

INFRASTRUCTURE DESIGN STANDARDS

**STANDARD HIGHWAY
SPECIFICATIONS
VOLUMES I & II**
November 1, 2010

ADDENDUM No. 1

May 12, 2014



**THE CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION**

ATTACH TO CONTRACT DOCUMENTS

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
INFRASTRUCTURE DIVISION
BUREAU OF DESIGN

PROJECT ID:

ADDENDUM NO. 1

DATED: May 12, 2014

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

The New York City Department of Transportation Standard Highway Specifications, dated November 1, 2010, (which include, but are not limited to, "General Conditions", "Basic Materials of Construction", "Combined Materials of Construction", "Construction Methods", "Inspection and Testing of Materials, Adjustments for Deficiencies, and Maintenance", and "Supplemental Construction Methods"), as modified by addenda issued prior to the opening of bids, shall apply to and become a part of the contract.

All references contained herein are to the New York City Department of Transportation, Standard Highway Specifications, dated November 1, 2010. The said Specifications are hereby revised. Included hereunder are the following REVISIONS:

1. Amendments to Standard Highway Specifications, Volume I
2. Amendments to Standard Highway Specifications, Volume II, including Section 7.88 (Revised) and new Sections 6.44 PO and 6.52 CG.

1. AMENDMENTS TO STANDARD HIGHWAY SPECIFICATIONS, VOLUME I

The following amendments to the Contract Requirements shall become a part of and apply to the contract:

[Added 12-09-2010]

1. Refer to Page 15, **Subsection 1.06.23.(C) CONFORMANCE WITH FEDERAL, STATE AND CITY AGENCIES;**

Add the following new paragraphs:

“The Contractor is notified that all vehicles that are owned, leased or operated by the Contractor or its subcontractors and used in connection with the Project shall comply with the following requirement:

Every truck, tractor, and tractor-trailer or semitrailer combination, having a gross vehicle weight rating of twenty-six thousand pounds or more, and a conventional cab configuration in which more than half of the engine length is forward of the foremost point of the windshield base, and the steering wheel hub is in the forward quarter of the vehicle length shall be equipped with a convex mirror on the front of such vehicle or combination of vehicles. Such convex mirror shall be adjusted so as to enable the operator of such vehicle or combination of vehicles to see all points on an imaginary horizontal line which is three feet above the road, is one foot directly forward from the midpoint of the front of such vehicle or combination of vehicles, and extends the full width of the front of such vehicle or combination of vehicles.

Any vehicle that does not comply with this provision may be prohibited from entering the Project site and/or supplying equipment or materials to the Project. The Contractor shall not be entitled to any damages as a result of such prohibition.”

[Added 01-09-2011]

2. Refer to Page 240, **Subsection 4.16.5.(B) STUMP REMOVAL;**
Delete **Subsection 4.16.5.(B) STUMP REMOVAL**, in its entirety:
Substitute the following revised **Subsection 4.16.5.(B)**:

“(B) STUMP REMOVAL

1. Tree stumps designated to be removed and their roots shall be completely excavated to a minimum depth of three (3) feet below the existing grade. A portable stump cutter may be required in some locations. It may be necessary to remove concrete, asphalt, pavers, and/or other types of material surrounding the base of the stump. All excess debris, including chips from tree stumps, shall be removed and disposed of by the Contractor, away from the site prior to backfilling and the area shall be restored by completion of the workday, to the satisfaction of the Engineer. The disposal of tree stumps by burning in open fires will not be permitted.

2. All voids and excavations left after the removal of the stump and roots shall be backfilled to grade with clean earth fill. Fill shall be placed and compacted to a minimum of 95 percent of Standard Proctor Maximum Density by acceptable methods to the satisfaction of the Engineer. Where paving blocks exist, they are to be reset to the existing grade as directed.

3. Maximum safety and care must be used by Contractor during stump removal. The Contractor shall carefully protect against damage all existing trees, plants, curbs, sidewalks and utilities and other features to remain. The Contractor is responsible for locating and protecting underground utilities from damage during stump removal procedures. During stump grinding operations, plywood must be used to protect adjacent vehicles, real property, and pedestrians. If, when removing stumps, existing sidewalks or curbs are disturbed, the Contractor shall restore and/or reset these sidewalks and curbs, at no additional cost to the City. Restoration work shall be done to match the existing, to the satisfaction of the Engineer. All damaged trees, curbs, sidewalks, real property, vehicles and utilities must be addressed within three (3) days.”

[Added 04-18-2011]

3. Refer to Pages 218 and 219, **Subsection 4.13.4.(H) PIGMENT**;
Delete the first three (3) paragraphs on page 219;
Substitute the following revised three (3) paragraphs:

“Where the color of the concrete is required to simulate the color of dark gray bluestone, the concrete shall be integrally pigmented to produce a gray color equivalent to: Davis Colors No. 884-3%; Lansco Color No. 437 “Strong Black” 5 lbs. per 94 lbs. Light Grey Portland Cement and 3 parts sand; L.M. Scofield “Cool Black No. 4”; Bayferrox Limestone 330, 2 lbs. per 94 lbs. Light Gray Portland Cement; or an approved equivalent, unless otherwise specified.

Where the color of the concrete is required to simulate the color of light to medium gray granite, the concrete shall be integrally pigmented to produce a gray color equal to: Davis Colors No. 884-1%; Lansco Color No. 437 “Strong Black” 2.5 lbs. per 94 lbs. Light Grey Portland Cement and 3 parts sand; L.M. Scofield “Cool Black No. 1”; Bayferrox Silver 330, 1 lb. per 94 lbs. Light Gray Portland Cement; or an approved equivalent, unless otherwise specified.

Where the sidewalk is designated to have a saw cut joint finish the color of the concrete shall be integrally pigmented to produce a gray color equivalent to L.M. Scofield “Landmarks Grey” K-157-4; L.M. Scofield “Cool Black No. 4”; Davis Colors No. 884-3%; Lansco Color No. 437 “Strong Black” 5 lbs. per 94 lbs. Light Grey Portland Cement and 3 parts sand; Bayferrox NYC Landmark Commission Gray, 3.5 lbs. per 94 lbs. Light Gray Portland Cement; or an approved equivalent, unless otherwise specified.”

[Added 07-01-2011]

4. Refer to Page 14, **Subsection 1.06.23.(A) PERMITS**;
Delete line (b) under the first paragraph;
Substitute the following text:

“(b) Any planned work requiring a DOT Construction Permit that may potentially be within 100 feet of a bridge structure will be placed on a Bridge Hold. If any proposed work is within 100 feet of a bridge structure, permittees must submit a scaled drawing showing the work and exact location, along with the following:

- Plan layout of the project area.
- The scope of work.
- The contractor's means and methods.
- Indicate if work will be done of the bridge itself or its abutments, and the type of work.

If the work is more than 100 feet away from the bridge structure, permittees may send a certification by e-mail stating so. Either response must be sent to the Division of Bridges at bridgeshold@dot.nyc.gov for review and release prior to commencing work. Emergency work will not be placed on hold and shall proceed in accordance with the New York City Highway Rules, section 2-11 (g);

(c) Permits from the Department of Sanitation for use of City landfills;”

[Added 07-27-2011]

5. Refer to Page 37, **Subsection 1.06.46.(A) 6. Sign Graphics;**
Delete article "a." beginning with the words "All visual components of the sign are in an Adobe *.pdf file, . . ." and ending with the words ". . . DDC to the Contractor (on a CD or via E-mail) for printing.", in its entirety;
Substitute the following revised article "a":

"a. All visual components of the sign are in an Adobe *.pdf file, which is provided by the Commissioner's representative. The file is not to be altered for composition, type font or image from the version provided by DDC. The Commissioner's representative shall provide a complete file with data and image. The digital file shall be provided by DDC to the Contractor (on a CD or via E-mail) for printing."

[Added 09-27-2012]

6. Refer to Page 36, **Subsection 1.06.46. Project Sign;**
Delete the words "Unless otherwise specified in the Special Provisions of the contract, the following shall apply:";
Substitute the following revised text:

"The Contractor is notified that he shall be required to furnish, install, maintain, and remove, when directed, Construction Project Information Signs (CPIS) as per Sec. 2-02(c)(4) and (5) of the NYC DOT Highway Rule and the cost shall be deemed included under all scheduled items of the contract. In addition, unless otherwise specified in the Special Provisions of the contract, the following Project Sign shall also apply:"

[Added 04-08-2013]

7. Refer to Page 200, **Subsection 4.11.2.(B), first paragraph, sixth line;**
Delete the word "porcelain,".
8. Refer to Page 201, **Subsection 4.11.3.(B) FILL AND BACKFILL, second and third paragraphs;**
Delete the second and third paragraphs under Subsection 4.11.3.(B), in their entirety;
Substitute the following revised two paragraphs:

"Glass or Recycled Porcelain Aggregate (RPA) from recycling facilities that meets the requirements of **Subsection 4.11.3.(E)** for Glass and **Subsection 4.11.3.(F)** for RPA shall be considered suitable material for mixing with fill provided the Contractor maintains the gradations specified herein. However, glass shall not be placed in contact with synthetic liners, geogrids, geotextiles or other geosynthetics.

Glass and/or RPA incorporated into fill shall be thoroughly mixed with other suitable material so that glass, RPA or combination of both constitutes no more than 30 percent by volume anywhere in the fill as visually determined by the Engineer."

9. Refer to Page 202, **Subsection 4.11.3.(E) GLASS**;
Add the following new **Subsection 4.11.3.(F) RECYCLED PORCELAIN
AGGREGATE (RPA)**:

“(F) RECYCLED PORCELAIN AGGREGATE (RPA)

All porcelain to be used as RPA shall be crushed by a New York City Department of Environmental Protection (NYCDEP) approved recycling facility to a maximum particle size of 3/8 inch and graded to meet the gradation specified above for use in either fill, backfill or select fill, as may be required. RPA from any other source will not be permitted. The NYCDEP approved recycling facility will also certify that the RPA being furnished is free from organic material and other unsuitable material.

Should the Contractor desire to use RPA in his fill or backfill material, he shall contact Mr. Vasyl Kravchyk at NYCDEP (Tel. No. 718-595-7512) to determine the availability of RPA and from which recycling facility it can be obtained.

The Contractor shall be required to make arrangement with the recycling plant, at least two (2) weeks in advance of when he would need the material, to schedule the time, date and quantity available for pickup. The Contractor shall be required to furnish the recycling facility with a complete list of his trucks involved in transporting the material, which shall include the name of the registered owner (Contractor), Consumer Affairs or DOS Permit numbers, body license plate number, and truck volume. This information must be supplied to the facility prior to the start of picking up the RPA.

Weight ticket receipt slips given by the recycling facility to each truck driver picking up RPA shall be collected by the Contractor and given to the Engineer upon delivering fill or backfill material to the site that contains RPA, and the Contractor agrees and warrants that in obtaining the RPA that such material has originated only from a NYCDEP approved recycling plant and it has not been mixed with porcelain material from any other source.

The Contractor shall be required to transport said material from the approved recycling facility to his yard for storage and mixing with his fill material; however, there is not guarantee that the material will actually be available.

The Contractor is advised that there is no guarantee that RPA will in fact be available for his use from a NYCDEP approved recycling plant and he shall make no claim against the City for loss of anticipated profits should the material not be available upon request by the Contractor.

All excess RPA not used in the fill or backfill shall remain the property of the DDC Contractor.

The Contractor must comply with all rules and regulations of the Department of Transportation and the Department of Environmental Protections governing the use of RPA in its fill and backfill material.”

10. Refer to Pages 218 and 219, **Subsection 4.13.4.(H) PIGMENTING, first four paragraphs**;
Delete the first four paragraphs under Subsection 4.13.4.(H), in their entirety;
Substitute the following revised four paragraphs:

“Where pigmentation is specified, the concrete sidewalks shall be pigmented with an admixture complying with the requirements of **Section 2.19** and the following requirements:

‘Commercial Gray’: In commercial districts C4-4 through C4-7, C5 and C6, as defined in the Zoning Resolution of the City of New York, and in areas under the jurisdiction of the Lower Manhattan Development Corporation the color of the concrete shall be integrally pigmented to produce a gray color equivalent to L.M. Scofield ‘Landmarks Grey’ K-157-4; L.M. Scofield ‘Cool Black No. 4’; Davis Colors No. 884-3%; Lansco Color No. 437 ‘Strong Black’ 5 lbs. per 94 lbs. Light Grey Portland Cement and 3 parts sand; Bayferrox NYC Landmark Commission Gray, 3.5 lbs. per 94 lbs. Light Gray Portland Cement; or an approved equivalent, unless otherwise specified.

'Bluestone': Where the color of the concrete is required to simulate the color of dark gray bluestone, the concrete shall be integrally pigmented to produce a gray color equivalent to: Davis Colors No. 884-3%; Lansco Color No. 437 'Strong Black' 5 lbs. per 94 lbs. Light Grey Portland Cement and 3 parts sand; L.M. Scofield 'Cool Black No. 4'; Bayferrox Limestone 330, 2 lbs. per 94 lbs. Light Gray Portland Cement; or an approved equivalent, unless otherwise specified.

'Granite': Where the color of the concrete is required to simulate the color of light to medium gray granite, the concrete shall be integrally pigmented to produce a gray color equal to: Davis Colors No. 884-1%; Lansco Color No. 437 'Strong Black' 2.5 lbs. per 94 lbs. Light Grey Portland Cement and 3 parts sand; L.M. Scofield 'Cool Black No. 1'; Bayferrox Silver 330, 1 lb. per 94 lbs. Light Gray Portland Cement; or an approved equivalent, unless otherwise specified."

[Added 05-24-2013]

11. Refer to Page 14, **Subsection 1.06.23.(A) PERMITS**, first paragraph as modified by Article 4 on page A1-1b;
Add the following new text:

"(d) All necessary permits from the Department of Environmental Protection which may include, but are not limited to, permits for use of City water."

12. Refer to Page 14, **Subsection 1.06.23.(A) PERMITS**, second paragraph;
Add the following as the third paragraph:

"No fee permits for use of City water necessary to complete roadway pavement reconstruction project in conjunction with installation of sewers and/or water mains, will be issued by the Department of Environmental Protection. However, for all other type projects (such as installation of sidewalks, installation of pedestrian ramps, pavement milling, resurfacing, rehabilitation of retaining walls, and bridge reconstruction type projects) the Contractor will be required to obtain the water use permit at its own cost."

[Added 08-05-2013]

13. Refer to page 116, second paragraph up from the bottom of the page, first line;
Change the words "Concrete of Type IA and IIA shall have ..." to read "Concrete of Type IA, IIA and IIIA shall have ..."

[Added 09-04-2013]

14. Refer to page 100, **Subsection 3.01.3.(C)1.(c)**;
Delete the last two lines of text beginning with the words "The proportion of reclaimed asphalt pavement permitted within each mix ...";
Substitute the following sentence: "The proportion of reclaimed asphalt pavement permitted within each mix shall be not less than 30 percent for the top and bottom courses as per Local Law #71 of 2011."

15. Refer to page 110, **Subsection 3.05.2.(A)**, **Table 3.05-I**;
Insert the following text at the bottom of **Table 3.05-I**:

"Note: The above proportions shown for non-High-Early mixes shall be modified by pozzolan substitutes as per **Subsection 3.05.4**."

16. Refer to page 112, **Subsection 3.05.3.(C)**, second paragraph;
Delete the second paragraph in its entirety;
Substitute the following paragraph:

“Water shall be potable and drawn from municipal water mains.”

17. Refer to page 113, first line of text, beginning with the words
“condition making up one (1) cubic yard of concrete.”;
Insert the following sentence between the words “condition making up one
(1) cubic yard of concrete.” and “The range of water-cement ratio within which the . . .”:

“The calculated yield of the mix shall be within \pm 2% of the Theoretical one (1) cubic yard.”

18. Refer to Page 113, second paragraph beginning with the words “The
Contractor may substitute Portland cement . . .”;
Delete the second paragraph under **Subsection 3.05.4.**, in its
entirety;
Substitute the following revised paragraph:

“With the exception of high-early strength concrete, the Contractor shall be required to substitute Portland cement with pozzolans (Fly Ash or GGBFS) such that the maximum amount of Portland cement per cubic yard of concrete does not exceed 400 pounds, and with the use of an approved non-corrosive, non-chloride admixture as required to obtain a minimum compressive strength of 3,000 psi in seven (7) days. For high-early strength concrete the Contractor may substitute Portland cement with pozzolans (Fly Ash or GGBFS), pound for pound, up to 20% (or up to 25% for tidal/sea water spray areas) of the weight of cement specified for any concrete mixture provided the Contractor can obtain a minimum compressive strength of 3,000 p.s.i. in three (3) days. The Contractor, immediately following but not later than eight weeks after the date of the Contractor’s Notice to Proceed, shall file with the Engineer, Age-Strength data of the job mix he proposes to use for the various ambient temperatures anticipated during the period of concrete placement. This data shall be presented in both tabular and graphical form for those various ambient temperatures with a maximum setting period of seven (7) days for Class B-32 concrete or seventy-two (72) hours for High-Early Strength Concrete.”

19. Refer to Page 115, **TABLE 3.05-III - INGREDIENT MATERIALS**;
Change in the third row, second column, the type of Portland
Cement from “Type III*” to read “Type II or Type III*”

20. Refer to page 132, **Subsection 3.06.3.(D)**;
Change the words “Water shall be drawn from mains owned by The City of New York.” to
read “Water shall be potable and drawn from municipal water mains.”

21. Refer to page 133, **Subsection 3.07.3.(D)**;
Change the words “Water shall be drawn from mains owned by or supplying water to The
City of New York.” to read “Water shall be potable and drawn from municipal water
mains.”

22. Refer to page 134, **Subsection 3.08.4.(D)**;
Change the words “Water shall be drawn from mains owned by or supplying water to The
City of New York.” to read “Water shall be potable and drawn from municipal water
mains.”

23. Refer to Page 166, **Subsection 4.05.2.(A)**;
Delete **Subsection 4.05.2.(A)**, in their entirety;
Substitute the following revised **Subsection 4.05.2.(A)**:

“(A) Concrete Pavement shall be of the following types:

- Type 1--Non-reinforced
- Type 2--Reinforced (Unpigmented or pigmented if specified)
- Type 3--High Early Strength Reinforced (Unpigmented or pigmented if specified)

Type 2 and Type 3 pavements shall consist of a concrete surface course, which shall be unpigmented or pigmented if specified, laid on a concrete base course, which may or may not be pigmented at the Contractor's option, while the base course is still plastic, of the thickness shown on the Contract Drawings, with reinforcement placed between the surface and base courses.”

24. Refer to Page 166, **Subsection 4.05.3.(A)**;
Insert the following new **Subsection 4.05.3.(A1)**:

“(A1) PIGMENTING

Where pigmenting is specified, the surface course of the concrete bus pad shall be pigmented with an admixture complying with Section 2.19 and the following requirements:

Where the color of the concrete is required to simulate the red color of the Red Bus Lane Pavement Overlay (Item 6.44 POR in Section 6.44 PO), the surface course concrete shall be integrally pigmented to produce a red color equivalent to Scofield's quarry red.

Except for the use of an air-entraining agent complying with ASTM Designation C 260 and water reducing admixtures complying with ASTM Designation C 494 used in combination with the Pigment Admixture as per the pigment manufacturer's instruction, no other admixtures (including, but not limited to, calcium chloride) shall be used unless stated in writing by the manufacturer of the Pigment Admixture to be of no consequence to the colorfastness of the concrete mixture and is approved by the Engineer.

All pigmented concrete at different locations shall be identical, unless otherwise directed. Variations in color/tint/hue will not be acceptable. Therefore, the same brand and type of cement and the same source and type of aggregate shall be used throughout the project.

Prior to the mix design being made, the cement intended for use shall be checked to determine that its lightness/darkness is similar to the cement used in the original approved sample. The Pigmented Admixture shall be added in the standard proportion specified by the manufacturer.”

25. Refer to Page 170, **Subsection 4.05.5.(A) GENERAL**;
Insert the following two new paragraphs:

“For pigmented concrete, the Contractor shall within eight weeks of the notice to proceed, submit the name of its proposed roadway installer upon which his bid is based, along with their respective work history experience in placing pigmented concrete. The installer shall have documented experience in working with pigmented concrete.

Prior to making any field samples and the placing of any pigmented concrete, the Contractor, its concrete supplier, installer, cement producer, laboratory, the pigmented admixture's representative, and the Engineer shall meet and agree on the specifications and methods of handling the pigmented concrete.”

26. Refer to Page 183, **Subsection 4.05.9. PRICES TO COVER**, 4th line;
Insert in the fourth line, the words "pigment when specified" between
the words "specifications, including, but not limited to," and "furnishing and installing
...":

27. Refer to Page 183, **Subsection 4.05.9. PRICES TO COVER**;
Insert the following two new Items to the list of Item Nos. at the
bottom of **Subsection 4.05.9**:

"4.05 ACP	REINFORCED CONCETE PAVEMENT (BUS STOPS)(PIGMENTED)	C.Y.
4.05 AXP	HIGH-EARLY STRENGTH REINFORCED CONCRETE PAVEMENT (BUS STOPS)(PIGMENTED)	C.Y."

2. AMENDMENTS TO STANDARD HIGHWAY SPECIFICATIONS, VOLUME II

[Added 01-25-2012]

1. Refer to Pages 365 and 366, **Subsection 6.40.2.(C)(c)(1) Personal Computer(s) - Workstation Configuration;**

Delete the text under **Subsections (a), (b), (c), (d), (h), (i), and (m)**, in their entirety;

Substitute the following revised text:

- “(a) Make and Model: Dell; HP; Gateway; Acer; or, an approved equivalent. (Note: an approved equivalent requires written approval of the Assistant Commissioner of ITS.)
- (b) Processor: i5-2400 (6MB Cache, 3.1GHz) or faster computer - Single Processor.
- (c) System Ram: Minimum of 4GB (Gigabytes) Dual Channel DDR3 SDRAM at 1333MHz – 2 DIMMSs
- (d) Hard Disk Drive(s): 500 GB (Gigabytes) Serial ATA (7200RPM) w/DataBurst Cache, or larger.”
- “(h) Video Display Card: HD Graphics (VGA, HDMI) with a minimum of 64 MB of RAM.
- (i) Monitor: 22" W, 23.0 Inch VIS, Widescreen, VGA/DVI LCD Monitor.”
- “(m) Software Requirements: Microsoft Windows 7 Professional SP1, 64 bit; Microsoft Office Professional 2010; Microsoft Project 2010; Adobe Acrobat reader; Anti-Virus software package with 2 year updates subscription; and, either Auto Cad 2012 LT or Microsoft Visio 2010 Standard Edition, as directed by the Engineer.”

~~2. Refer to Page 366, **Subsection 6.40.2.(C)(c)(2)(b)**;
Delete the text under **Subsection (b)**, which begins with the words
“(b) One (1) 600 DPI HP Laser Jet . . .”, in its entirety;
Substitute the following revised text:~~

~~“(b) **One (1) 600 DPI HP Color Laser Jet all-in-one Printer/Scanner/Copier/Fax (twelve (12) pages per minute or faster) with one (1) Extra Paper Tray (Legal Size) networked to all office computers.**”~~

3. Refer to Page 367, **Subsection 6.40.3. SPECIFIC REQUIREMENTS FOR ENGINEERS FIELD OFFICE (TYPE A, B, C, CU, D OR DU)**, first paragraph;
Delete the text in the first paragraph of **Subsection 6.40.3.**, in its entirety;
Substitute the following revised text:

6.40.3. SPECIFIC REQUIREMENTS FOR ENGINEER'S FIELD OFFICE (TYPE A, B, C, CU, D, OR DU). In addition to the general requirements, each type of Field Office shall have the minimum floor area indicated in Table 6.40-I calculated based on usable area only, excluding any loss factors. Loss factors are defined as those areas such as lobby, sidewalk window ledge, elevator shafts and stairways. The Contractor shall provide and maintain furnishings for each type of Field Office in the quantity specified in Table 6.40-I. The furnishings shall be new or used equipment satisfactory to the Engineer:

4. Refer to Page 368, TABLE 6.40-I, ADDITIONAL REQUIREMENTS SPECIFIC REQUIREMENTS;
Delete the requirements for a Photocopy Machine shown in the 15th row of TABLE 6.40-I, in its entirety;
Substitute the following revised requirements:

Photocopying Machine – Stand-alone, heavy duty, electric, dry-process color photocopying type with a minimum production rate of 70 pages per minute and an adequate supply of copy paper, toner, etc. The machine shall be capable of duplex copying paper sizes of 8-1/2 x 11 inches, 8-1/2 x 14 inches and 11 x 17 inches, and have separate trays for each paper size. It shall have a document feeder, collator, stapler, and the capability to reduce/enlarge copies between each paper size. The supply of each size copy paper, toner, etc. shall be replenished and the machines shall be maintained for the duration of the contract by the Contractor as required by the Engineer. Make and model can be Minolta, Canon, IBM, Epson, or an approved equivalent, and shall be networked to the office computers.	1	1	1	1	1	1
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5. Refer to Page 368, TABLE 6.40-I, ADDITIONAL REQUIREMENTS SPECIFIC REQUIREMENTS;
Insert the following two additional requirements:

Heavy duty commercial grade diamond cut shredder with automatic start. The shredder shall be able to receive 8-1/2 inch wide paper and shred a minimum of 15 sheets simultaneously along with CDs and staples.	1	1	1	1	1	1
Projector – 1080p LCD with a min. of 2200 ANSI Lumens, 1920 x 1080, 16:9, 40,000:1 contrast ratio, HDMI, VGA, USB, and a 10 feet diagonal, 16:9 Projection Screen.	-	-	1	1	1	1

6. Refer to Page 496, Subsection **7.20.4. METHODS**, last paragraph beginning with the words "When directed by the Engineer, due to the original conditions . . .";
Add the following sentence to the end of the last paragraph under **Subsection 7.20.4:**

"However, if the owner at his own expense supplies the replacement frame and doors or hatch covers the Contractor shall install the replacement frame and doors or hatch covers under this Item 7.20, as a basement access reset, in lieu of the steel safety closure plate."

[Added 07-16-2012]

7. Refer to Page 365, **Subsection 6.40.2.(C)(c)(1) "Personal Computer(s) - Workstation Configuration"**;
Delete the text under **Subsections (g) and (k)**, in their entirety;
Substitute the following revised text:

- (g) I/O Ports: Must have at least one (1) Serial Port, one (1) Parallel Port, and three (3) USB Ports.
- (k) Network Interface: Integrated 10/100/1000 Ethernet card."

8. Refer to Page 366, **Subsection 6.40.2.(C)(c)(2) "All field offices requiring computers shall be provided with the following:"**;
Delete the text under **Subsection (a)**, in its entirety;
Substitute the following revised text:

- "(a) One (1) broad-band internet service account. Wideband Internet connectivity at a minimum throughput of 15 Mbps download and 5 Mbps upload is required at each field office location with 1-5 staffers. For larger field offices see table below for minimum required upload speeds. Telephone service should be bundled together with Internet connectivity. Because of throughput requirements Verizon FIOS is the preferred connectivity provider where available.

Office Personnel #	Upload Speeds (Minimum)
1 - 5	5 Mbps
6 - 10	10 Mbps
11 - 15	15 Mbps
16 - 20 ...	20 Mbps

This account will be active for the life of the project. The e-mail name for the account shall be the DDC Field Office/project Id (e.g. FLD K HWK666 McGuinness@earthlink.com)."

[Added 08-09-2012]

9. Refer to Page 366, **Subsection 6.40.2.(C)(c)(2)(b)**, as amended by Article 2 on page A1-2 of this Addendum;

Delete the text under **Subsection (b)**, in its entirety;

Substitute the following words: **"(b) (No Text)."**

10. Refer to Page 368, TABLE 6.40-I, ADDITIONAL REQUIREMENTS SPECIFIC REQUIREMENTS;

Delete the requirements for a Photocopy Machine shown in the 15th row of TABLE 6.40-I, as modified by Article 4 on page A1-2a of this Addendum, in its entirety;

Substitute the following revised requirements:

Photocopying Machine – Stand-alone, heavy duty, electric, dry-process color photocopying type with color scan and send capability via e-mail, a minimum production rate of 70 pages per minute and an adequate supply of copy paper, toner, etc. The machine shall be capable of duplex copying paper sizes of 8-1/2 x 11 inches, 8-1/2 x 14 inches and 11 x 17 inches, and have separate trays for each paper size. It shall have a document feeder, collator, stapler, and the capability to reduce/enlarge copies between each paper size. The supply of each size copy paper, toner, etc. shall be replenished and the machines shall be maintained for the duration of the contract by the Contractor as required by the Engineer. Make and model can be Minolta, Canon, IBM, Epson, or an approved equivalent, and shall be networked to the office computers.	1	1	1	1	1	1
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[Added 11-26-2012]

11. Refer to Pages 504 through 508, **SECTION 7.88 - Rodent and Waterbug Pest Control**;

Delete **Section 7.88**, in its entirety;

Substitute SECTION 7.88 (Revised), as contained on the following pages A1-2d through A1-2i.

[Added 02-08-2013]

12. (NO TEXT)

SECTION 7.88 (Revised)
Rodent and Waterbug Pest Control

7.88.1. DESCRIPTION. The Contractor shall provide all labor, materials, plant and equipment, and incidentals required to survey and monitor rodent activity and control any infestation or outbreak of rodents and waterbugs (American cockroaches) within the project limit.

7.88.2. MATERIALS. All materials shall be approved by the New York State Department of Environmental Conservation and comply with the New York City Health Code for the intended usage.

Rodenticide weatherproof bait blocks shall be multiple dose anticoagulants such as Chlorophacinone or Diphacinone, or single feed rodenticides such as ContraMeal, ContractBait block, Quintox pellets or TalonG pellets, or an approved equivalent.

Tamper proof bait station boxes shall be designed to exclude other mammals and shall be used with poisoned bait to attract rats. Information on "tamper proof bait station boxes" is available from the NYC Bureau of Regulatory & Environmental Health Services, Pest Control Office (718-956-7103/4).

Live traps shall be of proper dimensions for trapping rats and shall not be used with poisoned bait.

Insecticide bait shall be a residual type such as phenol methyl carbamate (2%) bait or an approved equivalent.

(A) SUBMITTALS

Prior to commencement of construction activities the Contractor shall submit to the Engineer manufacturer's installation instructions for all materials required for rodent and waterbug pest control work and product data which shall include illustrations, catalog data, product characteristics, typical use, performance, and limitation criteria of all rodent and waterbug pest control materials required.

7.88.3. PERSONNEL. The Contractor shall employ two independent licensed exterminators: one to engage in survey and monitoring work to establish the level of infestation of rodents and insects and provide recommendations for specific Integrated Pest Management (IPM) actions, and one to execute the rodent and waterbug pest control work to deal with such infestations. All pest control personnel employed by each exterminator company must be supervised by an exterminator licensed in categories 7A & 8. The Contractor shall submit the names and license credentials of the two exterminator companies to the Engineer for approval prior to the commencement of any work under this section.

7.88.4. METHODS. Application and dosage of all materials shall be done in strict compliance with the manufacturer's recommendations. All surveying, monitoring, baiting, and/or live trapping work shall be performed in the presence of the Engineer, without which no payment will be made under this Section.

(A) GENERAL

The Contractor's construction activity is expected to disturb any established rodent and/or waterbug population that may exist within the project limits, possibly causing their dispersion. The Contractor shall take all appropriate action to eliminate and/or control these populations within the construction corridor: the construction corridor shall be defined as being the full width of streets under the contract and intersecting streets up to the limits of construction, from property line to property line, excluding buildings and under sidewalk building vaults.

Under the Maintenance of Site requirements for the contract, any unsanitary conditions, such as uncollected garbage or debris, resulting from the Contractor's activities which will provide food and shelter to the resident rodent population shall be corrected by the Contractor immediately after notification of such condition by the Engineer. Non-compliance shall be subject to the application of the "Nonconformance" provisions of the Item for Maintenance of Site, and no payment will be made for any additional application of rodenticide or insecticide needed to control resultant infestations.

(B) SURVEY AND MONITORING WORK

(1) Prior to Construction - The Contractor's designated survey and monitoring exterminator shall execute a survey of the project area and estimate the level of rodent (Norway rat, House mouse) infestation and the waterbug population within the construction corridor. An appropriate sample of utility manholes (sewer, electrical, telephone, etc.) and catch basins should be opened and surveyed to the satisfaction of the Engineer. Contractor shall maintain all survey records in the manner described in 7.88.6., Records and Reports.

(2) During Construction - The Contractor shall monitor the rodent activity through trapping (snap, glue traps or live traps), fecal count methods, and inspection of the conditions of all installed baits every week during construction activity or as otherwise directed by the Engineer. Contractor shall maintain all monitoring records in the manner described in 7.88.6., Records and Reports.

(C) RODENT CONTROL WORK

(1) Wetlands, Woodlands and Areas Within Seventy-five (75') feet of a Stream. In wetlands, woodlands and areas adjacent to a stream, special precautions must be taken to protect water quality and to ensure the safety of other wildlife. To prevent poisoned bait from entering streams, no poisoned bait shall be used in areas within seventy-five (75') feet of either streambank. Live traps must be used in these seventy-five (75') feet buffer zone areas and within wetland and woodland areas.

(2) Outside Wetland Areas, Woodland Areas and Beyond Seventy-five (75') feet of a Stream. In areas outside the seventy-five foot zone of protection adjacent to streams, and areas outside wetlands and woodlands, tamper proof bait stations with poisoned bait shall be established during the period of construction and any consumed or decomposed bait shall be replenished as directed.

Rodent control shall be achieved in two stages as follows:

Stage I. At least one month prior to initiation of the construction work, and periodically thereafter, live traps and/or rodenticide bait, as directed above, shall be placed at locations [e.g., burrows, utility manholes (sewer, electrical, phone, etc.), and catch basins] that are inaccessible to pets, human beings, children and other non-target species, particularly wildlife (e.g., birds) in the construction corridor. Locations of initial bait placement and quantities of bait shall be determined by the survey and monitoring exterminator's written report of his survey and monitoring results, or as otherwise directed by the Engineer.

Stage II. During Construction - Infested sites as determined by the survey and monitoring exterminator's monitoring report shall be baited and/or rebaited, and live traps shall be collected and replaced, the rates and quantities of which shall be determined by the written monitoring reports submitted weekly or as otherwise directed by the Engineer in consultation with the City's Office of Pest Control.

The baiting exterminator shall be responsible for collecting and disposing of all trapped and poisoned rodents found in live traps and tamper proof bait stations. The baiting exterminator shall also be responsible for posting and maintaining signs announcing the baiting of each particular location.

The Contractor, under his maintenance of site operations, shall be responsible for the immediate collection and disposal of any visible rodent remains found on streets or sidewalk within the project limits. Any visible remains shall be placed into double plastic bags. No more than five (5) carcasses shall be placed into each bag. Each bag shall be a minimum of 3 mils thick, black plastic. No additional payment will be made for this work.

It is anticipated that public complaints will be addressed to the Engineer's Field Office. The Contractor, where directed by the Engineer, shall take appropriate Integrated Pest Management (IPM) actions, such as baiting, trapping, proofing, etc., to remedy the source of a complaint within the next six (6) hours of normal working time, which is defined herein, for the purposes of this section, as 7 A.M. to 6 P.M. on Mondays through Saturdays.

(D) WATERBUG (AMERICAN COCKROACH) CONTROL

Infested sites (e.g., sewers) shall be baited at least 2 times per month with insecticides, or as directed by the Engineer in consultation with the exterminator monitoring the work and the City's Office of Pest Control.

7.88.5. EDUCATION & TRAINING. The Contractor shall post notices in all Construction Bulletin Boards advising workers, employees, and residents to call the Engineer's Field Office to report rodent and waterbug infestations. The Contractor shall provide and distribute literature pertaining to IPM techniques of rodent control to affected businesses and superintendents of nearby residential buildings to ensure their participation in maintaining their establishments free of unsanitary conditions, harborage removal and rodent proofing.

Prior to application of any chemicals, the Contractor shall furnish copies or sample labels for each pesticide, antidote information, and Material Data Safety Sheets (MSDS) for each chemical used.

7.88.6. RECORDS AND REPORTS.

(A) GENERAL

The Contractor shall be responsible for assigning within the construction corridor an identifying number to each manhole, catch basin, and other location where bait and/or live trap placement and/or waterbug control work is proposed by the survey and monitoring exterminator. The Contractor shall then provide that list of locations and corresponding reference numbers along with a drawing showing the locations, as a reference for the exterminator(s) performing the work, to indicate locations of bait placement and waterbug control work and rodent and waterbug activity (droppings, bait consumed, dead rodents, etc.).

(B) SURVEY AND MONITORING WORK

(1) Prior to Construction – Contractor shall submit to the Engineer, for approval, a written survey report including proposed IPM procedures, including specific materials, quantities, locations, methods, and time schedule for the implementation of the exterminating work. The written report shall also include a survey with a drawing (provided by the Contractor) marked with locations indicating all signs of rodent (Norway rat, House mouse) infestation and waterbug activity discovered during the execution of the survey indicating that rodent and waterbug pest control work is necessary.

(2) During Construction - Based on monitoring results, Contractor shall submit to the Engineer a weekly written monitoring report identifying all locations and conditions of installed bait and/or other rodent control work. The monitoring report shall also include any other recommended IPM techniques, such as baiting, trapping, proofing, etc., proposed for rodent and waterbug pest control.

The survey and monitoring exterminator shall keep a record of all rodent and waterbug infestation surveys s/he has conducted. The Contractor shall be required to submit a copy of all survey and monitoring reports to the Engineer each week, prior to payment.

(C) RODENT AND WATERBUG CONTROL WORK

The baiting exterminator shall maintain records of all locations baited along with the type and quantity of rodenticide and insecticide bait used. These records will be kept by the City Inspector. A weekly report shall be prepared, signed and certified by the approved licensed exterminator, and such reports shall be submitted to the Engineer each week, prior to payment.

7.88.7. NONCONFORMANCE. If the Contractor fails to perform as directed to control the rodent and/or waterbug population at any location within the project limits for a period of more than one week, the Engineer will correct the adverse conditions by any means he deems appropriate, including but not limited to, the use of “outside services” and shall deduct the cost of the corrective work from any monies due to the Contractor. The deducted cost of this work shall be in addition to the non-payment for rodent and waterbug pest control.

7.88.8. MEASUREMENT.

(A) RODENT INFESTATION SURVEY AND MONITORING

The quantity to be measured for payment under Item No. 7.88 AA, RODENT INFESTATION SURVEY AND MONITORING, shall be a Lump Sum measurement.

(B) RODENT BAIT STATIONS

The quantity to be measured for payment under Item No. 7.88 AB, RODENT BAIT STATIONS, shall be the number of tamper-proof rodent bait station boxes and/or live traps satisfactorily installed or reinstalled after inspection within the construction corridor, as approved by the Engineer. However, the initial baiting, and subsequent rebaiting as may be required, of any bait station will be paid for under Item 7.88 AC.

(C) BAITING OF RODENT BAIT STATIONS

The quantity to be measured for payment under Item No. 7.88 AC, BAITING OF RODENT BAIT STATIONS, shall be the number of tamper-proof rodent bait station boxes, utility manholes, catch basins, or other locations approved by the Engineer, satisfactorily baited or rebaited to replenish consumed or decomposed bait within the construction corridor, as approved by the Engineer.

(D) WATERBUG BAIT APPLICATION

The quantity to be measured for payment under Item No. 7.88 AD, WATERBUG BAIT APPLICATIONS, shall be the number of blocks satisfactorily treated with insecticide bait within the construction corridor, as approved by the Engineer. A block shall be defined as the area of street, measured between property lines, from intersection to intersection. Each rebaiting of any block shall be considered as a new block for measurement purposes.

7.88.9. PRICES TO COVER.

(A) RODENT INFESTATION SURVEY AND MONITORING

Payment will be made at the lump sum price bid for RODENT INFESTATION SURVEY AND MONITORING which shall include the cost of furnishing all the labor, materials, plant, equipment (traps, etc.), insurance, and other incidentals required, including but not limited to providing all required maintenance of traffic equipment, to perform a rodent infestation survey of the project area and then monitor the site each week for rodent activity, all in accordance with the specifications and the directions of the Engineer.

Ten (10%) percent of the lump sum price bid will be paid when the initial survey of the project area has been completed and the written survey report has been submitted to the satisfaction of the Engineer. The remainder will be paid in proportion to the percentage of contract completion.

(B) RODENT BAIT STATIONS

The Contract price bid for RODENT BAIT STATIONS shall be a unit price per each tamper proof bait station box and/ or live trap installed or reinstalled after inspection and shall cover the cost of furnishing all labor, materials, plant, equipment (bait stations, etc.), insurance, and other incidentals, including but not limited to providing all required maintenance of traffic equipment, required to control the rodent population found within the project limits in accordance with the specifications and the directions of the Engineer.

In addition to the payment for Rodent Bait Stations installed or reinstalled under this Item 7.88 AB, the Contractor will also be paid for each baiting or rebaiting, when required, of each bait station, under Item No. 7.88 AC.

(C) BAITING OF RODENT BAIT STATIONS

The Contract price bid for BAITING OF RODENT BAIT STATIONS shall be a unit price per each bait station, utility manhole, catch basin or other location approved by the Engineer satisfactorily baited or rebaited, when required, and shall cover the cost of furnishing all labor, materials, plant, equipment (bait), insurance, and other incidentals, in accordance with the specifications and directions of the Engineer. Installation or resetting of the bait station will be paid for under Item 7.88 AB.

(D) WATERBUG BAIT APPLICATION

The Contract price bid for WATERBUG BAIT APPLICATION shall be a unit price per block treated by the exterminator and shall include the cost of furnishing all the labor, materials, plant, equipment (bait, etc.), insurance, and other incidentals, including but not limited to providing all required maintenance of traffic equipment, necessary to control the waterbug population found within the project limits for the duration of the contract in accordance with the specifications and the directions of the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
7.88 AA	RODENT INFESTATION SURVEY AND MONITORING	L.S.
7.88 AB	RODENT BAIT STATIONS	EACH
7.88 AC	BAITING OF RODENT BAIT STATIONS	EACH
7.88 AD	WATERBUG BAIT APPLICATION	BLOCK

[Added 05-24-2013]

13. Refer to Page 366, **Subsection 6.40.2.(C)(c)(1)(m) Software Requirements**, as modified by Article 1 on page A1-2; Delete the text under **Subsection (m)**, in its entirety; Substitute the following revised text:

“(m) **Software Requirements:** Microsoft Windows 7 Professional SP1, 32 bit; Microsoft Office Professional 2010; Microsoft Project 2010; Adobe Acrobat reader; Anti-Virus software package with 2 year updates subscription; and, either Auto Cad LT or Microsoft Visio Standard Edition, as directed by the Engineer.”

[Added 09-04-2013]

14. Refer to Page 384, the end of **Section 6.44 - White and Yellow Thermoplastic Reflectorized Pavement Markings**; Insert new **SECTION 6.44 PO**, after **Section 6.44**, as contained on the following pages A1-2k through A1-2m.

[Added 02-10-2014]

15. Refer to Pages 393 and 394, **SECTION 6.52 - Uniformed Full-Time Flagperson**; Delete **Section 6.52** on pages 393 and 394, but do not delete examples on pages 395 and 396; Substitute **SECTION 6.52 CG**, as contained on the following pages A1-2n and A1-2o.

SECTION 6.44 PO
Lane Pavement Overlay

6.44PO.1. DESCRIPTION. This section describes the furnishing and application of an approved Green Asphalt Pavement Color Scheme along designated bicycle lanes and Brick-Red Asphalt Pavement Color Scheme matching Quest's StreetBondCL Terracotta color along designated Select Bus Service (SBS) lanes, as indicated in the Contract Drawings or as directed by the Engineer.

6.44PO.2. REFERENCES.

- A. ASTM D-4541 Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Tester.
- B. ASTM D-4060 Test Method for Abrasion Resistance of Organic Coatings by the Taber Abrasion.
- C. ASTM D-522-93A Standard Test Method for Mandrel Bend Test of Attached Organic Coatings.
- D. ASTM G-155 QUV Accelerated Weathering Environment. Standard Practice for Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials.
- E. ASTM D-2486 MEK rub test for chemical resistance.
- F. ASTM D-570 Standard Test Method for water absorption of plastics.
- G. ASTM E-303 British Pendulum test for friction.
- H. EPA 24 ASTM D3960-05 Volatile Organic Compounds.

6.44PO.3. SUBMITTALS.

- A. A copy of the current year accreditation certificate available from the Contractor or subcontractor who will be performing this work, or written verification from the coating supplier that the Contractor or subcontractor is qualified to perform this Work.
- B. Written and published specification for the application of the selected asphalt pavement coating.
- C. Confirmation of coating color.
- D. Proof of coating performance through a Certificate of Analysis or equivalent document as provided by the Contractor or the coating supplier.

6.44PO.4. MATERIALS.

The following table outlines minimum performance properties of a typical asphalt pavement coating.

Characteristic	Test Specification	Measured result
Durability: Taber Abrasion resistance	ASTM D-4060 7 day cure, H-10 wheel (wet test)	< 5.0 g/1000
Water sensitivity	ASTM D-570 Water absorption after 9 days: Remaining absorption after 1 hour of recovery:	< 10% < 1.0%
Color stability	ASTM G-155 QUV 2,000 hours (CIE units)	New York City Bike Lane Green $\Delta E < 1.5$
Color stability	ASTM G-155 QUV 2,000 hours (CIE units)	Brick color $\Delta E < 1.5$

Flexibility: Mandrel Bend	ASTM D-522-93A Flexibility as measured by Mandrel bend 0.5mm thick sample passes 10 mm at 21°C 0.5mm thick sample passes 125mm at -18°C	
Chemical resistance	ASTM D-2486 Modified MEK scrubs 16 dry mils, number of scrubs until 50% substrate exposed	>5000
Adhesion to Asphalt	ASTM D-4541	Substrate Failure
Friction Wet	ASTM E-303 British Pendulum Tester	>55
Environmental Sensitivity	EPA 24 ASTM D-3960-05 Volatile Organic Compounds	VOC < 150

These properties shall be evidenced by Certificates of Analysis produced by an independent qualified testing facility.

Green Bicycle and Red Bus Lane Pavement Overlays furnished by the following manufacturers, or approved equivalent, are acceptable for use in this contract:

Ennis Paint, Inc.
1509 S. Kaufman Street
Ennis, TX 75119

Integrated Pavement Concepts, Inc.
102-17957 55th Avenue
Surrey, BC Canada V3S 6C4

Crafco, Inc.
420 N. Roosevelt Avenue
Chandler, AZ 85226

6.44PO.5. METHODS. The asphalt pavement coating system shall be applied to the pavement in accordance with the manufacturer's specification. In its hardened state the color shall be as specified, and as approved by the Engineer. The material shall present a marking whose color and chemical resistance will not degrade under normal exposure to calcium chloride, sodium chloride or automotive oils and fuels. Color pigments used shall remain stable under exposure to ultra violet light. A minimum of four (4) layers of coating material shall be applied to the pavement surface.

The Contractor shall be required to use the proper equipment in the application of the asphalt pavement coating, as per the recommendation of the coating supplier, and as approved by the Engineer.

Asphalt pavement must be stable, well compacted and generally in excellent condition for the application of the asphalt pavement coating to be successful. The Engineer shall make the final determination as to the suitability of the existing asphalt pavement.

The asphalt pavement surface shall be dry and free from all foreign matter, including but not limited to dirt, dust, de-icing materials, and chemical residue.

The asphalt pavement coating shall only be applied in the correct environmental conditions as instructed by the coating supplier, and as approved by the Engineer.

Refer to the instructions provided by the coating supplier regarding when the painted lane may be opened to traffic. Wait time is typically a function of the dry rate of the coating, and climate conditions.

The Engineer may, at his discretion, require the Contractor to remove all extraneous marks on the pavement made by the agents or employees of the Contractor, or made by others due to improper control or protection of the work area by the Contractor, his agents or employees. Any installation which, in the opinion of the Engineer, is not acceptable, whether by reason of poor workmanship, poor appearance, poor performance, poor materials, improper width or improper alignment, shall be reworked by the Contractor at no cost to the City. The Contractor shall replace rejected installation as directed by the Engineer, within fifteen (15) days after receiving written notification of the rejection of such completed work.

6.44PO.6. MEASUREMENT. The quantities to be measured for payment shall be the number of square yards of Lane Pavement Overlay, of each color, placed as specified to the satisfaction of the Engineer.

6.44PO.7. PRICES TO COVER. The unit prices bid per square yard of Green Bicycle Lane Pavement Overlay and Red Bus Lane Pavement Overlay shall cover the cost of all labor, materials, plant, equipment, insurance, and necessary incidentals required including, but not limited to, testing, cleaning, preparation of surfaces, and application of the lane pavement overlay materials, all in accordance with the contract plans and specifications, and as directed by the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
6.44 POG	GREEN BICYCLE LANE PAVEMENT OVERLAY	S.Y.
6.44 POR	RED BUS LANE PAVEMENT OVERLAY	S.Y.

SECTION 6.52 CG

Crossing Guard

6.52CG.1. INTENT. This section describes the employment of full-time uniformed crossing guards to direct and detour traffic.

6.52CG.2. DESCRIPTION. The Contractor shall furnish an adequate number of competent crossing guards to control vehicular and pedestrian traffic when it is necessary to maintain alternating one-way traffic in one lane of a two-way roadway, and at all other locations where construction operations, construction vehicles and equipment, and temporary traffic patterns related to the construction operations require positive temporary traffic control for safe, efficient traffic operations.

6.52CG.3. METHODS. All crossing guards, whether paid for under this item or not, shall be proficient in speaking, writing and reading English and adequately trained, as approved by the Engineer, in controlling vehicular and pedestrian traffic at construction sites.

All crossing guards, whether paid for under this item or not, their apparel, hand-signaling devices, and active two-way radios shall be appropriate for use at roadway construction sites as approved by the Engineer.

Prior to the start of crossing guard operations, the Contractor shall provide to the Engineer a list of crossing guards to be used in the contract, identifying the source of crossing guard training for each individual. When requested by the Engineer, crossing guards shall demonstrate their competency in crossing guard procedures. Crossing guards not competent in controlling vehicular and pedestrian traffic procedures to the satisfaction of the Engineer shall be retrained or replaced at once. Each crossing guard paid under this item must be a full-time crossing guard. If any worker performing services under this item is also assigned the task of directing construction equipment (as per attached Example #2, worker acting as a flagperson 'A') or any laborer tasks, then such worker shall be deemed to be subject to the provisions of Labor Law §220 Prevailing Wage Schedule and will not be paid for under this Item.

6.52CG.4. MEASUREMENT. The quantity to be measured for payment shall be the number of person-hours of uniformed crossing guard service actually performed, as authorized by the Engineer. Laborers who are not full-time crossing guard will not be measured for payment as crossing guards under this or any other item. Each uniformed crossing guard shall be required to work a minimum of eight (8) hours a day and the Contractor will be given a minimum of twelve (12) hours advanced notice by the Engineer as to when to furnish a crossing guard.

6.52CG.5. PRICE TO COVER. The contract price per person-hour shall cover the cost of all labor, materials, equipment, and insurance necessary to employ a uniformed full-time crossing guard, and equip him/her with safety vests, hard hats, and signaling devices, including all other incidental costs necessary to control and detour traffic, as shown on the Contract Drawings, the Examples #1 and #2 on pages 395 and 396 (excluding worker acting as a flagperson "A" in Example #2), or as directed by the Engineer.

Payment for flagperson "A" in Example #2, shall be deemed to be included under other items of work, as appropriate.

Where there is no scheduled item for Crossing Guard, the cost of furnishing Crossing Guards as required shall be deemed included in the unit price bid for the Maintenance and Protection of Traffic item.

Payment will be made under:

Item No.	Item	Pay Unit
6.52 CG	CROSSING GUARD	PERSON-HOUR (P/HR)

[Added 02-24-2014]

16. Refer to Pages 480 and 481, **Subsection 7.13.2.(B) MAINTENANCE OF STREETS**, 4th paragraph, beginning with the words "The Contractor shall maintain the traveled way . . . ;"
Delete the 4th paragraph, in its entirety;
Substitute the following text:

"The Contractor shall maintain the traveled way in such a condition and conduct operations in such a manner that snow and ice may be readily removed by others as and when necessary, and in such a manner that proper drainage is provided for the melting of snow in the banks resulting from normal plowing. However, the Contractor will not be responsible for snow or ice removal on the pavement or traveled way opened for public usage, except within the limits of the work zone(s) which may include, but is not be limited to, stairways, promenades, esplanade areas, and sidewalk, including those fronting his office and the Engineer's field office all of which will be the responsibility of the Contractor."

[Added 05-12-2014]

17. Refer to Pages 328 through 341, **Subsections 6.23.5. MEASUREMENT and 6.23.6. PRICES TO COVER**;
Delete **Subsection 6.23.5. MEASUREMENT and 6.23.6. PRICES TO COVER**, in their entirety;
Substitute **Subsection 6.23.5. MEASUREMENT (Revised) and 6.23.6. PRICES TO COVER (Revised)**, as contained on the following pages A1-2q through A1-2ae
18. Refer to Page 511, **SECTIONS 7.97 THRU 8.01 (NO TEXT)**;
Change the words "**SECTIONS 7.97 THRU 8.01 (NO TEXT)**" to read "**SECTIONS 7.97 THRU 7.99 (NO TEXT)**";
Insert new Section 8.00MT, as contained on the following pages A1-2af Through A1-2ah;
Insert the words "**SECTION 8.01 (NO TEXT)**".

6.23.5. MEASUREMENT (Revised).

(A) The quantities of

ITEM NO. 6.23 AA	FURNISH AND INSTALL FIRE ALARM POST IN ACCORDANCE WITH F.D. STD. DWG. #141
ITEM NO. 6.23 AB	REMOVE EXISTING FIRE ALARM POST
ITEM NO. 6.23 AC	ADJUST FIRE ALARM POST TO NEW GRADE IN ACCORDANCE WITH F.D. STD. DWG. #167
ITEM NO. 6.23 BA	FURNISH AND INSTALL FIRE ALARM POST AND SUBBASE IN ACCORDANCE WITH F.D. STD. DWG. #141

to be measured for payment shall be the number of fire alarm posts with or without subbases, as specified, incorporated in the work as shown, specified or required, to the satisfaction of the Engineer; the number of fire alarm posts and/or empty housings actually delivered to the Fire Department's storehouse as shown, specified or required, to the satisfaction of the Engineer; or, the number of fire alarm posts adjusted to the new grade as shown, specified or required, to the satisfaction of the Engineer.

(B) The quantities of

ITEM NO. 6.23 AF	FURNISH AND INSTALL FIRE DEPARTMENT POLE TERMINAL (CHIPPY) BOX IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #145AA
ITEM NO. 6.23 AFA	FURNISH AND INSTALL FIRE DEPARTMENT POLE TERMINAL (CHIPPY) BOX IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #145AA WITHOUT TERMINATING CABLES
ITEM NO. 6.23 BF	FURNISH AND INSTALL FIRE DEPARTMENT POLE TERMINAL (HOFFMAN) BOX IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #146
ITEM NO. 6.23 BFE	FURNISH AND INSTALL FIRE DEPARTMENT POLE TERMINAL (HOFFMAN) BOX IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #146 WITHOUT TERMINATING CABLES

to be measured for payment shall be the number of pole terminal boxes of each type, incorporated in the work, complete, as shown, specified or required, to the satisfaction of the Engineer.

(C) The quantities of

ITEM NO. 6.23 BBS	FURNISH AND INSTALL 3" 90 DEGREE P.V.C. WIDE BEND, SCHEDULE 40, U.L. 651 (WITHOUT PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #141
ITEM NO. 6.23 BBSE	FURNISH AND INSTALL 3" 90 DEGREE P.V.C. WIDE BEND, SCHEDULE 40, U.L. 651 (WITH PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #141
ITEM NO. 6.23 BH	FURNISH AND INSTALL 4" 90 DEGREE P.V.C. WIDE BEND, SCHEDULE 40, U.L. 651 (WITHOUT PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #141 OR #145AA
ITEM NO. 6.23 BHE	FURNISH AND INSTALL 4" 90 DEGREE P.V.C. WIDE BEND, SCHEDULE 40, U.L. 651 (WITH PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #141 OR #145AA
ITEM NO. 6.23 CB	FURNISH AND INSTALL 2 - 3" 90 DEGREE P.V.C. WIDE BENDS, SCHEDULE 40, U.L. 651 IN ONE TRENCH (WITHOUT PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #141
ITEM NO. 6.23 CBE	FURNISH AND INSTALL 2 - 3" 90 DEGREE P.V.C. WIDE BENDS, SCHEDULE 40, U.L. 651 IN ONE TRENCH (WITH PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #141

ITEM NO. 6.23 XBB	FURNISH AND INSTALL 2" GALVANIZED STEEL 90 DEGREE BEND (WITHOUT PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #145BB
ITEM NO. 6.23 XBBE	FURNISH AND INSTALL 2" GALVANIZED STEEL 90 DEGREE BEND (WITH PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #145BB
ITEM NO. 6.23 XCC	FURNISH AND INSTALL 3" GALVANIZED STEEL 90-DEGREE BEND (WITHOUT PAVEMENT EXCAVATION)
ITEM NO. 6.23 XCCE	FURNISH AND INSTALL 3" GALVANIZED STEEL 90-DEGREE BEND (WITH PAVEMENT EXCAVATION)
ITEM NO. 6.23 XDD	FURNISH AND INSTALL 4" GALVANIZED STEEL 90-DEGREE BEND (WITHOUT PAVEMENT EXCAVATION)
ITEM NO. 6.23 XDDE	FURNISH AND INSTALL 4" GALVANIZED STEEL 90-DEGREE BEND (WITH PAVEMENT EXCAVATION)

to be measured for payment shall be the number of bends of each type and size of eighteen (18") inch radius for fire alarm posts or poles installed in the work, complete, as shown, specified or required, to the satisfaction of the Engineering.

(D) The quantities of

ITEM NO. 6.23 BCS	FURNISH AND INSTALL 3" P.V.C. CONDUIT, SCHEDULE 40, U.L. 651 (WITHOUT PAVEMENT EXCAVATION)
ITEM NO. 6.23 BCSE	FURNISH AND INSTALL 3" P.V.C. CONDUIT, SCHEDULE 40, U.L. 651 (WITH PAVEMENT EXCAVATION)
ITEM NO. 6.23 BGS	FURNISH AND INSTALL 4" P.V.C. CONDUIT, SCHEDULE 40, U.L. 651 (WITHOUT PAVEMENT EXCAVATION)
ITEM NO. 6.23 BGSE	FURNISH AND INSTALL 4" P.V.C. CONDUIT, SCHEDULE 40, U.L. 651 (WITH PAVEMENT EXCAVATION)
ITEM NO. 6.23 BGT	FURNISH AND INSTALL 2 – 4" P.V.C. CONDUITS, SCHEDULE 40, U.L. 651 IN ONE TRENCH (WITHOUT PAVEMENT EXCAVATION, ONE ON TOP OF THE OTHER)
ITEM NO. 6.23 BGTE	FURNISH AND INSTALL 2 – 4" P.V.C. CONDUITS, SCHEDULE 40, U.L. 651 IN ONE TRENCH (WITH PAVEMENT EXCAVATION, ONE ON TOP OF THE OTHER)
ITEM NO. 6.23 CC	FURNISH AND INSTALL 2 – 3" P.V.C. CONDUITS, SCHEDULE 40, U.L. 651 IN ONE TRENCH (WITHOUT PAVEMENT EXCAVATION, ONE ON TOP OF THE OTHER)
ITEM NO. 6.23 CCE	FURNISH AND INSTALL 2 – 3" P.V.C. CONDUITS, SCHEDULE 40, U.L. 651 IN ONE TRENCH (WITH PAVEMENT EXCAVATION, ONE ON TOP OF THE OTHER)
ITEM NO. 6.23 XB	FURNISH AND INSTALL 2" STEEL GALVANIZED CONDUIT (WITHOUT PAVEMENT EXCAVATION)
ITEM NO. 6.23 XBE	FURNISH AND INSTALL 2" STEEL GALVANIZED CONDUIT (WITH PAVEMENT EXCAVATION)
ITEM NO. 6.23 XC	FURNISH AND INSTALL 3" GALVANIZED STEEL CONDUIT (WITHOUT PAVEMENT EXCAVATION)
ITEM NO. 6.23 XCE	FURNISH AND INSTALL 3" GALVANIZED STEEL CONDUIT (WITH PAVEMENT EXCAVATION)
ITEM NO. 6.23 XD	FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT (WITHOUT PAVEMENT EXCAVATION)
ITEM NO. 6.23 XDE	FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT (WITH PAVEMENT EXCAVATION)

to be measured for payment shall be the number of linear feet of each size, number and kind of fire communication conduit and forty-eight (48") radius bends incorporated in the work, complete, as shown, specified or required, to the satisfaction of the Engineer, measured along the center line of each run of fire communication conduit, from center line of manhole to center line of manhole or to center line of fire alarm post or pole, as is applicable.

(E) The quantities of

ITEM NO. 6.23 BD	FURNISH AND INSTALL 4-PAIR FIRE ALARM CABLE
ITEM NO. 6.23 DC	FURNISH AND INSTALL 10 PAIR FIRE ALARM CABLE
ITEM NO. 6.23 DDA	FURNISH AND INSTALL 15 PAIR FIRE ALARM CABLE
ITEM NO. 6.23 DDB	FURNISH AND INSTALL 20 PAIR FIRE ALARM CABLE
ITEM NO. 6.23 DDC	FURNISH AND INSTALL 25 PAIR FIRE ALARM CABLE
ITEM NO. 6.23 DDD	FURNISH AND INSTALL 30 PAIR FIRE ALARM CABLE
ITEM NO. 6.23 DDE	FURNISH AND INSTALL 40 PAIR FIRE ALARM CABLE
ITEM NO. 6.23 DF	FURNISH AND INSTALL 45 PAIR FIRE ALARM CABLE
ITEM NO. 6.23 DG	FURNISH AND INSTALL 50 PAIR FIRE ALARM CABLE
ITEM NO. 6.23 DH	FURNISH AND INSTALL 55 PAIR FIRE ALARM CABLE
ITEM NO. 6.23 DJ	FURNISH AND INSTALL 60 PAIR FIRE ALARM CABLE

to be measured for payment shall be the number of linear feet of each size and type of fire alarm cable, including slack, incorporated in the work, complete, as shown, specified or required, to the satisfaction of the Engineer, measured along the centerline of each run of fire alarm cable, continuously through manholes.

(F) The quantities of

ITEM NO. 6.23 BE	FURNISH AND INSTALL FIRE DEPARTMENT MANHOLE TYPE "A" WITH FRAME AND COVER IN ACCORDANCE WITH F.D. STD. DWG. #140, #144, & #144E
ITEM NO. 6.23 BES	FURNISH AND INSTALL FIRE DEPARTMENT SLOTTED MANHOLE TYPE "A" WITH FRAME AND COVER IN ACCORDANCE WITH F.D. STD. DWG. #140, #144S & #144E
ITEM NO. 6.23 EB	FURNISH AND INSTALL FIRE DEPARTMENT MANHOLE TYPE "B" WITH FRAME & COVER IN ACCORDANCE WITH F.D. STD. DWG. #140, #144, #144C, #144CC, & #144E
ITEM NO. 6.23 HH	FURNISH AND INSTALL F.D.N.Y. SIDEWALK HANDHOLE WITH FRAME AND COVER IN ACCORDANCE WITH F.D. STD. DWG. #144B OR #144E
ITEM NO. 6.23 HHA	FURNISH AND INSTALL F.D.N.Y. SIDEWALK HANDHOLE WITH FRAME AND COVER IN ACCORDANCE WITH F.D. STD. DWG. #143
ITEM NO. 6.23 HHS	FURNISH AND INSTALL F.D.N.Y. SIDEWALK SLOTTED HANDHOLE WITH FRAME AND COVER IN ACCORDANCE WITH F.D. STD. DWG. #144E OR #144BS

to be measured for payment shall be the number of each type manhole or handhole installed in the work, complete, as shown, specified or required, to the satisfaction of the Engineer.

(G) The quantities of

ITEM NO. 6.23 BFA	FURNISH AND INSTALL FIRE DEPARTMENT 48 WIRE TERMINAL BOX AND TERMINATE FIRE ALARM CABLES
ITEM NO. 6.23 BFB	FURNISH AND INSTALL FIRE DEPARTMENT 24 WIRE TERMINAL BOX AND TERMINATE FIRE ALARM CABLES
ITEM NO. 6.23 BFC	FURNISH AND INSTALL FIRE DEPARTMENT 12 WIRE TERMINAL BOX AND TERMINATE FIRE ALARM CABLES

to be measured for payment shall be the number of terminal boxes of each type, incorporated in the work, complete, as shown, specified or required, to the satisfaction of the Engineer.

(H) The quantity of

ITEM NO. 6.23 BGB	FURNISH AND INSTALL 4" PVC CONDUIT TO 4" GALVANIZED STEEL BUSHING AS SHOWN IN F.D. STD. DWG. #145AA OR 146
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ITEM NO. 6.23 BGD	FURNISH AND INSTALL 3" PVC CONDUIT TO 3" GALVANIZED STEEL BUSHING AS SHOWN IN F.D. STD. DWG. #145AA OR 146
ITEM NO. 6.23 BGR	FURNISH AND INSTALL 4" PVC CONDUIT TO 2" GALVANIZED STEEL REDUCER BUSHING AS SHOWN IN F.D. STD. DWG. #145AA
ITEM NO. 6.23 BGRA	FURNISH AND INSTALL 4" PVC CONDUIT TO 3" GALVANIZED STEEL REDUCER BUSHING AS SHOWN IN F.D. STD. DWG. #145AA OR 146
ITEM NO. 6.23 BGRC	FURNISH AND INSTALL 3" PVC CONDUIT TO 2" GALVANIZED STEEL REDUCER BUSHING AS SHOWN IN F.D. STD. DWG. #145AA OR 146
ITEM NO. 6.23 BGRE	FURNISH AND INSTALL 3" PVC CONDUIT TO 4" GALVANIZED STEEL REDUCER BUSHING AS SHOWN IN F.D. STD. DWG. #145AA OR 146

to be measured for payment shall be the number of bushings incorporated in the work, complete, as shown, specified or required, to the satisfaction of the Engineer.

(I) The quantity of

ITEM NO. 6.23 BP	FURNISH AND INSTALL FIRE ALARM PEDESTAL BUMPERS (2 REQUIRED PER SET) IN ACCORDANCE WITH F.D. STD. DWG. #168
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to be measured for payment shall be the number of sets of bumpers, incorporated in the work, complete, as shown, specified or required, to the satisfaction of the Engineer. Each set shall consist of two (2) bumpers.

(J) The quantities of

ITEM NO. 6.23 FC	REMOVE EXISTING F.D.N.Y. MANHOLE FRAME & COVER AND FURNISH AND INSTALL F.D.N.Y. FRAME & COVER IN ACCORDANCE WITH F.D. STD. DWG. #140
ITEM NO. 6.23 HFC	REMOVE EXISTING F.D.N.Y. SIDEWALK HANDHOLE FRAME & COVER AND FURNISH AND INSTALL F.D.N.Y. SIDEWALK HANDHOLE FRAME & COVER IN ACCORDANCE WITH F.D. STD. DWG. #143 OR #144B

to be measured for payment shall be the number of each type of existing F.D.N.Y. manhole frame & cover or sidewalk handhole frame & cover that have been replaced, at the locations shown or as directed and as shown on the Fire Department Standards, to the satisfaction of the Engineer.

(K) The quantities of

ITEM NO. 6.23 FCA	FURNISH AND INSTALL F.D.N.Y. MANHOLE FRAME & COVER IN ACCORDANCE WITH F.D. STD. DWG. #140
ITEM NO. 6.23 FCB	FURNISH AND INSTALL F.D.N.Y. MANHOLE COVER IN ACCORDANCE WITH F.D. STD. DWG. #140
ITEM NO. 6.23 HC	FURNISH AND INSTALL F.D.N.Y. SIDEWALK HANDHOLE COVER IN ACCORDANCE WITH F.D. STD. DWG. #143 OR #144B
ITEM NO. 6.23 HFCA	FURNISH AND INSTALL F.D.N.Y. SIDEWALK HANDHOLE FRAME AND COVER IN ACCORDANCE WITH F.D. STD. DWG. #143 OR #144B

to be measured for payment shall be the number of new manhole or sidewalk handhole frames with covers or manhole or sidewalk handhole covers incorporated in the work, complete, as shown, specified or required, to the satisfaction of the Engineer.

(L) The quantities of

ITEM NO. 6.23 RH	REMOVE EXISTING F.D.N.Y. SIDEWALK HANDHOLE
ITEM NO. 6.23 RM	REMOVE EXISTING F.D.N.Y. MANHOLE

to be measured for payment shall be the number of F.D.N.Y. manholes or sidewalk handholes actually removed, as specified, at the location shown or as directed, to the satisfaction of the Engineer.

(M) The quantities of

ITEM NO. 6.23 RIC	RODDING AND INSTALLING FIRE ALARM CABLE IN EXISTING TELEPHONE CONDUIT SYSTEM
ITEM NO. 6.23 RICA	ROD AND ROPE CONDUIT AND INSTALL 4 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RICB	ROD AND ROPE CONDUIT AND INSTALL 10 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RICC	ROD AND ROPE CONDUIT AND INSTALL 15 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RICD	ROD AND ROPE CONDUIT AND INSTALL 20 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RICE	ROD AND ROPE CONDUIT AND INSTALL 25 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RICF	ROD AND ROPE CONDUIT AND INSTALL 30 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RICG	ROD AND ROPE CONDUIT AND INSTALL 40 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RICH	ROD AND ROPE CONDUIT AND INSTALL 45 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RICJ	ROD AND ROPE CONDUIT AND INSTALL 50 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RICK	ROD AND ROPE CONDUIT AND INSTALL 55 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RICK	ROD AND ROPE CONDUIT AND INSTALL 60 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RR	ROD AND ROPE EXISTING CONDUIT
ITEM NO. 6.23 XY	FURNISH AND INSTALL POLYPROPYLENE DRAG ROPE

to be measured for payment shall be the number of linear feet of drag rope, with or without rodding, or cable with rodding, including slack, incorporated in the work, complete, as shown, specified or required, to the satisfaction of the Engineer, measured along the center line of each run of drag rope.

(N) The quantities of

ITEM NO. 6.23 XAPE	FURNISH AND INSTALL 1/2" GALVANIZED STEEL CONDUIT POLE RISER IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #145AA
ITEM NO. 6.23 XBPE	FURNISH AND INSTALL 2" GALVANIZED STEEL CONDUIT POLE RISER IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #145AA
ITEM NO. 6.23 XCPE	FURNISH AND INSTALL 3" GALVANIZED STEEL CONDUIT POLE RISER IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #145AA OR #146
ITEM NO. 6.23 XDPE	FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT POLE RISER IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #145AA OR #146

to be measured for payment shall be the number of each type of conduit pole riser installed in the work, complete, as shown, specified or required, to the satisfaction of the Engineer.

(O) The quantity of

ITEM NO. 6.23 PP	PAINT EXISTING FIRE ALARM POST AND/OR BOX
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to be measured for payment shall be the number of fire alarm posts and/or boxes painted, complete, as specified or required, to the satisfaction of the Engineer.

6.23.6. PRICES TO COVER (Revised). Before payment is made for work done under this Section, the Contractor shall obtain a Certificate of Compliance from the Fire Department and file such certificate with the Engineer. The said certificate shall certify that all work at each location complies with the standards of, and is acceptable to, the Fire Department, Bureau of Communications.

The following contract items shall also include the cost of the permits and the letter of acceptance required and necessary to construct the new Fire Communications System at the locations shown or required all in accordance with the Contract Drawings, Specifications and Standards, and as directed by the Engineer.

(A) The contract prices bid for

ITEM NO. 6.23 AA	FURNISH AND INSTALL FIRE ALARM POST IN ACCORDANCE WITH F.D. STD. DWG. #141
ITEM NO. 6.23 BA	FURNISH AND INSTALL FIRE ALARM POST AND SUBBASE IN ACCORDANCE WITH F.D. STD. DWG. #141
ITEM NO. 6.23 AB	REMOVE EXISTING FIRE ALARM POST
ITEM NO. 6.23 AC	ADJUST FIRE ALARM POST TO NEW GRADE IN ACCORDANCE WITH F.D. STD. DWG. #167

shall be a unit price for each and shall cover the cost of all labor, materials, plant, equipment, insurance, samples, and tests required and necessary to furnish and install fire alarm post with or without subbase, as specified, and at the location shown or as directed and as shown on the Fire Department Standards; or to remove the fire alarm post and/or empty housing at the locations shown and deliver them to the Fire Department's Storehouse as directed; and shall include, but not be limited to, adjustment of base, subbase, and terminal box appurtenances, as may be required, at the locations shown or as directed. Said work shall include, but not be limited to, furnishing and installing base, subbase when specified, and appurtenances; connections; and furnishing and installing all other items necessary to complete this work and do all work incidental thereto, all in accordance with the Contract Drawings, Specifications and Standards, and as directed by the Engineer.

(B) The contract prices bid for

ITEM NO. 6.23 AF	FURNISH AND INSTALL FIRE DEPARTMENT POLE TERMINAL (CHIPPY) BOX IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #145AA
ITEM NO. 6.23 AFA	FURNISH AND INSTALL FIRE DEPARTMENT POLE TERMINAL (CHIPPY) BOX IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #145AA WITHOUT TERMINATING CABLES
ITEM NO. 6.23 BF	FURNISH AND INSTALL FIRE DEPARTMENT POLE TERMINAL (HOFFMAN) BOX IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #146
ITEM NO. 6.23 BFE	FURNISH AND INSTALL FIRE DEPARTMENT POLE TERMINAL (HOFFMAN) BOX IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #146 WITHOUT TERMINATING CABLES

shall be a unit price for each type pole terminal box and shall cover the cost of all labor, materials, plant, equipment, insurance, samples, and tests required and necessary to furnish and install the pole terminal box of the type and at the locations shown or as directed and as shown on the Fire Department Standards. Said work shall also include, but not limited to, connections, cable terminations, and furnishing and installing all other items necessary to complete this work and doing all work incidental thereto, all in accordance with the Contract Drawings, Specifications and Standards, and as directed by the Engineer.

(C) The contract prices bid for

ITEM NO. 6.23 BBS	FURNISH AND INSTALL 3" 90 DEGREE P.V.C. WIDE BEND, SCHEDULE 40, U.L. 651 (WITHOUT PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #141
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ITEM NO. 6.23 BBSE	FURNISH AND INSTALL 3" 90 DEGREE P.V.C. WIDE BEND, SCHEDULE 40, U.L. 651 (WITH PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #141
ITEM NO. 6.23 BH	FURNISH AND INSTALL 4" 90 DEGREE P.V.C. WIDE BEND, SCHEDULE 40, U.L. 651 (WITHOUT PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #141 OR #145AA
ITEM NO. 6.23 BHE	FURNISH AND INSTALL 4" 90 DEGREE P.V.C. WIDE BEND, SCHEDULE 40, U.L. 651 (WITH PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #141 OR #145AA
ITEM NO. 6.23 CB	FURNISH AND INSTALL 2 – 3" 90 DEGREE P.V.C. WIDE BENDS, SCHEDULE 40, U.L. 651 IN ONE TRENCH (WITHOUT PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #141
ITEM NO. 6.23 CBE	FURNISH AND INSTALL 2 – 3" 90 DEGREE P.V.C. WIDE BENDS, SCHEDULE 40, U.L. 651 IN ONE TRENCH (WITH PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #141
ITEM NO. 6.23 XBB	FURNISH AND INSTALL 2" GALVANIZED STEEL 90 DEGREE BEND (WITHOUT PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #145BB
ITEM NO. 6.23 XBBE	FURNISH AND INSTALL 2" GALVANIZED STEEL 90 DEGREE BEND (WITH PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #145BB
ITEM NO. 6.23 XCC	FURNISH AND INSTALL 3" GALVANIZED STEEL 90-DEGREE BEND (WITHOUT PAVEMENT EXCAVATION)
ITEM NO. 6.23 XCCE	FURNISH AND INSTALL 3" GALVANIZED STEEL 90-DEGREE BEND (WITH PAVEMENT EXCAVATION)
ITEM NO. 6.23 XDD	FURNISH AND INSTALL 4" GALVANIZED STEEL 90-DEGREE BEND (WITHOUT PAVEMENT EXCAVATION)
ITEM NO. 6.23 XDDE	FURNISH AND INSTALL 4" GALVANIZED STEEL 90-DEGREE BEND (WITH PAVEMENT EXCAVATION)

shall be a unit price for each type of conduit bend, single or double, with or without pavement excavation, as specified, and shall cover the cost of all labor, materials, plant, equipment, insurance, samples, and tests required and necessary to furnish and install a two (2") or three (3") or four (4") inch bend, single or double in one trench, of eighteen (18") inch radius for fire alarm posts or poles at the locations shown or as directed and as shown on the Fire Department Standards. Said work shall also include, but not be limited to, excavation and backfilling, connections, and furnishing and installing all other items necessary to complete this work and doing all work incidental thereto, all in accordance with the Contract Drawings, Specifications and Standards, and as directed by the Engineer.

(D) The contract prices bid for

ITEM NO. 6.23 BCS	FURNISH AND INSTALL 3" P.V.C. CONDUIT, SCHEDULE 40, U.L. 651 (WITHOUT PAVEMENT EXCAVATION)
ITEM NO. 6.23 BCSE	FURNISH AND INSTALL 3" P.V.C. CONDUIT, SCHEDULE 40, U.L. 651 (WITH PAVEMENT EXCAVATION)
ITEM NO. 6.23 BGS	FURNISH AND INSTALL 4" P.V.C. CONDUIT, SCHEDULE 40, U.L. 651 (WITHOUT PAVEMENT EXCAVATION)
ITEM NO. 6.23 BGSE	FURNISH AND INSTALL 4" P.V.C. CONDUIT, SCHEDULE 40, U.L. 651 (WITH PAVEMENT EXCAVATION)
ITEM NO. 6.23 BGT	FURNISH AND INSTALL 2 – 4" P.V.C. CONDUITS, SCHEDULE 40, U.L. 651 IN ONE TRENCH (WITHOUT PAVEMENT EXCAVATION, ONE ON TOP OF THE OTHER)
ITEM NO. 6.23 BGTE	FURNISH AND INSTALL 2 – 4" P.V.C. CONDUITS, SCHEDULE 40, U.L. 651 IN ONE TRENCH (WITH PAVEMENT EXCAVATION, ONE ON TOP OF THE OTHER)
ITEM NO. 6.23 CC	FURNISH AND INSTALL 2 – 3" P.V.C. CONDUITS, SCHEDULE 40, U.L. 651 IN ONE TRENCH (WITHOUT PAVEMENT EXCAVATION, ONE ON TOP OF THE OTHER)

ITEM NO. 6.23 CCE	FURNISH AND INSTALL 2 – 3” P.V.C. CONDUITS, SCHEDULE 40, U.L. 651 IN ONE TRENCH (WITH PAVEMENT EXCAVATION, ONE ON TOP OF THE OTHER)
ITEM NO. 6.23 XB	FURNISH AND INSTALL 2” STEEL GALVANIZED CONDUIT (WITHOUT PAVEMENT EXCAVATION)
ITEM NO. 6.23 XBE	FURNISH AND INSTALL 2” STEEL GALVANIZED CONDUIT (WITH PAVEMENT EXCAVATION)
ITEM NO. 6.23 XC	FURNISH AND INSTALL 3” GALVANIZED STEEL CONDUIT (WITHOUT PAVEMENT EXCAVATION)
ITEM NO. 6.23 XCE	FURNISH AND INSTALL 3” GALVANIZED STEEL CONDUIT (WITH PAVEMENT EXCAVATION)
ITEM NO. 6.23 XD	FURNISH AND INSTALL 4” GALVANIZED STEEL CONDUIT (WITHOUT PAVEMENT EXCAVATION)
ITEM NO. 6.23 XDE	FURNISH AND INSTALL 4” GALVANIZED STEEL CONDUIT (WITH PAVEMENT EXCAVATION)

shall be a unit price per linear foot for each size and kind of fire communication conduit and forty-eight (48”) inch radius bends, single or double, with or without pavement excavation, as specified, and shall cover the cost of all labor, materials, plant, equipment, insurance, samples, and tests required and necessary to furnish and install the fire communication conduit (single or double in one trench) of the sizes and kind (P.V.C. or Galvanized Steel) specified, to the lines and grades and at the locations shown or as directed, with or without pavement excavation, as specified, of all materials of whatever nature encountered (except excavation of boulders in open cut and ledge rock). Said work shall also include, but not limited to, concrete cradles and encasements as required; all sheeting and bracing; pumping; bridging, decking; removal or abandonment, as required, of parts of the existing Fire Communications System; breaking down and filling in of abandoned fire appurtenances; furnishing and installing select granular fill material for backfill; backfilling; compaction; cleaning up; temporary restoration of street surfaces; installation and removal of temporary fire alarm communication facilities, if required; connections; and furnishing and installing all other items necessary to complete this work and do all work incidental thereto, all in accordance with the Contract Drawings, Specifications and Standards, and as directed by the Engineer.

(E) The contract prices bid for

ITEM NO. 6.23 BD	FURNISH AND INSTALL 4-PAIR FIRE ALARM CABLE
ITEM NO. 6.23 DC	FURNISH AND INSTALL 10 PAIR FIRE ALARM CABLE
ITEM NO. 6.23 DDA	FURNISH AND INSTALL 15 PAIR FIRE ALARM CABLE
ITEM NO. 6.23 DDB	FURNISH AND INSTALL 20 PAIR FIRE ALARM CABLE
ITEM NO. 6.23 DDC	FURNISH AND INSTALL 25 PAIR FIRE ALARM CABLE
ITEM NO. 6.23 DDD	FURNISH AND INSTALL 30 PAIR FIRE ALARM CABLE
ITEM NO. 6.23 DDE	FURNISH AND INSTALL 40 PAIR FIRE ALARM CABLE
ITEM NO. 6.23 DF	FURNISH AND INSTALL 45 PAIR FIRE ALARM CABLE
ITEM NO. 6.23 DG	FURNISH AND INSTALL 50 PAIR FIRE ALARM CABLE
ITEM NO. 6.23 DH	FURNISH AND INSTALL 55 PAIR FIRE ALARM CABLE
ITEM NO. 6.23 DJ	FURNISH AND INSTALL 60 PAIR FIRE ALARM CABLE

shall be a unit price per linear foot for each size and type of fire alarm cable, and shall cover the cost of all labor, materials, plant, equipment, insurance, samples, and tests required and necessary to furnish and install the fire alarm cable of the sizes and at the locations shown or as directed. Said work shall also include, but not be limited to, the cost of splices as required; cutting existing conduit, if required; protection and maintenance of the system for the duration of the guarantee period as required; and furnishing and installing all other items necessary to complete this work and do all work incidental thereto, all in accordance with the Contract Drawings, Specifications and Standards, and as directed by the Engineer.

(F) The contract prices bid for

ITEM NO. 6.23 BE	FURNISH AND INSTALL FIRE DEPARTMENT MANHOLE TYPE “A” WITH FRAME AND COVER IN ACCORDANCE WITH F.D. STD. DWG. #140, #144, & #144E
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ITEM NO. 6.23 BES	FURNISH AND INSTALL FIRE DEPARTMENT SLOTTED MANHOLE TYPE "A" WITH FRAME AND COVER IN ACCORDANCE WITH F.D. STD. DWG. #140, #144S & #144E
ITEM NO. 6.23 EB	FURNISH AND INSTALL FIRE DEPARTMENT MANHOLE TYPE "B" WITH FRAME & COVER IN ACCORDANCE WITH F.D. STD. DWG. #140, #144, #144C, #144CC, & #144E
ITEM NO. 6.23 HH	FURNISH AND INSTALL F.D.N.Y. SIDEWALK HANDHOLE WITH FRAME AND COVER IN ACCORDANCE WITH F.D. STD. DWG. #144B OR #144E
ITEM NO. 6.23 HHA	FURNISH AND INSTALL F.D.N.Y. SIDEWALK HANDHOLE WITH FRAME AND COVER IN ACCORDANCE WITH F.D. STD. DWG. #143
ITEM NO. 6.23 HHS	FURNISH AND INSTALL F.D.N.Y. SIDEWALK SLOTTED HANDHOLE WITH FRAME AND COVER IN ACCORDANCE WITH F.D. STD. DWG. #144E OR #144BS

shall be a unit price for each type manhole or sidewalk handhole and shall cover the cost of all labor, materials, plant, equipment, insurance, samples, and tests required and necessary to furnish and install the Fire Department manhole with frame and cover or sidewalk handhole with frame and cover, as specified, at the locations shown or as directed and as shown on the Fire Department Standards. Said work shall also include, but not limited to, excavation of all materials of whatever nature encountered (except excavation of boulders in open cut and ledge rock); reinforcement; all sheeting and bracing; pumping; bridging, decking; removal or abandonment, as required of parts of the existing Fire Communications System; breaking down and filling in of abandoned fire appurtenances; backfill; compaction; cleaning up; temporary restoration of street surfaces; installation and removal of temporary fire alarm communication facilities, if required; connections; and furnishing and installing all other items necessary to complete this work and do all work incidental thereto, all in accordance with the Contract Drawings, Specifications and Standards, and as directed by the Engineer.

(G) The contract prices bid for

ITEM NO. 6.23 BFA	FURNISH AND INSTALL FIRE DEPARTMENT 48 WIRE TERMINAL BOX AND TERMINATE FIRE ALARM CABLES
ITEM NO. 6.23 BFB	FURNISH AND INSTALL FIRE DEPARTMENT 24 WIRE TERMINAL BOX AND TERMINATE FIRE ALARM CABLES
ITEM NO. 6.23 BFC	FURNISH AND INSTALL FIRE DEPARTMENT 12 WIRE TERMINAL BOX AND TERMINATE FIRE ALARM CABLES

shall be a unit price bid for each type cable terminal box and shall cover the cost of all labor, materials, plant, equipment, insurance, samples, and tests required and necessary to furnish and install the cable terminal box of the type and at the locations shown or as directed and as shown on the Fire Department Standards. Said work shall also include, but not be limited to, connections, cable terminations, and furnishing and installing all other items necessary to complete this work and do all work incidental thereto, all in accordance with the Contract Drawings, Specifications and Standards, and as directed by the Engineer.

(H) The contract price bid for

ITEM NO. 6.23 BGB	FURNISH AND INSTALL 4" PVC CONDUIT TO 4" GALVANIZED STEEL BUSHING AS SHOWN IN F.D. STD. DWG. #145AA OR 146
ITEM NO. 6.23 BGD	FURNISH AND INSTALL 3" PVC CONDUIT TO 3" GALVANIZED STEEL BUSHING AS SHOWN IN F.D. STD. DWG. #145AA OR 146
ITEM NO. 6.23 BGR	FURNISH AND INSTALL 4" PVC CONDUIT TO 2" GALVANIZED STEEL REDUCER BUSHING AS SHOWN IN F.D. STD. DWG. #145AA
ITEM NO. 6.23 BGRA	FURNISH AND INSTALL 4" PVC CONDUIT TO 3" GALVANIZED STEEL REDUCER BUSHING AS SHOWN IN F.D. STD. DWG. #145AA OR 146
ITEM NO. 6.23 BGRC	FURNISH AND INSTALL 3" PVC CONDUIT TO 2" GALVANIZED STEEL REDUCER BUSHING AS SHOWN IN F.D. STD. DWG. #145AA OR 146
ITEM NO. 6.23 BGRE	FURNISH AND INSTALL 3" PVC CONDUIT TO 4" GALVANIZED STEEL REDUCER BUSHING AS SHOWN IN F.D. STD. DWG. #145AA OR 146

shall be a unit price bid for each reducer and shall cover the cost of all labor, materials, plant, equipment, insurance, samples, and tests required and necessary to furnish and install a bushing of the type specified and at the location shown or as directed and as shown on the Fire Department Standards. Said work shall also include, but not be limited to, furnishing and installing all other items necessary to complete this work and do all work incidental thereto, all in accordance with the Contract Drawings, Specifications and Standards, and as directed by the Engineer.

(I) The contract price bid for

ITEM NO. 6.23 BP FURNISH AND INSTALL FIRE ALARM PEDESTAL BUMPERS (2 REQUIRED PER SET) IN ACCORDANCE WITH F.D. STD. DWG. #168

shall be a unit price for each set of bumpers (2 required per set) and shall cover the cost of all labor, materials, plant, equipment, insurance, samples, and tests required and necessary to furnish and install bumpers at the locations shown or as directed and as shown on the Fire Department Standards. Said work shall also include, but not be limited to, excavation and backfill; furnishing and installing steel bar reinforcement and concrete; compaction; cleaning up; temporary restoration of sidewalk surfaces; painting; and furnishing and installing all other items necessary to complete this work; and do all work incidental thereto, all in accordance with the Contract Drawings, Specifications and Standards, and as directed by the Engineer.

(J) The contract prices bid for

ITEM NO. 6.23 FC REMOVE EXISTING F.D.N.Y. MANHOLE FRAME & COVER AND FURNISH AND INSTALL F.D.N.Y. FRAME & COVER IN ACCORDANCE WITH F.D. STD. DWG. #140

ITEM NO. 6.23 HFC REMOVE EXISTING F.D.N.Y. SIDEWALK HANDHOLE FRAME & COVER AND FURNISH AND INSTALL F.D.N.Y. SIDEWALK HANDHOLE FRAME & COVER IN ACCORDANCE WITH F.D. STD. DWG. #143 OR #144B

shall be a unit price for each and shall cover the cost of all labor, materials, plant, equipment, insurance, samples, and tests required and necessary to remove existing F.D.N.Y. manhole frame and cover or sidewalk handhole frame & cover and furnish and install manhole frame and cover or sidewalk handhole frame & cover, at the locations shown or as directed and as shown on the Fire Department Standards. Said work shall also include, but not be limited to, furnishing and installing all other items necessary to complete this work and do all work incidental thereto, all in accordance with the Contract Drawings, Specifications and Standards, and as directed by the Engineer.

(K) The contract prices bid for

ITEM NO. 6.23 FCA FURNISH AND INSTALL F.D.N.Y. MANHOLE FRAME & COVER IN ACCORDANCE WITH F.D. STD. DWG. #140

ITEM NO. 6.23 FCB FURNISH AND INSTALL F.D.N.Y. MANHOLE COVER IN ACCORDANCE WITH F.D. STD. DWG. #140

ITEM NO. 6.23 HC FURNISH AND INSTALL F.D.N.Y. SIDEWALK HANDHOLE COVER IN ACCORDANCE WITH F.D. STD. DWG. #143 OR #144B

ITEM NO. 6.23 HFCA FURNISH AND INSTALL F.D.N.Y. SIDEWALK HANDHOLE FRAME AND COVER IN ACCORDANCE WITH F.D. STD. DWG. #143 OR #144B

shall be a unit price bid for each type and shall cover the cost of all labor, materials, plant, equipment, insurance, samples, and tests required and necessary to furnish and install the Fire Department manhole frame and/or cover or furnish and install sidewalk handhole frame and/or cover, at the location shown or as directed and as shown on the Fire Department Standards. Said work shall also include, but not be limited to, the excavation of all materials of whatever nature encountered (except excavation of boulders in open cut and ledge rock); reinforcement; removal or abandonment, as required of parts of the existing Fire Communications System; breaking down and filling in of abandoned fire appurtenances; backfill; compaction; cleaning up; temporary restoration of street surfaces; installation and removal of temporary

fire alarm communication facilities, if required; connections; and furnishing and installing all other items necessary to complete this work and do all work incidental thereto, all in accordance with the Contract Drawings, Specifications and Standards, and as directed by the Engineer.

(L) The contract prices bid for

ITEM NO. 6.23 RH	REMOVE EXISTING F.D.N.Y. SIDEWALK HANDHOLE
ITEM NO. 6.23 RM	REMOVE EXISTING F.D.N.Y. MANHOLE

shall be a unit price for each manhole or sidewalk handhole and shall cover the cost of all labor, materials, plant, equipment, insurance, samples, and tests required and necessary to remove an existing Fire Department manhole or sidewalk handhole, as specified, at the location shown or as directed. Said work shall also include, but not limited to, the removal or abandonment of an existing F.D.N.Y. manhole or sidewalk handhole; breaking down and filling in of abandoned fire appurtenances; furnishing and installing backfill; compaction; cleaning up; temporary restoration of street surfaces, if required; and furnishing and installing all other items necessary to complete this work and do all work incidental thereto, all in accordance with the Contract Drawings, Specifications and Standards, and as directed by the Engineer.

(M) The contract prices bid for

ITEM NO. 6.23 RIC	RODDING AND INSTALLING FIRE ALARM CABLE IN EXISTING TELEPHONE CONDUIT SYSTEM
ITEM NO. 6.23 RICA	ROD AND ROPE CONDUIT AND INSTALL 4 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RICB	ROD AND ROPE CONDUIT AND INSTALL 10 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RICC	ROD AND ROPE CONDUIT AND INSTALL 15 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RICD	ROD AND ROPE CONDUIT AND INSTALL 20 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RICE	ROD AND ROPE CONDUIT AND INSTALL 25 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RICF	ROD AND ROPE CONDUIT AND INSTALL 30 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RICG	ROD AND ROPE CONDUIT AND INSTALL 40 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RICH	ROD AND ROPE CONDUIT AND INSTALL 45 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RICJ	ROD AND ROPE CONDUIT AND INSTALL 50 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RICJ	ROD AND ROPE CONDUIT AND INSTALL 55 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RICK	ROD AND ROPE CONDUIT AND INSTALL 60 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM
ITEM NO. 6.23 RR	ROD AND ROPE EXISTING CONDUIT
ITEM NO. 6.23 XY	FURNISH AND INSTALL POLYPROPYLENE DRAG ROPE

shall be a unit price per linear foot for drag rope with or without rodding, or cable with rodding and shall cover the cost of all labor, materials, plant, equipment, insurance, samples, and tests required and necessary to furnish and install drag rope of the type specified at the locations shown or as directed and as shown on the Fire Department Standards, including furnishing and installing all other items necessary to complete this work and do all work incidental thereto, all in accordance with the Contract Drawings, Specifications and Standards, and as directed by the Engineer.

(N) The contract prices bid for

ITEM NO. 6.23 XAPE	FURNISH AND INSTALL 1/2" GALVANIZED STEEL CONDUIT POLE RISER IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #145AA
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- ITEM NO. 6.23 XBPE FURNISH AND INSTALL 2" GALVANIZED STEEL CONDUIT POLE RISER IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #145AA
- ITEM NO. 6.23 XCPE FURNISH AND INSTALL 3" GALVANIZED STEEL CONDUIT POLE RISER IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #145AA OR #146
- ITEM NO. 6.23 XDPE FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT POLE RISER IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #145AA OR #146

shall be a unit price for each type of conduit pole riser and shall cover the cost of all labor, materials, plant, equipment, insurance, samples, and tests required and necessary to furnish and install each type of pole riser at the location shown or as directed and as shown on the Fire Department Standards. Said work shall also include, but not be limited to, connections, and furnishing and installing all other items necessary to complete this work and doing all work incidental thereto, all in accordance with the Contract Drawings, Specifications and Standards, and as directed by the Engineer.

(O) The contract price bid for

- ITEM NO. 6.23 PP PAINT EXISTING FIRE ALARM POST AND/OR BOX

shall be a unit price for each fire alarm post and/or box and shall cover the cost of all labor, materials, plant, equipment, insurance, samples, and tests required and necessary to paint existing fire alarm posts and/or boxes as directed and doing all work incidental thereto, all in accordance with the Contract Drawings, Specifications and Standards, and as directed by the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
6.23 AA	FURNISH AND INSTALL FIRE ALARM POST IN ACCORDANCE WITH F.D. STD. DWG. #141	EACH
6.23 AB	REMOVE EXISTING FIRE ALARM POST	EACH
6.23 AC	ADJUST FIRE ALARM POST TO NEW GRADE IN ACCORDANCE WITH F.D. STD. DWG. #167	EACH
6.23 AF	FURNISH AND INSTALL FIRE DEPARTMENT POLE TERMINAL (CHIPPY)BOX IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #145AA	EACH
6.23 AFA	FURNISH AND INSTALL FIRE DEPARTMENT POLE TERMINAL (CHIPPY) BOX IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #145AA WITHOUT TERMINATING CABLES	EACH
6.23 BA	FURNISH AND INSTALL FIRE ALARM POST AND SUBBASE IN ACCORDANCE WITH F.D. STD. DWG. #141	EACH
6.23 BBS	FURNISH AND INSTALL 3" 90 DEGREE P.V.C. WIDE BEND, SCHEDULE 40, U.L. 651 (WITHOUT PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #141	EACH
6.23 BBSE	FURNISH AND INSTALL 3" 90 DEGREE P.V.C. WIDE BEND, SCHEDULE 40, U.L. 651 (WITH PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #141	EACH
6.23 BCS	FURNISH AND INSTALL 3" P.V.C. CONDUIT, SCHEDULE 40, U.L. 651 (WITHOUT PAVEMENT EXCAVATION)	L.F.
6.23 BCSE	FURNISH AND INSTALL 3" P.V.C. CONDUIT, SCHEDULE 40, U.L. 651 (WITH PAVEMENT EXCAVATION)	L.F.
6.23 BD	FURNISH AND INSTALL 4-PAIR FIRE ALARM CABLE	L.F.
6.23 BE	FURNISH AND INSTALL FIRE DEPARTMENT MANHOLE TYPE "A" WITH FRAME AND COVER IN ACCORDANCE WITH F.D. STD. DWG. #140, #144, & #144E	EACH

6.23 BES	FURNISH AND INSTALL FIRE DEPARTMENT SLOTTED MANHOLE TYPE "A" WITH FRAME AND COVER IN ACCORDANCE WITH F.D. STD. DWG. #140, #144S & #144E	EACH
6.23 BF	FURNISH AND INSTALL FIRE DEPARTMENT POLE TERMINAL (HOFFMAN) BOX IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #146	EACH
6.23 BFA	FURNISH AND INSTALL FIRE DEPARTMENT 48 WIRE TERMINAL BOX AND TERMINATE FIRE ALARM CABLES	EACH
6.23 BFB	FURNISH AND INSTALL FIRE DEPARTMENT 24 WIRE TERMINAL BOX AND TERMINATE FIRE ALARM CABLES	EACH
6.23 BFC	FURNISH AND INSTALL FIRE DEPARTMENT 12 WIRE TERMINAL BOX AND TERMINATE FIRE ALARM CABLES	EACH
6.23 BFE	FURNISH AND INSTALL FIRE DEPARTMENT POLE TERMINAL (HOFFMAN) BOX IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #146 WITHOUT TERMINATING CABLES	EACH
6.23 BGB	FURNISH AND INSTALL 4" PVC CONDUIT TO 4" GALVANIZED STEEL BUSHING AS SHOWN IN F.D. STD. DWG. #145AA OR 146	EACH
6.23 BGD	FURNISH AND INSTALL 3" PVC CONDUIT TO 3" GALVANIZED STEEL BUSHING AS SHOWN IN F.D. STD. DWG. #145AA OR 146	EACH
6.23 BGR	FURNISH AND INSTALL 4" PVC CONDUIT TO 2" GALVANIZED STEEL REDUCER BUSHING AS SHOWN IN F.D. STD. DWG. #145AA	EACH
6.23 BGRA	FURNISH AND INSTALL 4" PVC CONDUIT TO 3" GALVANIZED STEEL REDUCER BUSHING AS SHOWN IN F.D. STD. DWG. #145AA OR 146	EACH
6.23 BGRC	FURNISH AND INSTALL 3" PVC CONDUIT TO 2" GALVANIZED STEEL REDUCER BUSHING AS SHOWN IN F.D. STD. DWG. #145AA OR 146	EACH
6.23 BGRE	FURNISH AND INSTALL 3" PVC CONDUIT TO 4" GALVANIZED STEEL REDUCER BUSHING AS SHOWN IN F.D. STD. DWG. #145AA OR 146	EACH
6.23 BGS	FURNISH AND INSTALL 4" P.V.C. CONDUIT, SCHEDULE 40, U.L. 651 (WITHOUT PAVEMENT EXCAVATION)	L.F.
6.23 BGSE	FURNISH AND INSTALL 4" P.V.C. CONDUIT, SCHEDULE 40, U.L. 651 (WITH PAVEMENT EXCAVATION)	L.F.
6.23 BGT	FURNISH AND INSTALL 2 – 4" P.V.C. CONDUITS, SCHEDULE 40, U.L. 651 IN ONE TRENCH (WITHOUT PAVEMENT EXCAVATION, ONE ON TOP OF THE OTHER)	L.F.
6.23 BGTE	FURNISH AND INSTALL 2 – 4" P.V.C. CONDUITS, SCHEDULE 40, U.L. 651 IN ONE TRENCH (WITH PAVEMENT EXCAVATION, ONE ON TOP OF THE OTHER)	L.F.
6.23 BH	FURNISH AND INSTALL 4" 90 DEGREE P.V.C. WIDE BEND, SCHEDULE 40, U.L. 651 (WITHOUT PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #141 OR #145AA	EACH
6.23 BHE	FURNISH AND INSTALL 4" 90 DEGREE P.V.C. WIDE BEND, SCHEDULE 40, U.L. 651 (WITH PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #141 OR #145AA	EACH
6.23 BP	FURNISH AND INSTALL FIRE ALARM PEDESTAL BUMPERS (2 REQUIRED PER SET) IN ACCORDANCE WITH F.D. STD. DWG. #168	SETS
6.23 CB	FURNISH AND INSTALL 2 – 3" 90 DEGREE P.V.C. WIDE BENDS, SCHEDULE 40, U.L. 651 IN ONE TRENCH (WITHOUT PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #141	EACH
6.23 CBE	FURNISH AND INSTALL 2 – 3" 90 DEGREE P.V.C. WIDE BENDS, SCHEDULE 40, U.L. 651 IN ONE TRENCH (WITH PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #141	EACH
6.23 CC	FURNISH AND INSTALL 2 – 3" P.V.C. CONDUITS, SCHEDULE 40, U.L. 651 IN ONE TRENCH (WITHOUT PAVEMENT EXCAVATION, ONE ON TOP OF THE OTHER)	L.F.

6.23 CCE	FURNISH AND INSTALL 2 – 3” P.V.C. CONDUITS, SCHEDULE 40, U.L. 651 IN ONE TRENCH (WITH PAVEMENT EXCAVATION, ONE ON TOP OF THE OTHER)	L.F.
6.23 DC	FURNISH AND INSTALL 10 PAIR FIRE ALARM CABLE	L.F.
6.23 DDA	FURNISH AND INSTALL 15 PAIR FIRE ALARM CABLE	L.F.
6.23 DDB	FURNISH AND INSTALL 20 PAIR FIRE ALARM CABLE	L.F.
6.23 DDC	FURNISH AND INSTALL 25 PAIR FIRE ALARM CABLE	L.F.
6.23 DDD	FURNISH AND INSTALL 30 PAIR FIRE ALARM CABLE	L.F.
6.23 DDE	FURNISH AND INSTALL 40 PAIR FIRE ALARM CABLE	L.F.
6.23 DF	FURNISH AND INSTALL 45 PAIR FIRE ALARM CABLE	L.F.
6.23 DG	FURNISH AND INSTALL 50 PAIR FIRE ALARM CABLE	L.F.
6.23 DH	FURNISH AND INSTALL 55 PAIR FIRE ALARM CABLE	L.F.
6.23 DJ	FURNISH AND INSTALL 60 PAIR FIRE ALARM CABLE	L.F.
6.23 EB	FURNISH AND INSTALL FIRE DEPARTMENT MANHOLE TYPE “B” WITH FRAME & COVER IN ACCORDANCE WITH F.D. STD. DWG. #140, #144, #144C, #144CC, & #144E	EACH
6.23 FC	REMOVE EXISTING F.D.N.Y. MANHOLE FRAME & COVER AND FURNISH AND INSTALL F.D.N.Y. FRAME & COVER IN ACCORDANCE WITH F.D. STD. DWG. #140	EACH
6.23 FCA	FURNISH AND INSTALL F.D.N.Y. MANHOLE FRAME & COVER IN ACCORDANCE WITH F.D. STD. DWG. #140	EACH
6.23 FCB	FURNISH AND INSTALL F.D.N.Y. MANHOLE COVER IN ACCORDANCE WITH F.D. STD. DWG. #140	EACH
6.23 HC	FURNISH AND INSTALL F.D.N.Y. SIDEWALK HANDHOLE COVER IN ACCORDANCE WITH F.D. STD. DWG. #143 AND #144B	EACH
6.23 HFC	REMOVE EXISTING F.D.N.Y. SIDEWALK HANDHOLE FRAME & COVER AND FURNISH AND INSTALL F.D.N.Y. SIDEWALK HANDHOLE FRAME & COVER IN ACCORDANCE WITH F.D. STD. DWG. #143 & #144B	EACH
6.23 HFCA	FURNISH AND INSTALL F.D.N.Y. SIDEWALK HANDHOLE FRAME AND COVER IN ACCORDANCE WITH F.D. STD. DWG. #143 AND #144B	EACH
6.23 HH	FURNISH AND INSTALL F.D.N.Y. SIDEWALK HANDHOLE WITH FRAME AND COVER IN ACCORDANCE WITH F.D. STD. DWG. #143, #144B, & #144E	EACH
6.23 HHA	FURNISH AND INSTALL F.D.N.Y. SIDEWALK HANDHOLE WITH FRAME AND COVER IN ACCORDANCE WITH F.D. STD. DWG. #143	EACH
6.23 HHS	FURNISH AND INSTALL F.D.N.Y. SIDEWALK SLOTTED HANDHOLE WITH FRAME AND COVER IN ACCORDANCE WITH F.D. STD. DWG. #144E & #144BS	EACH
6.23 PP	PAINT EXISTING FIRE ALARM POST AND/OR BOX	EACH
6.23 RH	REMOVE EXISTING F.D.N.Y. SIDEWALK HANDHOLE	EACH
6.23 RIC	RODDING AND INSTALLING FIRE ALARM CABLE IN EXISTING TELEPHONE CONDUIT SYSTEM	L.F.
6.23 RICA	ROD AND ROPE CONDUIT AND INSTALL 4 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM	L.F.
6.23 RICB	ROD AND ROPE CONDUIT AND INSTALL 10 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM	L.F.
6.23 RICC	ROD AND ROPE CONDUIT AND INSTALL 15 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM	L.F.
6.23 RICD	ROD AND ROPE CONDUIT AND INSTALL 20 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM	L.F.
6.23 RICE	ROD AND ROPE CONDUIT AND INSTALL 25 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM	L.F.

6.23 RICF	ROD AND ROPE CONDUIT AND INSTALL 30 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM	L.F.
6.23 RICG	ROD AND ROPE CONDUIT AND INSTALL 40 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM	L.F.
6.23 RICH	ROD AND ROPE CONDUIT AND INSTALL 45 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM	L.F.
6.23 RICI	ROD AND ROPE CONDUIT AND INSTALL 50 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM	L.F.
6.23 RICJ	ROD AND ROPE CONDUIT AND INSTALL 55 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM	L.F.
6.23 RICK	ROD AND ROPE CONDUIT AND INSTALL 60 PAIR FIRE ALARM CABLE IN EXISTING VERIZON OR FIRE DEPARTMENT CONDUIT SYSTEM	L.F.
6.23 RM	REMOVE EXISTING F.D.N.Y. MANHOLE	EACH
6.23 RR	ROD AND ROPE EXISTING CONDUIT	L.F.
6.23 XAPE	FURNISH AND INSTALL 1/2" GALVANIZED STEEL CONDUIT POLE RISER IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #145AA	EACH
6.23 XB	FURNISH AND INSTALL 2" GALVANIZED STEEL CONDUIT (WITHOUT PAVEMENT EXCAVATION)	L.F.
6.23 XBB	FURNISH AND INSTALL 2" GALVANIZED STEEL 90 DEGREE BEND (WITHOUT PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #145BB	EACH
6.23 XBBE	FURNISH AND INSTALL 2" GALVANIZED STEEL 90 DEGREE BEND (WITH PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #145BB	EACH
6.23 XBE	FURNISH AND INSTALL 2" GALVANIZED STEEL CONDUIT (WITH PAVEMENT EXCAVATION)	L.F.
6.23 XBPE	FURNISH AND INSTALL 2" GALVANIZED STEEL CONDUIT POLE RISER IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #145AA	EACH
6.23 XCPE	FURNISH AND INSTALL 3" GALVANIZED STEEL CONDUIT POLE RISER IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #145AA OR #146	EACH
6.23 XDPE	FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT POLE RISER IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #145AA OR #146	EACH
6.23 XCC	FURNISH AND INSTALL 3" GALVANIZED STEEL 90-DEGREE BEND (WITHOUT PAVEMENT EXCAVATION)	EACH
6.23 XCCE	FURNISH AND INSTALL 3" GALVANIZED STEEL 90-DEGREE BEND (WITH PAVEMENT EXCAVATION)	EACH
6.23 XD	FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT (WITHOUT PAVEMENT EXCAVATION)	L.F.
6.23 XDD	FURNISH AND INSTALL 4" GALVANIZED STEEL 90-DEGREE BEND (WITHOUT PAVEMENT EXCAVATION)	EACH
6.23 XDDE	FURNISH AND INSTALL 4" GALVANIZED STEEL 90-DEGREE BEND (WITH PAVEMENT EXCAVATION)	EACH
6.23 XDE	FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT (WITH PAVEMENT EXCAVATION)	L.F.
6.23 XC	FURNISH AND INSTALL 3" GALVANIZED STEEL CONDUIT (WITHOUT PAVEMENT EXCAVATION)	L.F.
6.23 XCE	FURNISH AND INSTALL 3" GALVANIZED STEEL CONDUIT (WITH PAVEMENT EXCAVATION)	L.F.
6.23 XY	FURNISH AND INSTALL POLYPROPYLENE DRAG ROPE	L.F.

SECTION 8.00 MT – Microtrenching

8.00MT.1. INTENT. This section describes Microtrenching.

8.00MT.2. DESCRIPTION. Microtrenching involves the placement of shallow depth microduct systems in street and sidewalk applications. This process includes the saw cutting of sidewalks and/or streets, installation of microduct systems and fiber optic wiring, restoration of sidewalks and/or streets and disposal of all unused debris. Locations of saw-cut can be from manhole (if necessary) in street to curb entrance; either at curb seam or below curb; and then in sidewalk expansion joint between flag and curb. All microduct systems must be placed at a minimum depth of 4” below sidewalk grade and 6” in depth below street grade locations. If manhole entrance is necessary the excavation to enter manhole system shall be the minimum required to gain entrance to said manhole.

8.00MT.3. GENERAL REQUIRMENTS.

(A) DISPOSAL OF MATERIALS

1. All materials that are not reused pursuant to Subsection 6.02.3 of the NYC Department of Transportation, Standard Highway Specifications shall be disposed of in compliance with the applicable requirements of **Sections 1.06.47 and 1.06.48** in General Conditions.

(B) EXPOSED STRUCTURES TO BE PROTECTED

1. All exposed sewers, manholes, receiving basins, water mains and other hardware and structures shall be carefully protected.

8.00MT.4. MICROTRENCHING CONSTRUCTION METHODS.

All trenching/excavations shall be carried to the required depths in such a manner as to produce a pathway that produces an undisturbed subgrade and allows for standard restoration.

1. Cutting expansion joints in Sidewalks: Expansion joints shall be cut using a wet-cut methodology to reduce damage to adjacent sidewalk flags. All cuts shall be approximately 1” wide to approximately 9”-12” in depth to allow for the microduct system to be placed at a minimum of 4” below sidewalk grade. The depth of the cut will depend upon the depth of the existing flags, pathway required and existing sidewalk furniture and fixtures (including but not limited to tree pits, roots, parking meters, mailboxes, bike racks, etc.).
2. Sidewalk flags and placement of utility handholes and/or grade-level boxes: All handholes/grade-level boxes shall be centered in a sidewalk flag. This flag will be removed in whole, sub-grade access placed and sidewalk flag restored. At no time will handhole or grade-level box be in the corner of a sidewalk flag to ensure concrete integrity of the flag. In the event of the removal of a sidewalk flag, the flag should be removed in its entirety and replaced in accordance with all applicable sidewalk restoration rules and regulations.
 - a. All handholes and/or grade-level boxes must meet weight bearing requirements for the application and comply with ANSI / SCTE 77 2007:

Application	Loading Requirements			
	Design Load (lbs)	Test Load w/ F.S. 1.5 (lbs)	Design Load (psf)	Test Load w/ F.S. 1.5 (psf)
Tier 5 – Sidewalk applications with a safety factor for occasional non-deliberate vehicular traffic	5,000	7,500	600	900
Tier 8 – Sidewalk applications with a safety factor for non-deliberate vehicular traffic	8,000	12,000	600	900
Tier 15 – Driveway, parking lot, and off roadway applications subject to occasional non-deliberate heavy vehicular traffic	15,000	22,500	800	1,200
Tier 22 – Driveway, parking lot and off roadway applications subject to occasional non-deliberate heavy vehicular traffic	22,500	33,750	800	1,200
AASHTO H-20 - Deliberate vehicular traffic applications	Certified pre-cast concrete, cast iron, or AASHTO recognized materials			

- b. Minimum handhole size is 17"x30"x24"
- c. Grade-level Box minimum size is 3'x5'x3'
- d. All handholes/grade-level boxes must be composite to negate slippage due to environmental factors

3. Manhole entrance: Manholes are generally located within the street/vehicular pathway. Access to any manhole shall be kept to a minimum to gain entrance for microduct pathway, unless other obstructions exist which would make it necessary to continue the pathway in the roadway. Entrances to manhole shall be via pit directly adjacent to manhole and in direct line with pathway direction to minimize vehicular and pedestrian impact. All manhole related activities shall be performed in accordance with applicable rules and regulations.

4. Duct pathway placement: All microducts shall be placed vertically into the saw-cut trench, and the microduct should always be covered with requisite backfill material

8.00MT.5. RESTORATION.

- 1. Sidewalk expansion joint restoration:
 - a. Sidewalk expansion joints are to be restored using only NYC DOT approved materials. All expansion joints shall be recessed 1/2" below finished sidewalk surface and sealed with sealer, on an approved bond breaker, as soon as practical.

b. All expansion joints shall be sealed with a sealant meeting ASTM C 920, Type M, Grade P, Class 25, Use T₁, and color to match to that of the adjacent sidewalk. The sealant shall be a rapid-setting, polyurethane-based joint sealant and shall be a self-leveling compound that provides for elongation. The sealant should be applied to avoid spillage onto sidewalk surface area.

- i. Joints are to be recessed 1/2" with the finished surface.
- ii. Joints should not be sealed during inclement weather.
- iii. Application of sealant shall be as per the manufacturer's written instructions.

2. Sidewalk flag restoration:

- a. Any flags that need to be restored must be done according the NYC DOT specifications as outlined in the Standard Highway Specifications Volumes I and II, latest version and as currently amended.
- b. Any flags that are below the standards set forth in NYC DOT specifications as outlined in the Standard Highway Specifications, Volumes I and II, and are directly adjacent to the original flag being replaced shall be replaced in accordance with Section 2(a) above.

3. Street/Asphalt restoration:

- a. All street/asphalt restoration must be done according to the NYC DOT specifications Section 2.22, Type 1 – Hot poured sealer as outlined in the Standard Highway Specifications Volumes I and II, latest version and as currently amended. Joints are to be finished flush with the pavement.

4. Street/Concrete restoration:

- a. All street/concrete pavement restoration shall be done in accordance with the requirements for sidewalk expansion joint restoration, above.

END OF SECTION