
- **C** = Coarse
- **V** = Very
- **F/M** = Fine to medium
- **F/C** = Fine to coarse
- **GR** = Gray
- **BN** = Brown
- **YEL** = Yellow

**GROUNDWATER**

<table>
<thead>
<tr>
<th>Elapsed Time to Reading</th>
<th>Groundwater Depth</th>
<th>( ) Encountered</th>
<th>( X ) Not Encountered</th>
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</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

---

**Excavation Effort**

- **E** = Easy
- **M** = Moderate
- **D** = Difficult

---

**Excavation Effort**

- **F** = Fine
- **M** = Medium
- **C** = Coarse
- **V** = Very
- **F/M** = Fine to medium
- **F/C** = Fine to coarse
- **GR** = Gray
- **BN** = Brown
- **YEL** = Yellow

---

**Boulder Class**

<table>
<thead>
<tr>
<th>Letter Designation</th>
<th>Size Range Classification</th>
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<tbody>
<tr>
<td>A</td>
<td>6&quot; - 12&quot;</td>
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<tr>
<td>B</td>
<td>12&quot; - 17&quot;</td>
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<tr>
<td>C</td>
<td>17&quot; - 36&quot;</td>
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<tr>
<td>D</td>
<td>36&quot; +</td>
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**Proportion Used**

<table>
<thead>
<tr>
<th>Proportion Used</th>
<th>Abbreviations</th>
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<tbody>
<tr>
<td>TRACE (TR.)</td>
<td>F = Fine</td>
</tr>
<tr>
<td>LITTLE (LI.)</td>
<td>M = Medium</td>
</tr>
<tr>
<td>SOME (SO.)</td>
<td>C = Coarse</td>
</tr>
<tr>
<td>AND</td>
<td>V = Very</td>
</tr>
</tbody>
</table>

---

**Groundwater**

- **( )** Encountered
- **( X )** Not Encountered

**Abbreviations**

- **F** = Fine
- **M** = Medium
- **C** = Coarse
- **V** = Very
- **F/M** = Fine to medium
- **F/C** = Fine to coarse
- **GR** = Gray
- **BN** = Brown
- **YEL** = Yellow

---

**Excavation Effort**

- **E** = Easy
- **M** = Moderate
- **D** = Difficult

---

**Proportion Used**

<table>
<thead>
<tr>
<th>Proportion Used</th>
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<td>TRACE (TR.)</td>
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<tr>
<td>SOME (SO.)</td>
<td>C = Coarse</td>
</tr>
<tr>
<td>AND</td>
<td>V = Very</td>
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</tbody>
</table>

---

**Excavation Effort**

- **E** = Easy
- **M** = Moderate
- **D** = Difficult

---

**Proportion Used**

<table>
<thead>
<tr>
<th>Proportion Used</th>
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<td>TRACE (TR.)</td>
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<tr>
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<td>C = Coarse</td>
</tr>
<tr>
<td>AND</td>
<td>V = Very</td>
</tr>
</tbody>
</table>

---

**Excavation Effort**

- **E** = Easy
- **M** = Moderate
- **D** = Difficult

---

**Proportion Used**

<table>
<thead>
<tr>
<th>Proportion Used</th>
<th>Abbreviations</th>
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</thead>
<tbody>
<tr>
<td>TRACE (TR.)</td>
<td>F = Fine</td>
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<tr>
<td>LITTLE (LI.)</td>
<td>M = Medium</td>
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<tr>
<td>SOME (SO.)</td>
<td>C = Coarse</td>
</tr>
<tr>
<td>AND</td>
<td>V = Very</td>
</tr>
</tbody>
</table>

---

**Excavation Effort**

- **E** = Easy
- **M** = Moderate
- **D** = Difficult

---

**Proportion Used**

<table>
<thead>
<tr>
<th>Proportion Used</th>
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</tr>
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<tbody>
<tr>
<td>TRACE (TR.)</td>
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</tr>
<tr>
<td>LITTLE (LI.)</td>
<td>M = Medium</td>
</tr>
<tr>
<td>SOME (SO.)</td>
<td>C = Coarse</td>
</tr>
<tr>
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<td>V = Very</td>
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---

**Excavation Effort**

- **E** = Easy
- **M** = Moderate
- **D** = Difficult

---

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**Excavation Effort**

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**Excavation Effort**

- **E** = Easy
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**Proportion Used**

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</tr>
</tbody>
</table>

---

**Excavation Effort**

- **E** = Easy
- **M** = Moderate
- **D** = Difficult
### Project/Site Information

**Quincy Dog Park**  
51 Quarry Street  
Quincy, Massachusetts

### Test Pit Logs

- **Test Pit No.** TP-15  
- **Date** 02/06/18  
- **Ground Elev.** ± 160'

#### T&B Rep.  
T. Poole  
Contractor: Global Remediation  
Operator: Chuck O'Connor

#### Weather
25°F, Overcast  

#### Make
CAT  
Model: 321D  

#### Capacity
1 yd  
Reach: 15 ft.

### Depth

<table>
<thead>
<tr>
<th>Depth</th>
<th>Soil Description</th>
<th>Sample No.</th>
<th>PID Reading (ppm)</th>
<th>Excav. Effort</th>
<th>Boulder Count/Class</th>
<th>Note No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Topsoil</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1'</td>
<td>Brown, fine to coarse SAND, trace Silt</td>
<td>E</td>
<td></td>
<td></td>
<td>2-C</td>
<td></td>
</tr>
<tr>
<td>2'</td>
<td>Gray, fine to coarse SAND, little Silt &amp; Clay, trace Cobbles, trace Brick</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.5'</td>
<td>(SOIL CAP)</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>5'</td>
<td></td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6'</td>
<td></td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7'</td>
<td></td>
<td>E</td>
<td></td>
<td></td>
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<tr>
<td>8'</td>
<td></td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>9'</td>
<td></td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10'</td>
<td></td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11'</td>
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<tr>
<td>12'</td>
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<td></td>
<td></td>
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<tr>
<td>13'</td>
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<td></td>
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<tr>
<td>14'</td>
<td></td>
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<td></td>
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<tr>
<td>15'</td>
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</tr>
<tr>
<td>16'</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

### Notes:

1 - Orange marker barrier was observed at 4.5 feet

#### Boulder Class

- **Letter**  
- **Designation**  
- **Size Range Classification**
  - A  
  - B  
  - C  
  - 6" - 17"  
  - 18" - 36"  
  - 36" +

#### Excavation Effort

- E = Easy  
- M = Moderate  
- D = Difficult

#### Proportions Used

- TRACE (TR.) 0 - 10%  
- LITTLE (LI.) 10 - 20%  
- SOME (SO.) 20 - 35%  
- AND 35 - 50%

#### Abbreviations

- F = Fine  
- M = Medium  
- C = Coarse  
- V = Very  
- F/M = Fine to medium  
- F/C = Fine to coarse  
- GR = Gray  
- BN = Brown  
- YEL = Yellow

#### Groundwater

- Elapsed Time to Reading: 6.5'
- Depth: 0.25'

---

\[\text{dighebond.com\(\backslash\text{data}\\backslash\text{Projects}\\backslash\text{Q0019 Quincy, MA Consultant Review Services}\\backslash\text{Q0019-014 Avalon Dog Park}\\backslash\text{Data}\\backslash\text{Test Pits}\\backslash\text{Test Pit Logs.xls}}\backslash\text{TP-15}\]
T&B Rep.  T. Poole  Contractor  Global Remediation  Operator  Chuck O'Connor  Date  02/06/18
Weather  25°F, Overcast  Make  CAT  Model  321D  Ground Elev.  ± 160'
Capcity  1 yd  Reach  15 ft.  Time Started  8:00  Time Completed  8:50

Depth  Soil Description  Sample No.  PID Reading (ppm)  Excav. Effort  Boulder Count/Class  Note No.
0  Topsoil  E
1'  Brown, fine to coarse SAND, trace Gravel, trace Silt  E  E  2-C
2'  Brown, fine to coarse SAND, traces Gravel, trace Silt  E  E  2-C
3'  Gray, fine to coarse SAND, little Cobbles, little Brick, trace Silt & Clay  S-1  0  E  2
4'  (SOIL CAP)  E
5'
6'
7'
8'
9'  (FILL)  E  M/D
10'
11'
12'
13'
14'
15'
16'

Notes:
1 - Orange marker barrier was observed at 4 feet

Test Pit Plan

<table>
<thead>
<tr>
<th>Letter</th>
<th>Proposal</th>
<th>Excavation Effort</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>TRACE</td>
<td>E-----Easy</td>
</tr>
<tr>
<td>B</td>
<td>LITTLE</td>
<td>M-----Moderate</td>
</tr>
<tr>
<td>C</td>
<td>SOME</td>
<td>D-----Difficult</td>
</tr>
</tbody>
</table>

Boulder Class

<table>
<thead>
<tr>
<th>Letter</th>
<th>Size Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>6&quot; - 12&quot;</td>
</tr>
<tr>
<td>B</td>
<td>12&quot; - 18&quot;</td>
</tr>
<tr>
<td>C</td>
<td>18&quot; - 36&quot;</td>
</tr>
<tr>
<td>D</td>
<td>36&quot; +</td>
</tr>
</tbody>
</table>

Abbreviations

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
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<tbody>
<tr>
<td>F</td>
<td>Fine</td>
</tr>
<tr>
<td>M</td>
<td>Medium</td>
</tr>
<tr>
<td>C</td>
<td>Coarse</td>
</tr>
<tr>
<td>V</td>
<td>Very</td>
</tr>
<tr>
<td>F/M</td>
<td>Fine to medium</td>
</tr>
<tr>
<td>F/C</td>
<td>Fine to coarse</td>
</tr>
<tr>
<td>GR</td>
<td>Gray</td>
</tr>
<tr>
<td>BN</td>
<td>Brown</td>
</tr>
<tr>
<td>YEL</td>
<td>Yellow</td>
</tr>
</tbody>
</table>

GROUNDWATER

<table>
<thead>
<tr>
<th>Elapsed Time to Reading (Hours)</th>
<th>Depth to Groundwater</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.25</td>
<td>6'</td>
</tr>
</tbody>
</table>

Volume = 27.5 cu. yd.
Quincy Dog Park
51 Quarry Street
Quincy, Massachusetts

T&B Rep.  T. Poole  Contractor  Global Remediation
Operator  Chuck O’Connor

Weather  25°F, Overcast  Make  CAT
Capacity  1 yd  Reach  15 ft.

Date  02/07/18  Ground Elev.  ± 162’
Time Started  14:05  Time Completed  14:35

<table>
<thead>
<tr>
<th>Depth</th>
<th>Soil Description</th>
<th>Sample No.</th>
<th>PID Reading (ppm)</th>
<th>Excav. Effort</th>
<th>Boulder Count/Class</th>
<th>Note No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Topsoil</td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2'</td>
<td>Brown, fine to coarse SAND, trace Gravel, trace Silt</td>
<td>0</td>
<td>E</td>
<td>2-C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3'</td>
<td>(SOIL CAP)</td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>4'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6'</td>
<td>Gray, fine to coarse SAND, little Cobbles, little Brick, trace Silt &amp; Clay</td>
<td>S-1</td>
<td>E</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9'</td>
<td>(FILL)</td>
<td></td>
<td></td>
<td>M</td>
<td></td>
<td>D</td>
</tr>
<tr>
<td>10'</td>
<td>Bottom of Exploration at 9.5 feet due to refusal on bedrock</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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Notes:

1 - Orange marker barrier was observed at 4 feet
2 - Slight Hydrocarbon odor observed

Test Pit Plan

Boulder Class

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<th>Proportions Used</th>
<th>Abbreviations</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>0&quot; - 6&quot;</td>
<td>Trace (TR.)</td>
<td>F = Fine</td>
</tr>
<tr>
<td>B</td>
<td>6&quot; - 12&quot;</td>
<td>Little (LI.)</td>
<td>M = Medium</td>
</tr>
<tr>
<td>C</td>
<td>12&quot; - 18&quot;</td>
<td>Some (SO.)</td>
<td>C = Coarse</td>
</tr>
<tr>
<td></td>
<td>18&quot; - 36&quot;</td>
<td>AND</td>
<td>V = Very</td>
</tr>
<tr>
<td></td>
<td>36&quot; +</td>
<td></td>
<td>F/M = Fine to medium</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>F/C = Fine to coarse</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>HR = Grey</td>
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<td></td>
<td></td>
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<td>BN = Brown</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>YEL = Yellow</td>
</tr>
</tbody>
</table>

Excavation Effort

E-----Easy
M-----Moderate
D-----Difficult

GROUNDWATER
(X) Encountered
( ) Not Encountered

Elapsed Time to Reading Groundwater

Depth

Volume = 25.3 cu. yd.

<table>
<thead>
<tr>
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<th>Proportions Used</th>
<th>Abbreviations</th>
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</thead>
<tbody>
<tr>
<td>6</td>
<td>B</td>
<td>0&quot; - 6&quot;</td>
<td>Trace (TR.)</td>
<td>F = Fine</td>
</tr>
<tr>
<td>12</td>
<td>C</td>
<td>12&quot; - 18&quot;</td>
<td>Little (LI.)</td>
<td>M = Medium</td>
</tr>
<tr>
<td>Volume =</td>
<td></td>
<td>25.3 cu. yd.</td>
<td></td>
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<th>Proportions Used</th>
</tr>
</thead>
<tbody>
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<td>A</td>
<td>6&quot; - 12&quot;</td>
<td>TRACE (TR.) 0 - 10%</td>
</tr>
<tr>
<td>B</td>
<td>18&quot; - 36&quot;</td>
<td>LITTLE (LI.) 10 - 20%</td>
</tr>
<tr>
<td>C</td>
<td>36&quot; +</td>
<td>SOME (SO.) 20 - 35%</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td>AND 35 - 50%</td>
</tr>
</tbody>
</table>

**Excavation Effort**

- E-----Easy
- M-----Moderate
- D-----Difficult

**GROUNDWATER**

- ( ) Encountered
- ( X ) Not Encountered

**Abbreviations**

- F = Fine
- M = Medium
- C = Coarse
- V = Very
- F/M = Fine to medium
- F/C = Fine to coarse
- GR = Gray
- BN = Brown
- YEL = Yellow

**Notes:**

1 - No marker barrier was observed
### Project/Site Information

**Quincy Dog Park**
51 Quarry Street
Quincy, Massachusetts

**T&B Rep.**
T. Poole

**Contractor**
Global Remediation

**Operator**
Chuck O'Connor

**Date**
02/08/18

**Ground Elev.**
± 150'

**Time Started**
14:25

**Time Completed**
14:45

---

### Test Pit Logs

<table>
<thead>
<tr>
<th>Depth</th>
<th>Soil Description</th>
<th>Sample No.</th>
<th>PID Reading (ppm)</th>
<th>Excav. Effort</th>
<th>Boulder Count/Class</th>
<th>Note No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Topsoil</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2'</td>
<td>Gray, SILT &amp; CLAY, trace Gravel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3'</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4'</td>
<td>Brown, fine to coarse SAND, little Cobbles, little Brick, trace Silt &amp; Clay</td>
<td>S-1</td>
<td>0</td>
<td>E</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5'</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>13'</td>
<td>Bottom of Exploration at 10.5 feet due to refusal on bedrock</td>
<td>(FILL)</td>
<td></td>
<td></td>
<td>M/D</td>
<td></td>
</tr>
<tr>
<td>14'</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>16'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

1 - Orange marker barrier was not observed

---

### Boulder Class

- **Letter Designation**
  - A
  - B
  - C

- **Size Range Classification**
  - 6" - 12"
  - 18" - 36"
  - 36" +

- **Excavation Effort**
  - E-----Easy
  - M-----Moderate
  - D-----Difficult

### Proportions Used

- **TRACE (TR.)**
  - 0 - 10%

- **LITTLE (LI.)**
  - 10 - 20%

- **SOME (SO.)**
  - 20 - 35%

- **AND**
  - 35 - 50%

### Abbreviations

- F = Fine
- M = Medium
- C = Coarse
- V = Very
- F/M = Fine to medium
- F/C = Fine to coarse
- GR = Gray
- BN = Brown
- YEL = Yellow

### GROUNDWATER

( ) Encountered
(X) Not Encountered

<table>
<thead>
<tr>
<th>Elapsed Time to Reading Groundwater (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

---

**Test Pit Plan**

<table>
<thead>
<tr>
<th>Letter</th>
<th>Size Range Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>6&quot; - 12&quot;</td>
</tr>
<tr>
<td>B</td>
<td>18&quot; - 36&quot;</td>
</tr>
<tr>
<td>C</td>
<td>36&quot; +</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Excavation Effort</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-----Easy</td>
</tr>
<tr>
<td>M-----Moderate</td>
</tr>
<tr>
<td>D-----Difficult</td>
</tr>
</tbody>
</table>

Volume = 8 cu. yd.
# Quincy Dog Park
51 Quarry Street
Quincy, Massachusetts

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>T. Poole</td>
<td>Global Remediation</td>
<td>Chuck O’Connor</td>
<td>CAT</td>
<td>02/08/18</td>
<td>± 135’</td>
<td>8:55</td>
<td>9:45</td>
</tr>
</tbody>
</table>

## Depth & Soil Description

<table>
<thead>
<tr>
<th>Depth</th>
<th>Soil Description</th>
<th>PID Reading (ppm)</th>
<th>Excav. Effort</th>
<th>Boulder Count/Class</th>
<th>Note No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Topsoil</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1'</td>
<td>1'</td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5'</td>
<td>Gray, SILT &amp; CLAY, trace Gravel (SOIL CAP)</td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3'</td>
<td>gray, fine to coarse SAND, little Cobbles, little Brick, little Metal, trace Silt &amp; Clay</td>
<td>S-1</td>
<td>E</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6'</td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10'</td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td>M/D</td>
</tr>
<tr>
<td>11'</td>
<td>Bottom of Exploration at 10.5 feet due to sidewall collapse</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Notes:

1. Orange marker barrier was observed at 2.5 feet

## Boulder Class

<table>
<thead>
<tr>
<th>Letter Designation</th>
<th>Size Range Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>6&quot; - 17&quot;</td>
</tr>
<tr>
<td>B</td>
<td>18&quot; - 36&quot;</td>
</tr>
<tr>
<td>C</td>
<td>36&quot; +</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Excavation Effort</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-----Easy</td>
</tr>
<tr>
<td>M-----Moderate</td>
</tr>
<tr>
<td>D-----Difficult</td>
</tr>
</tbody>
</table>

## Proportions Used

<table>
<thead>
<tr>
<th>Abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>F = Fine</td>
</tr>
<tr>
<td>M = Medium</td>
</tr>
<tr>
<td>C = Coarse</td>
</tr>
<tr>
<td>V = Very</td>
</tr>
<tr>
<td>F/M = Fine to medium</td>
</tr>
<tr>
<td>F/C = Fine to coarse</td>
</tr>
<tr>
<td>GR = Gray</td>
</tr>
<tr>
<td>BN = Brown</td>
</tr>
<tr>
<td>YEL = Yellow</td>
</tr>
</tbody>
</table>

## Groundwater

<table>
<thead>
<tr>
<th>Elapsed Time to Reading Groundwater (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

## Test Pit Plan

<table>
<thead>
<tr>
<th>6</th>
<th>12</th>
</tr>
</thead>
</table>

Volume = 28 cu. yd.
TP-21
Quincy Dog Park
51 Quarry Street
Quincy, Massachusetts

T&B Rep. T. Poole Contractor Global Remediation Operator Chuck O’Connor

Weather 28°F, Overcast Make CAT Model 321D
Capacity 1 yd Reach 15 ft.

Depth Soil Description Sample No. PID Reading (ppm) Excav. Effort Boulder Count/Class Note No.
0
1'
Topsoil

1'
Gray, fine to coarse SAND, trace Silt, trace Gravel

3'
Black, fine to coarse SAND, little Cobbles, little Brick, little Municipal Solid Waste, trace Silt

4'
(SOIL CAP)

S-1

10'
(FILL)

11'
Bottom of Exploration at 10.5 feet due to refusal on bedrock

Notes:
1 - Orange marker barrier was observed at 4'
2 - Slight Hydrocarbon odor

Excavation Effort

TRACE (TR.) 0 - 10%
LITTLE (LI.) 10 - 20%
SOME (SO.) 20 - 35%
AND 35 - 50%

GROUNDWATER

Elapsed Time to Reading Ground-water

<table>
<thead>
<tr>
<th>Depth</th>
<th>Soil Description</th>
<th>Sample No.</th>
<th>PID Reading (ppm)</th>
<th>Excav. Effort</th>
<th>Boulder Count/Class</th>
<th>Note No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>5'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9'</td>
<td></td>
<td></td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10'</td>
<td></td>
<td></td>
<td></td>
<td>M/D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13'</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Volume = 43.5 cu. yd.
Test Pit No.
Page No.
File No.
Checked By:

Quincy Dog Park
51 Quarry Street
Quincy, Massachusetts

T&B Rep.  T. Poole  Contractor  Global Remediation  Date  02/08/18
Weather  28°F, Overcast  Make  CAT  Model  Time Elevation.  ± 127'  Time Started  11:45  Time Completed  12:10
Operator  Chuck O'Connor  Capacity  1 yd  Reach  15 ft.

Depth  Soil Description  Sample  PID  Excav.  Boulder  Note
0  Topsoil  -  
1'  Gray, CLAY, trace Gravel, trace fine to coarse Sand, trace Silt  -  
2'  Black, fine to coarse SAND, little Cobbles, little Brick, little Wood, trace Silt  S-1  3.5  2  
3'  (SOIL CAP)  -  
4'  
5'  
6'  
7'  
8'  
9'  
10'  (FILL)  
11'  Bottom of Exploration at 10.5 feet due to Class C boulders
12'
13'
14'
15'
16'

Notes:
1 - Orange marker barrier was observed at 3 feet
2 - Slight Hydrocarbon odor

Test Pit Plan

<table>
<thead>
<tr>
<th>Letter</th>
<th>Designation</th>
<th>Size Range Classification</th>
<th>Excavation Effort</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>TR.</td>
<td>6” - 17”</td>
<td>E - Easy</td>
</tr>
<tr>
<td>B</td>
<td>LIT.</td>
<td>18” - 36”</td>
<td>M - Moderate</td>
</tr>
<tr>
<td>C</td>
<td>SOME(SO.)</td>
<td>36” +</td>
<td>D - Difficult</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Proportions Used</th>
<th>Abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRACE(TR.) 0 - 10%</td>
<td>F = Fine</td>
</tr>
<tr>
<td>LITTLE(LI.) 10 - 20%</td>
<td>M = Medium</td>
</tr>
<tr>
<td>SOME(SO.) 20 - 35%</td>
<td>C = Coarse</td>
</tr>
<tr>
<td>AND 35 - 50%</td>
<td>V = Very</td>
</tr>
<tr>
<td>F/M = Fine to medium</td>
<td>F/C = Fine to coarse</td>
</tr>
<tr>
<td>GR = Gray</td>
<td>BN = Brown</td>
</tr>
<tr>
<td>YEL = Yellow</td>
<td></td>
</tr>
</tbody>
</table>

GROUNDWATER
( ) Encountered
(X) Not Encountered

Elapsed Time to Reading Ground-water

Volume = 28 cu. yd.
Test Pit No. | TP-23
---|---
Page No. | 1 of 1
File No. | Q-0019-0014
Checked By: | D. Brogan

Quincy Dog Park
51 Quarry Street
Quincy, Massachusetts

T&B Rep. | T. Poole
Contractor | Global Remediation
Operator | Chuck O’Connor
Date | 02/08/18
Ground Elev. | ± 130’

Weather | 28°F, Overcast
Make | CAT
Model | 321D
Capacity | 1 yd
Reach | 15 ft.

Depth | Soil Description | Sample No. | PID Reading (ppm) | Excav. Effort | Boulder Count/Class | Note No.
---|---|---|---|---|---|---
0 | Topsoil | | | | |
1’ | Gray, Silty CLAY, little fine to coarse Sand, trace Gravel | | | | |
2’ | Brown, fine to coarse SAND, little Cobbles, little Brick, trace Clay | | | | |
4’ | Bottom of Exploration at 8.5 feet due to refusal on bedrock | | | | |

Notes:
1 - Orange marker barrier was not observed

---

Boulder Class

<table>
<thead>
<tr>
<th>Letter</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
</tr>
<tr>
<td>B</td>
</tr>
<tr>
<td>C</td>
</tr>
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</table>

Size Range Classification

<table>
<thead>
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<th>Size Range</th>
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<tbody>
<tr>
<td>6” - 17”</td>
</tr>
<tr>
<td>18” - 36”</td>
</tr>
<tr>
<td>36” +</td>
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Excavation Effort

<table>
<thead>
<tr>
<th>Effort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy</td>
</tr>
<tr>
<td>Moderate</td>
</tr>
<tr>
<td>Difficult</td>
</tr>
</tbody>
</table>

Boulder Class Designation

<table>
<thead>
<tr>
<th>Designation</th>
</tr>
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<tbody>
<tr>
<td>6</td>
</tr>
<tr>
<td>12</td>
</tr>
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</table>

Proportions Used

<table>
<thead>
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<th>Proportion</th>
</tr>
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<tbody>
<tr>
<td>TRACE (TR.)</td>
</tr>
<tr>
<td>LITTLE (LI.)</td>
</tr>
<tr>
<td>SOME (SO.)</td>
</tr>
<tr>
<td>AND</td>
</tr>
</tbody>
</table>

0 - 10%
10 - 20%
20 - 35%
35 - 50%

Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>F = Fine</td>
</tr>
<tr>
<td>M = Medium</td>
</tr>
<tr>
<td>C = Coarse</td>
</tr>
<tr>
<td>V = Very</td>
</tr>
<tr>
<td>F/M = Fine to medium</td>
</tr>
<tr>
<td>F/C = Fine to coarse</td>
</tr>
<tr>
<td>GR = Gray</td>
</tr>
<tr>
<td>BN = Brown</td>
</tr>
<tr>
<td>YEL = Yellow</td>
</tr>
</tbody>
</table>

GROUNDWATER

( X ) Encountered
( ) Not Encountered

Elapsed Time to Reading

<table>
<thead>
<tr>
<th>Time to Groundwater</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.25</td>
</tr>
</tbody>
</table>

Volume = 22.25 cu. yd.
**TP-24**

**Project/Site Information**

Quincy Dog Park  
51 Quarry Street  
Quincy, Massachusetts

**Test Pit No.**  
TP-24

**Page No.**  
1 of 1

**File No.**  
Q-0019-0014

**Checked By:**  
D. Brogan

**T&B Rep.**  
T. Poole

**Contractor**  
Global Remediation

**Operator**  
Chuck O’Connor

**Date**  
02/08/18

**Ground Elev.**  
± 118’

**Make**  
CAT

**Model**  
321D

**Capacity**  
1 yd

**Reach**  
15 ft.

**Time Started**  
12:15

**Time Completed**  
12:45

**Weather**  
28°F, Overcast

**Volume**  
42 cu. yd.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Soil Description</th>
<th>Sample No.</th>
<th>PID Reading (ppm)</th>
<th>Excav. Effort</th>
<th>Boulder Count/Class</th>
<th>Note No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Topsoil</td>
<td>E</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Gray, SILT &amp; CLAY, little fine to coarse Sand, trace Gravel</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Grey, fine to coarse SAND, little Gravel, little Brick, little Metal, trace Silt &amp; Clay</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Grey, fine to coarse SAND, little Gravel, little Brick, little Metal, trace Silt &amp; Clay</td>
<td>S-1</td>
<td>0</td>
<td>E</td>
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<td></td>
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<tr>
<td>4, 5, 6, 7</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Bottom of Exploration at 12.5 feet due to sidewall collapse</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

1 - Orange marker barrier was observed at 3 feet

---

**Boulder Class**

<table>
<thead>
<tr>
<th>Letter Designation</th>
<th>Size Range Classification</th>
<th>Proportions Used</th>
<th>Abbreviations</th>
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<tr>
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<td>6” - 12”</td>
<td>TRACE (TR.)</td>
<td>F = Fine</td>
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<tr>
<td>B</td>
<td>18” - 36”</td>
<td>LITTLE (LI.)</td>
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</tr>
<tr>
<td>C</td>
<td>36” +</td>
<td>SOME (SO.)</td>
<td>C = Coarse</td>
</tr>
</tbody>
</table>

**Excavation Effort**

| E = Easy       | M = Moderate | D = Difficult |

**GROUNDWATER**

( X ) Encountered  
( ) Not Encountered

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Elapsed Time to Reading (Groundwater)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.25</td>
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\dighebond.com\data\Data\Projects\Q\Q0019 Quincy, MA Consultant Review Services\Q0019-014 Avalon Dog Park\Data\Test Pits\Test Pit Logs.xls\TP-24
1 - Orange marker barrier was observed at 3 feet.
<table>
<thead>
<tr>
<th>Depth</th>
<th>Soil Description</th>
<th>Sample No.</th>
<th>PID Reading (ppm)</th>
<th>Excav. Effort</th>
<th>Boulder Count/Class</th>
<th>Note No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Topsoil</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1'</td>
<td>Gray, SILT &amp; CLAY, some fine to coarse Sand</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2'</td>
<td>Brown, fine to coarse SAND, little Gravel, little Brick, little Metal, trace Silt &amp; Clay</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3'</td>
<td>Gray, SILT &amp; CLAY, some fine to coarse Sand</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td>S-1</td>
</tr>
<tr>
<td>3'</td>
<td>(SOIL CAP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>4'</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>5'</td>
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</tr>
<tr>
<td>6'</td>
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</tr>
<tr>
<td>7'</td>
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</tr>
<tr>
<td>8'</td>
<td></td>
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<td></td>
<td></td>
<td>M</td>
</tr>
<tr>
<td>9'</td>
<td></td>
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<td>2</td>
</tr>
<tr>
<td>10'</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>M</td>
</tr>
<tr>
<td>11'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>M/D</td>
</tr>
<tr>
<td>12'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>D</td>
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**Notes:**

1 - Orange marker barrier was observed at 3 feet
2 - Metal consisted of chainlink fence and piping