

March 18, 2015

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATION
DEPARTMENT OF ADMINISTRATION

DIVISION OF PURCHASES BID NO. 7549359

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

RHODE ISLAND CONTRACT NO.2013-CH-050

FEDERAL-AID PROJECT NO. FAP Nos: STP-AWDA(027)

South Main Street/North Main Street ADA Accessibility Improvements

South Main Street/North Main Street from James Street to Smith Street

CITY/TOWN OF Providence

COUNTY OF PROVIDENCE

NOTICE TO PROSPECTIVE BIDDERS

ADDENDUM NO. 1 Prospective bidders and all concerned are hereby notified of the following changes in the Plans, Specifications, Proposal and Distribution of Quantities for this contract. These changes shall be incorporated in the Plans, Specifications, Proposal and Distribution of Quantities, and shall become an integral part of the Contract Documents.

A. Specification Change/Addition

1. General Provisions - Contract Specific - Page CS-11
Delete Page CS-11 in its entirety and replace it with revised Page CS-11 (R-1) attached to this Addendum No. 1. Section H has been revised.
2. Job Specific Index
Delete Index Page vi in its entirety and replace it with revised Page vi (R-1) attached to this Addendum No. 1. A new job specific specification has been added.
3. Page JS-14
Delete Page JS-14 in its entirety and replace it with revised Page JS-14 (R-1) attached to this Addendum No. 1. The Construction Methods section has been revised.
4. Pages JS-42 to JS-64
Delete Pages JS-42 to JS-64 in their entirety and replace with revised Pages JS-42 (R-1) to JS-64 (R-1) attached to this Addendum No. 1. The specification has been revised.
5. Page JS-71
Delete Page JS-71 in its entirety and replace it with revised Page JS-71 (R-1) attached to this Addendum No. 1. The Basis of Payment section has been revised.
6. Page JS-84
Delete Page JS-84 in its entirety and replace it with revised Page JS-84 (R-1) attached to this Addendum No. 1. The Basis of Payment section has been revised.

7. Page JS-108
Delete Page JS-108 in its entirety and replace it with revised Page JS-108 (R-1) attached to this Addendum No. 1. The Description section has been revised.
8. Page JS-130
Delete Page JS-130 in its entirety and replace it with revised Page JS-130 (R-1) attached to this Addendum No. 1. The Basis of Payment section has been revised.
9. Pages JS-142 to JS-144
Delete Pages JS-142 to JS-144 in their entirety and replace with revised Pages JS-142 (R-1) to JS-144 (R-1) attached to this Addendum No. 1. The specification has been revised.
10. Pages JS-150 and JS-151
Delete Pages JS-150 and JS-151 in their entirety and replace with revised Pages JS-150 (R-1) and JS-151 (R-1) attached to this Addendum No. 1. Subsection 929.02.1 - Location and Subsection 929.03.4a - Furnishings have been revised.
11. Page JS-210
Insert new Page JS-210 attached to this Addendum No. 1. Item Code 906.0700 has been added.

B. Distribution of Quantities

1. Index
Delete Index Pages 1 to 5 in their entirety and replace with revised Index Pages 1 (R-1) to 5 (R-1) attached to this Addendum No. 1. The revised and new item codes have been highlighted.
2. Page 25
Delete Page 25 in its entirety and replace it with revised Page 25 (R-1) attached to this Addendum No. 1. The quantities for Item Codes 202.0100 and 204.0100 have been revised.
3. Pages 27 and 28
Delete Pages 27 and 28 in their entirety and replace with revised Pages 27 (R-1) and 28 (R-1) attached to this Addendum No. 1. The quantity for Item Code 302.0100 has been revised.
4. Pages 31, 31a, and 32
Delete Pages 31 and 32 in their entirety and replace with revised Pages 31 (R-1) and 32 (R-1) and insert new Page 31a attached to this Addendum No. 1. The quantities for Item Codes 601.0300 and 603.1000 have been revised.
5. Pages 53 and 54
Delete Pages 53 and 54 in their entirety and replace with revised Pages 53 (R-1) and 54 (R-1) attached to this Addendum No. 1. The quantity for Item Code 707.1900 has been revised.
6. Page 85
Delete Page 85 in its entirety and replace it with revised Page 85 (R-1) attached to this Addendum No. 1. The quantity for Item Code 905.9905 has been revised.

7. Page 90
Delete Page 90 in its entirety and replace it with revised Page 90 (R-1) attached to this Addendum No. 1. The quantity for Item Code 905.9909 has been revised.
8. Pages 104 and 105
Delete Pages 104 and 105 in their entirety and replace with revised Pages 104 (R-1) and 105 (R-1) attached to this Addendum No. 1. The quantity for Item Code 922.0100 has been revised.
9. Pages 161 and 162
Delete Pages 161 and 162 in their entirety and replace with revised Pages 161 (R-1) and 162 (R-1) attached to this Addendum No. 1. The quantity for T15.2000 has been revised.
10. Pages 172 to 174
Delete Pages 172 to 174 in their entirety and replace with revised Pages 172 (R-1) to 174 (R-1) attached to this Addendum No. 1. The quantity for Item Codes T20.2016 and T20.2019 have been revised.
11. Page 177
Insert new Page 177 attached to this Addendum No. 1. Item Codes 603.9901 and 925.0112 have been added. Item Code 603.9901 shall be in accordance with Sheet No. 34 - Granite Slab Detail Sheet.

C. Drawings/Plans - Change/Addition

1. SHEET NO. 60 - LOCATION PLAN NO. 1
Delete Sheet No. 60 - Location Plan No. 1 in its entirety and replace it with revised Sheet No. 60 - Location Plan No. 1 (R-1) attached to this Addendum No. 1. Control points and benchmarks have been added.
2. SHEET NO. 61 - LOCATION PLAN NO. 2
Delete Sheet No. 61 - Location Plan No. 2 in its entirety and replace it with revised Sheet No. 61 - Location Plan No. 2 (R-1) attached to this Addendum No. 1. Control points have been added.
3. SHEET NO. 62 - LOCATION PLAN NO. 3
Delete Sheet No. 62 - Location Plan No. 3 in its entirety and replace it with revised Sheet No. 62 - Location Plan No. 3 (R-1) attached to this Addendum No. 1. Control points and benchmarks have been added.
4. SHEET NO. 63 - LOCATION PLAN NO. 4
Delete Sheet No. 63 - Location Plan No. 4 in its entirety and replace it with revised Sheet No. 63 - Location Plan No. 4 (R-1) attached to this Addendum No. 1. Control points and benchmarks have been added.
5. SHEET NO. 64 - LOCATION PLAN NO. 5
Delete Sheet No. 64 - Location Plan No. 5 in its entirety and replace it with revised Sheet No. 64 - Location Plan No. 5 (R-1) attached to this Addendum No. 1. Control points and benchmarks have been added.

6. SHEET NO. 65 - LOCATION PLAN NO. 6

Delete Sheet No. 65 - Location Plan No. 6 in its entirety and replace it with revised Sheet No. 65 - Location Plan No. 6 (R-1) attached to this Addendum No. 1. Control points and benchmarks have been added.

7. SHEET NO. 66 - LOCATION PLAN NO. 7

Delete Sheet No. 66 - Location Plan No. 7 in its entirety and replace it with revised Sheet No. 66 - Location Plan No. 7 (R-1) attached to this Addendum No. 1. Control points and benchmarks have been added.

8. SHEET NO. 81 - LANDSCAPE DETAILS SHEET NO. 1

Delete Sheet No. 81 - Landscape Details Sheet No. 1 in its entirety and replace it with revised Sheet No. 81 - Landscape Details Sheet No. 1 (R-1) attached to this Addendum No. 1. The PVC Vent Detail has been revised.

9. SHEET NO. 86 - DETAILS SHEET NO. 1

Delete Sheet No. 86 - Details Sheet No. 1 in its entirety and replace it with revised Sheet No. 86 - Details Sheet No. 1 (R-1) attached to this Addendum No. 1. The Providence Standard 7" Granite Curb Ramp Transition Curb detail, the Granite Curb Providence Standard 7" detail, the Providence Standard 7" 3'-0" Granite Transition Curb detail, and the Providence Standard Granite 2'-0" Radius Corner detail have been revised.

10. SHEET NO. 95 - DETAILS SHEET NO. 10

Delete Sheet No. 95 - Details Sheet No. 10 in its entirety and replace it with revised Sheet No. 95 - Details Sheet No. 10 (R-1) attached to this Addendum No. 1. Conduit and Trenching Note No. 3 and the Dowel Detail have been revised.

11. SHEET NO. 96 - DETAILS SHEET NO. 11

Delete Sheet No. 96 - Details Sheet No. 11 in its entirety and replace it with revised Sheet No. 96 - Details Sheet No. 11 (R-1) attached to this Addendum No. 1. The Providence Standard Granite Apron Stone, Standard P-18 detail has been revised.

12. SHEET NO. 97 - DETAILS SHEET NO. 12

Delete Sheet No. 97 - Details Sheet No. 12 in its entirety and replace it with revised Sheet No. 97 - Details Sheet No. 12 (R-1) attached to this Addendum No. 1. The Providence Standard Granite Inlet Stone, Standard P-17 detail has been revised.

D. Clarification

1. Job Specific Specification 804.9901 - Pre- and Post-Construction Condition Survey of Existing Structures

The requirements of the specification shall be followed, including the use of a registered Professional Engineer in the State of Rhode Island and including the printed photographs in a 3-ring binder.

2. Job Specific Specification 905.9903 - Granite Slab Curb Ramp

The following two names are Subcontractors capable of completing the work required under this specification:

David Castellucci
Kenneth Castellucci & Associates, Inc.
401-333-5400 ext. 319 or 322

Anthony Sciolto
A. Sciolto & Son Monuments, Inc.
401-942-7480

3. Job Specific Specification 900.9901 - Basement Vault Repairs

The basement vault substrate is the basement vault roof structure.

4. Sheet No. 6 - Job Specific Plan Symbols, Legend, & Notes No. 2

A list of abutting property owners will be provided to the selected Contractor for notification in accordance with Job Specific General Notes No. 20.

E. Proposal Addition/Deletion

1. Proposal Page P-1

Delete Page P-1 in its entirety and replace it with revised Page P-1 (R-1) attached to this Addendum No. 1. Code 900.9901 has been added to the list for only acceptable bid prices.

2. Proposal Page P-34

Delete Page P-34 in its entirety and replace it with revised Page P-34 (R-1) attached to this Addendum No. 1. The date for Addendum No. 1 has been added.



RI Department of Transportation
Chief Engineer

- F. There shall be no work or lane closures on South Main Street from James Street to Power Street between 10:00 P.M. and 7:00 A.M.
- G. Nighttime work shall be restricted to ITS conduit/manhole installation, repairs to sewer manholes, and roadway surface removal and paving.
- H. The Fire Department driveway at 151 North Main Street shall be constructed in multiple phases to maintain access for the fire apparatus. The Providence Fire Department shall be contacted no less than 48 hours prior to commencement of the work.

Additional information can be found in the Transportation Management Plan located in Appendix D.

- D. No additional payment will be made for material, equipment, labor or incidentals necessary to perform operations during inclement weather. Any additional costs associated with inclement weather work will be considered incidental to the respective item(s) for which costs are incurred.
- E. Written notice to and subsequent approval from the Engineer is required seven (7) days prior to the closing of any one lane, local street, or sidewalk. The Contractor is required to obtain a road closure permit from Providence Traffic Engineering at least 24 hours prior to the partial or full closure of the road or sidewalk. The permit fee will be waived for this project.
- F. All work must be performed in a manner that causes the least disruption to existing vehicular and pedestrian traffic for as short a period of time as possible. When work commences in an area, it shall be expeditiously completed without unnecessary interruptions.
- G. The Contractor shall backfill or place steel plates capable of supporting HS-25 wheel loading over all trenches and excavations that are not protected by barriers at the end of the work each day, except when otherwise directed by the Engineer. There shall be no additional compensation for backfilling, re-excavation, and/or plating these trenches.
- H. All work shall be conducted in accordance with City of Providence regulations regarding hours when construction can take place. The City's noise ordinance (Chapter 16, Article III of the City of Providence Code of Ordinances) shall be enforced on this contract. The Contractor shall become familiar with those regulations.
- I. There are several special events held in the City of Providence that will affect work schedules and street/lane closures. These events include

**INDEX
SPECIFICATIONS
JOB-SPECIFIC**

<u>CODE</u>	<u>TITLE</u>	<u>PAGE</u>
T.15	Sign Inventory	JS-205
T.15.99	Traffic and Street Name Sign Post Painting	JS-207
T.15.9901	Street Name Signs – Ground Mounted	JS-208
T.15.9902	Street Name Signs – Mast Arm Mounted	
906.0700	Remove, Handle, Haul Trim Reset Curb Edging, Straight, Circular All Types	JS-210

Brick pavers removed from Station 20+00 – 20+10 LT and Station 33+79 – 33+50 LT shall be salvaged and delivered to the Rhode Island School of Design's (RISD) Facilities Department located at 160 Benefit Street, Providence, Rhode Island. The pavers are not to be cleaned and shall be delivered to the RISD Facilities Department in "as is" condition. The Contractor will be responsible for protecting all salvaged pavers from damage, theft, and vandalism until delivery.

Any sign posts or parking meter posts that have been cut-off at or below grade of the sidewalk shall be removed and legally disposed.

Existing edging, brick pavers, cobblestones, and other materials within tree pits shall be removed. The edging shall be legally disposed. The brick pavers and cobblestones shall be salvaged and delivered to the City of Providence Department of Public Works at a location within the City of Providence as directed by the Director of the Providence Department of Public Works. The pavers and cobblestones are not to be cleaned and shall be delivered to the transfer station in "as is" condition. The Contractor will be responsible for protecting all salvaged pavers and cobblestones from damage, theft, and vandalism until delivery.

All work shall be to the satisfaction of the Engineer. A RIDOT Landscape Representative must be notified at least three (3) days in advance of the commencement of work. There will NOT be any payment for work done within the drip line of trees without the presence of a RIDOT Landscape Representative.

Traditional construction methods for removing and disposing of sidewalk and driveway materials in areas likely not to have roots systems of trees that are to remain may be used as described in **Section 201** of the RIDOT Standard Specifications for Road and Bridge Construction, Amended 2010, with all revisions, per the direction of the Engineer. If root systems of trees that are to remain are encountered, then the construction methods described in this job specific specification must be followed.

METHOD OF MEASUREMENT. "Remove and Dispose Sidewalks and Driveways" will be measured by the "Square Yard" of sidewalks and driveways that are actually removed in accordance with the Plans and/or as directed by the Engineer.

BASIS OF PAYMENT. The accepted quantity of "Remove and Dispose Sidewalks and Driveways" will be paid for at the contract unit bid price per "Square Yard" of actual material which is being removed. The price so-stated constitutes full and complete compensation for all labor, materials, hand tools or light power equipment used for material removal, edging, brick paver, and cobblestone removal within existing tree pits, removal of cut-off sign posts and cut-off parking meter posts, temporary loam borrow to cover exposed tree roots during excavation, water, off site legal disposal of materials, delivery of brick pavers and cobblestones, and for all other incidentals required to finish the work, complete and accepted by the Engineer.

Remove Section 401 in its entirety and replace it with the following:

SECTION 401

DENSE GRADED HOT MIX ASPHALT (HMA) PAVEMENTS

401.01 DESCRIPTION. This work consists of constructing HMA pavements on prepared foundations in conformity with the dimensions and details indicated on the Plans, and in accordance with these Specifications. These Specifications are applicable to all types of Dense Graded HMA pavements irrespective of aggregate gradation, grade of performance graded asphalt binder (PGAB), or pavement use.

The HMA shall be composed of a mixture of aggregate, PGAB, and filler if required. The aggregate shall be sized, graded and combined in such proportions that the resulting mixture meets the gradation requirements of the job mix formula (JMF).

401.02 MATERIALS.

401.02.1 Aggregates. Aggregates shall meet the applicable requirements of **Subsection M.03.02.2** of these Specifications and AASHTO M 323.

401.02.2 Performance Graded Asphalt Binder (PGAB). All grades shall conform to AASHTO M 320 and MP 19. The PGAB shall meet the requirements of PG 64-28, Grade S with the exception of both Class 19.0 and mixes designated as "Base Course" which shall incorporate PG 64-22 Grade S for mixes with less than 15% RAP. Both Class 19.0 and "Base Course" mixes with 15 to 25 percent RAP shall incorporate PG 58-28 Grade S.

Should a class of HMA be designated as "Modified", the binder shall meet the requirements of PG 64-28, Grade V. The nonrecoverable creep compliance versus percent recovery of the binder shall be plotted and must fall above the curve in Figure X2.1 in Appendix X2 of AASHTO TP-70.

Should a class of HMA be designated as "with WMA" the Contractor shall use a WMA (Warm Mix Additive). WMA shall conform to Section 414 of these specifications.

401.02.3 Mix Design. HMA mixes shall conform to AASHTO M 323, "Standard Specification for Superpave Volumetric Mix Design". The design procedure shall follow AASHTO R 35 "Standard Practice for Superpave Volumetric Design for Hot-Mix Asphalt (HMA)". The optimum binder content (OBC) shall be determined as follows:

- a) The OBC for Class 4.75, Class 9.5, and Class 12.5 when not designated as "Base Course" shall be determined using PG 64-28 Grade S.
- b) The OBC for Class 4.75, Class 9.5, and Class 12.5 when designated as "Base Course" with less than 15 percent RAP shall be determined using PG 64-22 Grade S.
- c) The OBC for Class 4.75, Class 9.5, and Class 12.5 when designated as "Base Course" with 15 to 25 percent RAP shall be determined using PG 58-28 Grade S.
- d) The OBC for Class 19.0 with less than 15 percent RAP shall be determined using PG 64-22 Grade S.
- e) The OBC for Class 19.0 with 15 to 25 percent RAP shall be determined using PG 58-28 Grade S.

The effective voids in the mineral aggregate ($VMA_{\text{effective}}$) and a volumetric phase diagram shall be submitted for each asphalt content during the mix design process. Mix designs shall be developed and signed by an individual certified in "Superpave HMA Mix Design" by the Asphalt Institute. Mix Designs shall be submitted no later than two weeks prior to the date when production of the mixture is scheduled to begin and shall be accompanied by a copy of that individual's certification. No mixture may be produced for State projects until the mix design is approved by the Engineer. Mix designs shall be submitted on forms provided by the Engineer.

The following specific requirements and exceptions to AASHTO M 323 shall apply.

- a. The specific gravity, absorption and consensus properties of the aggregates shall be obtained from RIDOT's most recent sampling and testing or from a laboratory accredited to perform AASHTO T 84 and T 85.
- b. The implementation of the recommendations of Section 4.2 of AASHTO R 35 is required.
- c. The mix shall be coarse graded as defined in Section 6.1.3 of AASHTO M 323.
- d. The dust to binder ratio ($P_{0.075}/P_{be}$) shall be 0.5 – 1.0. The effective binder content shall be used to calculate this ratio.
- e. In addition to the sieves listed in Table 3 of AASHTO M 323, the 0.600 mm, 0.300 mm and 0.150 mm sieves are required. The 50.0 mm and 37.5 mm sieves are not required.
- f. Class 19.0 and mixes designated as "Base Course" shall be designed with a 0%, 10%, 15%, 20% or 25% RAP content. RAP shall not be used in any other mix.
- g. N_{initial} shall be 6, N_{design} shall be 50 and N_{max} shall be 75 gyrations.
- h. A moisture susceptibility test is not required.
- i. The design VMA, VFA, air voids and minimum optimum binder content (OBC) shall meet the following criteria:

Table 1 – HMA Properties

Class of Mix	VMA (minimum)	VFA	Air Voids	Minimum OBC
4.75	17.5%	70% - 80%	4%	7.0
9.5	16.5%	70% - 80%	4%	6.0
12.5	15.5%	70% - 80%	4%	5.5
19.0	14.5%	70% - 80%	4%	5.0

The following procedures shall be adhered to for each mix design:

- Three aggregate trial blends shall be submitted for acceptance before beginning the mix design procedure.

The procedures for mix design submittals shall include:

- All trial mixture data and calculations determined per Section 9 of AASHTO R 35 shall be submitted on forms provided by the Engineer. The Engineer will determine which trial mixture shall be used for the mix design procedure.
- After the mix design is completed it shall be submitted to the Engineer for review and approval.
- The correction factors for each mix for each ignition furnace in the plant lab shall be provided.

The two gyratory cores (AASHTO T 308) and the theoretical maximum specific gravity sample (AASHTO T 209) at the optimum binder content shall be submitted to the Engineer.

Before beginning production of a new HMA mix, a successful plant trial batch shall be performed for that mix and the results forwarded on forms provided by the Engineer.

Should a change in sources of materials be made, a new mix design shall be established before the new material is used. When unsatisfactory results or other conditions make it necessary, the Contractor shall establish a new mix design and submit it to the Engineer for approval.

401.02.4 Quality Assurance.

a. **Process Control.** The Contractor shall exercise process control over all production operations. This shall require the constant monitoring of equipment, materials, and production activity such as testing and analysis to ensure that the HMA meets all applicable requirements and is produced within the allowable tolerances.

b. **Acceptance Testing.** Acceptance testing will be conducted by the Engineer.

1. Gradation, Binder Content and Air Void Content

The gradation requirements in Table 2 apply to mixes with and without pay adjustments:

Table 2 – Gradation Requirements

	Class 19.0	Class 12.5	Class 9.5	Class 4.75
25.0mm (1")	100%	100%	100%	100%
19.0mm (3/4")	90% - 100%	100%	100%	100%
12.5mm (1/2")	90% max	90% - 100%	100%	100%
9.5mm (3/8")	-	90% max	90% - 100%	95% - 100%
4.75mm (#4)	-	-	90% max	85% - 100%
2.36mm (#8)	± 5% from design	± 5% from design	± 5% from design	-
1.18mm (#16)	-	-	-	±5% from design
0.075mm (#200)	≥2%	≥2%	≥2%	≥2%
Control Sieve	2.36mm (#8)	2.36mm (#8)	2.36mm (#8)	1.18mm (#16)

During production of a specific mix, if two consecutive tests do not meet the gradation requirements of Table 2 or one test exceeds double the tolerance on the control sieve, the plant shall cease production of that HMA mix. Production will be allowed to resume after the Contractor completes a successful trial batch for that class of mix, as approved by the Engineer.

The plant shutdown criteria in Table 3 shall apply for binder content and air voids that exceed the following tolerances:

Table 3 – Plant Shutdown Criteria

Pay Adjustments	Shutdown Criteria	One Test	Two Consecutive Tests
With Pay Adjustments	Optimum Binder Content	$\pm 0.6\%$	-
	Design Air Voids	$\pm 2.0\%$	-
Without Pay Adjustments	Optimum Binder Content	$\pm 0.6\%$	$\pm 0.4\%$
	Design Air Voids	$\pm 2.0\%$	$\pm 1.0\%$

Production will be allowed to resume after the Contractor completes a successful trial batch for that class of mix, as approved by the Engineer.

2. Mix Production – Lots and Sublots

A standard subplot is 600 tons for HMA sampled at the plant for each production run. A standard lot for each mix is five sublots. A sample will be randomly selected and tested for each subplot. At least three sublots will be used when calculating pay adjustments.

If the quantity of HMA needed to finish a production run is projected by the Contractor to be less than the standard subplot size of 600 tons, the projected tonnage may be used to select a random sample. If the projected tonnage is not produced or a random sample is unable to be taken, the Engineer may select a sample at the end of the run or at the paver. If no sample is taken, the tonnage will be added to the previous subplot.

Additional samples may be taken at the discretion of the Engineer.

Gyratory cores and theoretical maximum density samples will be retained by the Engineer for two weeks after the results are reported to the Contractor.

3. Adjustments to Lots

If one or two sublots are tested after the end of the final standard lot, they will be added to that lot. Three or more sublots tested after the end of the final standard lot will constitute a separate lot. Test results for each subplot will be weighted based on tonnage to determine the final pay adjustment for the lot.

4. Plant Pay Adjustments

(a) If a class of HMA is designated with "Pay Adjustments", the pay adjustments for deviation from the optimum binder content (established by the mix design) in Table 4 and the design air void content in Table 5 will apply:

Table 4 – OBC Pay Adjustments

Deviation from Optimum Binder Content	Pay Adjustment
Less than or equal to 0.1 %	+2%
0.2%	+1%
0.3%	0%
0.4%	-5%
0.5%	-15%
0.6%	-30%
0.7%	-40%
Greater than 0.7 %	-50% or Remove and Replace*

Table 5 – Air Void Pay Adjustments

Deviation from Design Air Void Content	Pay Adjustment
Less than or equal to 0.5%	+1%
0.6% to 1.0%	0%
1.1% to 1.5%	-5%
1.6% to 2.0%	-10%
2.1% to 2.5%	-30%
2.6% to 3.0%	-40%
Greater than 3.0%	-50% or Remove and Replace*

* The decision to make 50% payment or Remove and Replace will be made by the Engineer

Note: All deviation values will be rounded to the nearest 0.1% before applying pay adjustments.

(b) Calculation of Pay Adjustments for Production Binder and Air Void Content

For each test, absolute deviations will be used when determining binder and air void content pay adjustments. Absolute deviations are the values of deviation regardless of sign (\pm).

The weighted average of the absolute deviations from the optimum binder content of all of the sublots in each lot will be used to determine the appropriate pay adjustments for the lots. The same will apply for air void content. No payment will be made for any pavement that is removed.

All other tolerances shall conform to the RI Standard Specifications.

c. Independent Assurance Testing. This testing will be performed by the Department in accordance with the Rhode Island Department of Transportation publication entitled "Schedule for Sampling, Testing and Certification of Materials."

401.03 CONSTRUCTION METHODS.

401.03.1 HMA Mixing Plant. Mixing plants shall be of sufficient capacity and coordinated to adequately handle the proposed production of HMA. The storage yard shall be maintained neat and orderly and the separate stockpiles shall be readily accessible for sampling.

a. Requirements for All Plants.

1. Equipment for Preparation of PGAB. Tanks provided for the storage of PGAB shall be equipped to heat and hold the material at the required temperatures. The heating shall be accomplished by steam coils, electricity, or other approved means such that no flame shall be in contact with the tank. The circulating system for the PGAB shall be designed to assure proper and continuous circulation during the operating period. Provision shall be made for measuring storage tanks. An adequate sampling valve shall be provided to ensure the safe and proper sampling of the PGAB.

2. Cold Feed Bins. The plant shall include no fewer than three (3) storage bins of sufficient capacity to supply the mixer when it is operating at full capacity. Bins shall be arranged to assure separate and adequate storage of appropriate fractions of the mineral aggregates without contaminations. They shall also be so constructed that samples can be readily obtained. Separate dry storage shall be provided for filler or hydrated lime when used and the plant shall be equipped to feed such material into the mixer.

3. Cold Aggregate Feeder. The plant shall be provided with accurate mechanical means for uniformly feeding the aggregate into the drier so that uniform production and temperature will be obtained.

4. Drier. The plant shall include a drier or driers which continuously agitate the aggregate during the heating and drying process.

5. PGAB Control Unit. Satisfactory means, either by weighing or metering, shall be provided to obtain the proper amount of PGAB in the mix within the tolerance specified. Means shall be provided for checking the quantity or rate of flow of PGAB into the mixer.

6. Thermometric Equipment. An armored thermometer of adequate range in temperature reading shall be fixed in the PGAB feed line at a suitable location near the charging valve at the mixer unit.

The plant shall also be equipped with either an approved dial-scale, mercury-actuated thermometer, an electric pyrometer, or other approved thermometric instrument so placed at the discharge chute of the drier as to register automatically the temperature of the exiting material.

The Engineer may require replacement of any malfunctioning or inconsistent thermometer by an approved temperature sensing and recording apparatus for better regulation of the temperature of the material.

7. Dust Collector. The plant shall be equipped with a dust collector constructed to waste or return uniformly all or any part of the material collected as directed.

8. Truck Scales. When required, the HMA shall be weighed on approved scales furnished by the Contractor or on public scales at the Contractor's expense. Such scales shall be tested at least every 60 days or whenever the Engineer deems necessary to assure their accuracy.

9. Scales. Scales shall be so located as to be easily readable from the operator's normal work station; otherwise a remote readout shall be supplied.

All plant scales, including truck scales, shall be certified at the expense of the Contractor by a competent and experienced scales technician as follows:

- (a) Annually prior to use in State work.
- (b) At intervals of not more than 60 calendar days.
- (c) At any time ordered by the Engineer.

10. Safety Requirements. Adequate and safe access to sampling points shall be provided. Guarded ladders to other plant units shall be placed at all points where accessibility to plant operations is required. Accessibility to the top of truck bodies shall be provided by a platform or other suitable device, placed in an acceptable location near the testing laboratory, to enable the Engineer to obtain samples and mixture temperature data. All gears, pulleys, chains, sprockets, and other dangerous moving parts shall be thoroughly guarded and protected. A clear, clean and unobstructed passage shall be maintained at all times in and around the truck loading area.

11. HMA Holding Bin. HMA may be stored in surge and storage systems designed for that purpose. Each surge and storage system must meet the requirements of AASHTO M156, unless otherwise permitted by the Engineer, and may be inspected by the Department to determine acceptance at specific holding times.

Acceptance shall be based upon the ability of the holding bin to hold and discharge mixtures within the quality criteria specified by the mix design and these Specifications.

b. Requirements for Batching Plants.

1. Automatic Proportioning. The plant shall be equipped with automatic proportioning devices. Such devices shall include equipment for accurately proportioning the various components of the mixture by weight in the proper sequence. PGAB and aggregates shall be proportioned by weight. Additives, if required, may be proportioned by volume or weight. The plant shall be equipped to automatically control the sequence and timing of mixing operations. There shall be auxiliary interlock cutoff circuits to interrupt and stop the automatic cycling of the batching operations at any time an error in weighing occurs, when an aggregate bin becomes empty, or when there is a malfunction of any portion of the control system.

2. Recording Equipment. The plant shall be equipped with a digital recorder which will automatically print the following data on delivery tickets:

- (a) Batch weights of each size aggregate. Weights printed may be individual or cumulative.
- (b) Total weight of aggregates in batch. The weight printed for the last aggregate batched shall be the total weight of aggregates in the batch when cumulative weights are used.
- (c) Weight of PGAB in batch.
- (d) Weight of total batch.
- (e) Total weight of batches in truck.
- (f) Total weight of PGAB in all batches in truck.
- (g) Date mixed.
- (h) The time each batch or load began or the time each was completed.

When silos are utilized, the requirements for delivery tickets shall conform to **Para. c; Requirements for Drum Dryer Mixing Plants**, of this Subsection. In addition, automated batch plant printout tickets generated in accordance with **Para. b** of this Subsection shall be given to the plant inspector and maintained on file.

There shall be sufficient copies of delivery tickets to provide a copy for the plant inspector and a copy for the Resident Engineer for permanent project record. The following information shall also be included on delivery slips:

- (i) Name of customer.
- (j) Name of project and contract number.
- (k) Name of driver and truck number.
- (l) Class of HMA.
- (m) Additives.

3. Equipment Failure. If at any time the automatic proportioning or recording devices become inoperable, the plant may be allowed to batch and mix HMA for a period of not more than 48 hours from the time of the breakdown, if approved by the Engineer. Written permission of the Engineer will be required for periods of operation without automatic proportioning facilities longer than 48 hours.

4. Screens. Plant screens, capable of screening all aggregates to the specified sizes and proportions and having normal capacities in excess of the full capacity of the mixer, shall be provided.

5. Hot Aggregate Bins. Hot bin storage of sufficient capacity to ensure uniform and continuous operation shall be provided. The bins shall be arranged to ensure separate and adequate storage of appropriate fractions of the aggregate. Each bin shall be provided with overflow pipes, of such size and at such locations as to prevent backing up of material into other compartments or bins. Each bin shall be provided with its individual outlet gate, constructed so that when closed there shall be no leakage. The gates shall cut off quickly and completely. Bins shall be equipped with adequate tell-tale devices to indicate the position of the aggregates in the bins at the lower quarter points. Adequate and convenient facilities shall be provided for obtaining aggregate samples from each hot bin.

6. Aggregate Scales. Scales for any weigh box or hopper shall be of the springless dial type, having a full complement of index pointers and shall be of a standard make and design. They shall be accurate to 0.50 percent, have minimum graduations not greater than 0.50 percent and shall be readable and sensitive to 0.25 percent or less. The preceding percentages are based on total batch weight.

7. Batching Controls. Batching controls shall be electrically interlocked with the scales to prevent cycling or recycling of batching until scales tare zero.

The batching controls shall meet the following tolerances with respect to the various components weighed in each batch:

Combined Aggregate Components:	± 1.5 percent of total batch weight
PGAB:	± 0.1 percent of total batch weight

The total weight of the batch shall not vary more than plus or minus 2 percent from the theoretical design weight.

8. Time Locking Device. The mixer shall have an accurate time locking device to control the operation of a complete mixing cycle by locking the weigh box gate, after charging the mixer, until the closing of the mixer discharge gate at the completion of the cycle. It shall lock the PGAB feed throughout the dry mixing period and shall lock the mixer discharge gate throughout the dry and wet mixing periods. The dry mixing period is defined as the interval of time between the opening of the weigh box gate and the commencement of application of the PGAB. The wet mixing period is the interval of time between the commencement of application of the PGAB and the opening of the mixer discharge gate.

The control of the timing shall be flexible and capable of being set at intervals of not more than five seconds throughout the cycles up to three minutes. Changes in mixing time shall be made only when ordered by the Engineer.

9. Weigh Box or Hopper. The equipment shall include a means for accurately weighing each size of aggregate in a weigh box or hopper suspended on scales and of ample size to hold a full batch without hand raking or running over. The gate shall close tightly so that no material is allowed to leak into the mixer while a batch is being weighed.

10. PGAB Control. The equipment used to measure the PGAB shall be accurate to plus or minus 0.5 percent. The PGAB bucket shall be a non-tilting type with a loose sheet metal cover. The length of the discharge opening trough, bucket or spray bar shall be not less than three-fourths the length of the mixer and it shall discharge directly into the mixer. The PGAB bucket, its discharge valve or valves and spray bar shall be adequately heated. Steam jackets, if used, shall be efficiently drained and all connections shall be so constructed that they will not interfere with the efficient operation of the PGAB scales. The capacity of the PGAB bucket shall be at least 15 percent in excess of the weight of PGAB required in any batch. The plant shall have an adequately heated quick-acting, non-drip, charging valve located directly over the PGAB bucket.

The indicator dial shall have a capacity of at least 15 percent in excess of the quantity of PGAB used in a batch. The controls shall be constructed so that they may be locked at any dial setting and will automatically reset to that reading after the addition of PGAB to each batch. The dial shall be in full view of the mixer operator. The flow of PGAB shall be automatically controlled so that it will begin when the dry mixing period is over. All of the PGAB required for one batch shall be discharged in not more than 15 seconds after the flow has started. The size and spacing of the spray bar openings, trough or PGAB bucket shall provide a uniform application of PGAB the full length of the mixer. The section of the PGAB line between the charging valve and the spray bar shall be provided with a valve and outlet for checking the meter when a metering device is substituted for a PGAB bucket.

11. Mixer. The batch mixer shall be capable of producing a uniform mixture within the job mix tolerances. If not enclosed, the mixer box shall be equipped with a dust hood to prevent loss of dust.

The clearance of blades from all fixed and moving parts shall not exceed one inch unless the maximum diameter of the aggregate in the mix exceeds 1¼-inches, in which case the clearance shall not exceed 1½-inches.

12. Access to the mixer platform shall be by adequate and safe stairways. A hoist or pulley system shall be provided to raise scale calibration equipment, sampling equipment, and other similar equipment from the ground to the mixer platform and return. There shall be adequate and unobstructed space on the mixer platform.

c. Requirements for Drum Dryer Mixing Plants.

1. Proportioning. Aggregates and PGAB shall be proportioned by dry weight of the aggregate. Additives, if required, may be proportioned by volume or weight. The cold aggregate feeder shall be synchronized with the PGAB delivery system. Satisfactory means shall be provided to ensure positive interlocking control between each cold bin, the cold aggregate feeder, and the PGAB delivery system. This interlocking control shall be such that production is interrupted if one or more cold bins becomes empty, or the flow of either aggregate or PGAB is obstructed.

2. Recording Equipment. The plant shall be equipped with a digital recording device approved by the Engineer by which the proportion of aggregate supplied by each cold bin, the flow rates by weight of dry aggregate and of PGAB, and the cumulative weights of dry aggregate and of PGAB incorporated in the mix are automatically printed. These printed records, showing the date

and time of printing, shall be provided to the Engineer at the start and at the end of each production period and at any other times or intervals of time as requested.

The plant shall also have a computerized scale system consisting of a weight batcher and/or a truck scale. Delivery tickets shall be printed on an automatic digital recorder which will print the following information on delivery tickets:

(a) Date loaded.

(b) Net weight of mixture in truck. When a truck scale is used the net weight of the mixture shall be automatically calculated by weighing the truck both empty and full.

(c) Time of each load.

There shall be sufficient copies of delivery tickets to provide a copy for the plant inspector and a copy for the Resident Engineer for permanent project record. The following information shall also be included on delivery slips:

(a) Name of customer.

(b) Name of project and contract number.

(c) Truck identification and name of driver.

(d) Class of HMA.

(e) Additives.

3. Equipment Failure. If at any time the automatic recording device or the computerized scale system become inoperable, the plant may be allowed to produce HMA for a period of not more than 48 hours from the time of the breakdown, if approved by the Engineer. Approval will not be granted unless a satisfactory arrangement is made by the Contractor to weigh the mix. Written permission of the Engineer will be required for periods of operation longer than 48 hours during which any required automatic system is not functioning properly.

4. Aggregate Storage. Sufficient storage space shall be provided for each stockpile of various sized aggregates which shall be kept separated until they have been introduced into the cold bins that feed the drier. A minimum of four cold feed bins shall be required.

5. Cold Feed System. The plant shall have a device at each cold bin to feed the aggregate accurately and uniformly. No gravity type feeders will be permitted. Each adjustment opening shall be provided with indicators graduated to allow proportioning. Each cold bin gate shall be interlocked in such a manner that production is interrupted if one or more cold bins becomes empty or the flow is obstructed.

A mineral filler bin, when required, shall be added to the standard plant cold feed bins, and shall feed the mineral filler at adjustable rates accurately and uniformly. The feeder shall be interlocked so that production is interrupted if the bin becomes empty or the flow is obstructed.

The weighing equipment for all aggregates including mineral filler shall consist of a continuous weighing device either as it is proportioned by the individual feeders or after all materials have been deposited on a common belt. Belt scales shall meet the requirements of N.B.S. Handbook 44 and shall be installed according to the scale manufacturer's recommendations.

The plant shall have an adjustable feed rate control for each aggregate cold bin feeder and mineral filler feeder. The plant shall proportion the total aggregate quantity to the drum mixer with such accuracy and uniformity that the variation of material per interval of time shall not exceed an amount equal to 1.5 percent of the total weight of HMA per interval of time.

An automatic aggregate sampling device shall be provided which will divert a representative combined aggregate sample, including mineral filler, into a hopper or container for the purpose of gradation testing. The container shall cut the full width and depth of the aggregate flow. The sampling point shall be after the aggregate is proportioned and prior to its mixing with PGAB.

6. PGAB Control Unit. The PGAB shall be proportioned by a meter accurate to 0.1 percent. A flow switch designed to interrupt production if the PGAB flow is discontinued shall be installed in the delivery line between the meter and the mixer.

The PGAB delivery system shall be coupled with the aggregate delivery system to automatically maintain the required proportions as the aggregate flow varies. The delivery tolerance for PGAB shall be ± 0.2 percent of the total mixture weight.

7. Plant Calibration. The cold feed and PGAB delivery systems shall be calibrated to insure that the plant is operating within the allowable tolerances. A procedure acceptable to the Engineer and in accordance with the manufacturer's recommendations shall be followed. These calibrations shall be performed prior to the start of each paving season, and at any other time as directed by the Engineer.

8. Mixer Unit. The plant shall include a continuous mixer unit having an automatic burner control and capable of producing a uniform mixture within the job mix tolerances. The mixture shall be discharged into a HMA holding bin meeting the requirements of **Para. a.11** of this Subsection.

The moisture content of the mixture upon discharge from the mixer shall not exceed 1.5 percent by weight.

401.03.2 Hauling Equipment. Trucks or other equipment used for hauling HMA shall have tight, clean, smooth metal beds which have been thinly coated with an approved release agent. No diesel fuel or other material is to be applied to any portion of the vehicle that comes into contact with the HMA. Any hauling equipment not complying with these Specifications will be immediately rejected along with its load of HMA. Each truck shall have a cover of canvas or other suitable material of such size as to protect the mixture from the weather. Truck beds shall be securely covered and, if necessary, insulated to ensure delivery of the mixture at the specified temperature.

Cleaning of equipment, vehicles, and truck beds in areas to be paved is prohibited. Any HMA placed in areas where cleaning takes place is subject to rejection by the Engineer.

a. Material Transfer Vehicle (MTV). A material transfer vehicle (MTV) is required for the construction of all HMA friction, surface, intermediate and base courses on all limited access highways. When friction course is used, both the friction course and the underlying layer must be placed using an MTV.

The MTV shall independently deliver HMA from the hauling equipment to the paving equipment. A paving hopper insert with a minimum capacity of 14 tons shall be installed in the hopper of conventional paving equipment when a MTV is used.

As a minimum, the MTV shall have a high capacity truck unloading system which will receive HMA from the hauling equipment; a storage system in the MTV with a minimum capacity of 15 tons of HMA, and a discharge conveyor with the ability to swivel to either side to deliver the mixture to the paver while allowing the MTV to operate from an adjacent lane. In addition, the paving operation must contain a remixing system to blend the mixture prior to placement. The speed of the paver and MTV shall be adjusted to coordinate with the availability of HMA. Failure to keep the MTV supplied with HMA may be cause to cease paving operations for that operation. However, more than 2 stoppages shall result in paving being ceased for that operation.

When an MTV is to be used on a project, the Contractor shall further investigate the possible movement of the fully or partially loaded MTV on the project. If there are any structures on the project that the fully or partially loaded MTV will traverse, the Contractor shall request an Overweight Permit Check from the Department. Such a request shall be made in writing, and shall include the axle configuration, weights, and the project limits. Operations shall not begin until this permission is received from the Department and one copy forwarded to the Engineer.

The following is a statewide list of limited access highways (included are travel lanes, auxiliary lanes, climbing lanes, acceleration and deceleration lanes, ramps, collector/distributor roads, service roads, and shoulders greater than 8 feet):

I-95	Connecticut State Line to Massachusetts State Line
I-195	I-95 to Massachusetts State Line
I-295	I-95 to Massachusetts State Line
US Route 1	Prosser Trail to Wakefield Cut-Off
RI Route 4	Route 1 to I-95
US Route 6	Route 102 to Route 101; Route 10 to I-295
RI Route 10	Park Avenue to Route 6
US Route 6/RI Route 10	Magnolia Street Bridge to I-95
RI Route 24	Route 114 to Massachusetts State Line
RI Route 37	Natick Avenue to Post Road

RI Route 78	Route 1 to Connecticut State Line
RI Route 99	Route 146 to Mendon Road
East Shore Expressway	I-195 to Wampanoag Trail
RI Route 114	East Shore Expressway to Forbes Street
RI Route 138	Route 1 to Admiral Kalbfus Road
RI Route 146	I-95 to Reservoir Road
RI Route 146	Route 146A to Massachusetts State Line
RI Route 403	Route 4 to Quonset Point
Airport Connector	I-95 to Post Road
Henderson Bridge Access Roadway	Waterman Street/So. Angell Street to Broadway

401.03.3 Pavers. Unless otherwise shown on the Plans, mixtures shall be spread by means of a mechanical self-powered paver capable of spreading the mixture true to line, grade and crown as approved by the Engineer.

HMA pavers shall be self-contained, power-propelled units, provided with activated vibratory screed and solid vibratory screed extenders and capable of spreading and finishing courses of plant mixed HMA in lane widths applicable to the specified typical section and thickness shown on the Plans. Pavers used for shoulders and similar construction shall be capable of spreading and finishing courses of HMA in the widths, depths and cross slopes indicated on the Plans.

When laying mixtures, the paver shall be capable of being operated at forward speeds consistent with satisfactory laying of the mixture.

The paver shall be equipped with a receiving hopper having sufficient capacity for a uniform spreading operation. The hopper shall be equipped with a distribution system to place the mixture uniformly in front of the screed.

a. Screeding. The screed and screed extenders shall continually vibrate while placing the mixture and shall effectively produce a finished surface of the required evenness and texture without tearing, shoving or gouging the mixture. The screed shall be heated to maintain the HMA at the required placement temperature. Unless otherwise permitted by the Engineer, the screed extenders shall not extend more than two feet from the edge of the augers or auger extensions.

The paver shall be equipped with automatic screed controls with sensors for either or both sides of the paver, capable of sensing grade from an outside reference line, sensing the transverse slope of the screed and providing the automatic signals which operate the screed to maintain the desired grade and transverse slope. The sensor shall be capable of operating from a ski-type device or reference beam of not less than 25 feet in length. The sensor shall also have the

capability of operating from a reference line unless the ski-type device or reference beam can ride on an adjacent, newly placed lift of HMA. A reference line shall also be used for the first course placed over in-place, recycled material.

Reference lines for the control of horizontal alignment shall be provided by the Contractor subject to the approval of the Engineer.

When a reference line is used for automatic grade control, the Contractor shall furnish and install all pins, brackets, tensioning devices, wire and accessories necessary for satisfactory operation of the automatic control equipment using a taut stringline set to grade for reference.

The transverse slope controller shall be capable of maintaining the screed at the desired slope within plus or minus 0.1 percent. The paver shall be equipped with automatic feeder controls, properly adjusted to maintain a uniform depth of materials ahead of the screed.

b. Manual Operation. Manual operation will be permitted in the construction of irregularly shaped and minor areas, on plant mixed seal courses, or where otherwise directed.

401.03.4 Conditioning of Existing Surfaces. Surfaces of curbs, gutters, vertical faces of existing pavements, and all structures to be in contact with the HMA shall be given a thin, even coating of tack coat. Care shall be taken to avoid the splattering of surfaces which will not be in contact with the HMA.

When a tack coat is required, the type and grade and the application methods shall conform to the applicable provisions of both **SECTION M.03; MATERIALS** and **SECTION 403; ASPHALT EMULSION TACK COAT**, of these Specifications.

401.03.5 Spreading and Finishing. The mixture shall be laid upon an approved cleaned surface, spread and struck off to the grade and elevation established. HMA pavers shall be used to distribute the mixture either over the entire width or over such partial width as may be practicable.

The practices and guidelines for placing HMA as outlined in Asphalt Institute Publication MS-22, "Construction of Hot Mix Asphalt Pavements" shall be adhered to unless otherwise permitted by the Engineer.

Unnecessary walking on the uncompacted HMA mat shall not be allowed.

Before beginning a new lane, the screed shall be heated to the proper operating temperature and any clumps of cold material in the paver hopper shall be removed.

No trucks or other equipment shall be allowed on freshly placed HMA unless specifically permitted by the Engineer.

On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impracticable, the mixture shall be placed as close to its final position as possible. It shall then be spread, raked, and luted by hand tools in a manner which will minimize segregation and result in the required compacted thickness.

Unless otherwise directed by the Engineer, any layer of HMA called for on side streets or driveways must be placed to a distance of at least three feet beyond the gutter line at the same time that layer is being placed on the adjacent project roadway.

a. HMA Designated for "Bridge Decks". When HMA is being placed on a surface which is covered with a waterproofing membrane, the following precautions shall be observed:

1. No traffic other than paving equipment shall be allowed on the membrane.
2. The paver must be moved carefully on and off the membrane. Initial proper adjustment of the paver to the correct depth is very important to prevent tearing the membrane. The Contractor shall be responsible for making any repairs to the membrane or to the HMA overlay necessary to correct damage caused by the paving operation, all at its expense.
3. Any and all tears of the membrane by the paver or trucks shall be repaired immediately to the satisfaction of the Engineer. Vehicle tires shall be clean of any rocks or materials that would puncture the membrane.
4. Truck drivers shall not make quick stops and starts, nor turn the wheels while parked, nor cross the deck at an angle.

401.03.6 Compaction. Immediately after the HMA has been spread, struck off, and surface irregularities adjusted, it shall be thoroughly and uniformly compacted by rolling.

The surface shall be rolled when the mixture is in the proper condition and when rolling does not cause undue displacement, cracking, and shoving.

Two rollers are required for all paving operations that exceed a daily total of 500 tons, except in the case of driveway, sidewalk and bridge deck paving operations. The number, weight and type of roller(s) shall be sufficient to compact the mixture to the required density before it reaches the minimum compaction temperature. Vibratory rollers used for compaction shall be operated in the vibratory mode. All rollers used for compaction shall have a minimum operating weight of ten tons or greater. The use of equipment which results in excessive crushing of the aggregate will not be permitted.

The speed of a roller shall not exceed five miles per hour.

Rollers shall not be parked on HMA. When reversing direction, the action shall be smooth, not abrupt. The drive wheel shall approach the new mix, not the tiller wheel.

When a vibratory roller is used for finish rolling, it shall be used in the static mode. Finish rolling shall continue until all roller marks are eliminated.

The motion of the rollers shall be slow enough at all times to avoid displacement of the hot mixture, and any displacement resulting from reversing the direction of the rollers, or from any other cause, shall be satisfactorily corrected. The wheels of steel-wheel rollers shall be kept moist and clean to prevent adhesion of the fresh material, but an excess of water will not be permitted.

If satisfactory density cannot be obtained in any lift, and if the Engineer determines it to be structurally inadequate and/or incapable of maintaining material integrity, the Contractor shall remove and replace any such area at its own expense.

Any mixture that becomes loose and broken, mixed with dirt, or is in any way defective shall be removed and replaced with fresh hot mixture, which shall then be compacted to conform to the surrounding area. Any area showing an excess or deficiency of PGAB shall be removed and replaced. Said removal and replacement shall be at the Contractor's expense.

For HMA not designated as with "Pay Adjustments" in-place density shall be a minimum of 92% of the theoretical maximum density obtained at the plant and will be determined using a nuclear density gauge or in-place cores.

If a class of HMA is designated as for "Bridge Decks", an oscillatory roller with a minimum operational weight of 8 tons shall be used. For HMA designated as for "Bridge Decks" and with "Pay Adjustments" the pay adjustments will only apply to binder content and air voids.

If a class of HMA is designated as for "Leveling" it shall be placed with a paver. A pneumatic roller with a minimum operational weight of 8 tons shall be used. For HMA designated as for "Leveling" and with "Pay Adjustments" the pay adjustments will only apply to binder content and air voids.

If a class of HMA is designated as for "Patching", "Miscellaneous Work" or "Paved Waterways" it shall be placed by hand. A vibratory plate compactor or roller shall be used. A hand tamper may be used only if requested, and such request is approved by the Engineer.

a) In-Place Density for classes of HMA designated as with "Pay Adjustments"

Compaction density will be measured using cores of in-place pavement. Cores not taken under the direction of and witnessed by the Engineer will not be used for acceptance. The location of all cores will be determined by the Engineer. Each lot and subplot for in-place density cores will be matched as near as practical to each production lot and subplot used at the plant.

All cores shall be extracted after completion of rolling operations and before the paved section is open to traffic. The Engineer will take immediate possession of the cores upon extraction. If the Contractor does not obtain cores before a subplot is open to traffic, no bonus (pay adjustment resulting in more than 0%) will be paid for the subplot but disincentives will still apply. The cores will be retained by the Engineer for 4 weeks after the results are reported to the Contractor.

The Contractor may extract its own cores for QC purposes to monitor in-place density and production quality; such cores will not be used for acceptance.

1. Mat Density

Under the direction and witness by the Engineer, two stratified, randomly selected cores (4" +0"/-0.25" diameter) shall be extracted from the mat by the Contractor for each subplot greater than or equal to 450 tons. One core shall be taken for subplots less than 450 tons. The center of each core used to determine mat density will be at least one foot away from the edge of pavement and any transverse or longitudinal joints or drainage structures.

2. Joint Density

One joint density core shall be extracted for every 3000' or less when a joint is formed. Joint cores shall be extracted so that the center is within two inches of the middle of the sloped portion of a notched-wedge joint or within one inch of the middle of a butt joint.

3. In-Place Density Pay Adjustments

In-place density will be measured and reported as a percent of theoretical maximum density.

The pay adjustments from Table 6 will be made for in-place mat density:

Table 6 – Mat Density Pay Adjustments

In-Place Mat Density	Pay Adjustment
95.0% and greater	+2%
94.0% to 94.9%	+1%
93.0% to 93.9%	0%
92.0% to 92.9%	-5%
91.0% to 91.9%	-15%
90.0% to 90.9%	-25%
89.0% to 89.9%	-35%
Below 89.0%	Remove and Replace

The pay adjustments from Table 7 will be made for in-place joint density:

Table 7– Joint Density Pay Adjustments

In-Place Joint Density	Pay Adjustment
93.0% and greater	+2%
92.0% to 92.9%	+1%
91.0% to 91.9%	0%
90.0% to 90.9%	-5%
89.0% to 89.9%	-15%
88.0% to 88.9%	-25%
87.0% to 87.9%	-35%
Below 87.0%	-100%

Note: All density values will be rounded to the nearest 0.1% before applying pay adjustments.

In the event material is required to be removed and replaced, the Engineer will determine the limits of the removal. The required in-place density will be 1% less for the first lift placed on gravel subbase.

4. Calculation of Pay Adjustments for In-Place Density

(i.) For Mat Density:

For each subplot, the bulk specific gravity (G_{mb}) of the mat density core(s) will be averaged and then compared to the corresponding plant theoretical maximum specific gravity (G_{mm}) to calculate the in-place density for each subplot. The weighted average of the subplot densities in a lot

will be used to determine the appropriate pay adjustment for that lot. Lot pay adjustments will be applied to the respective quantity of HMA in each lot.

(ii.) For Joint Density:

For joint density pay adjustment purposes, a joint lot will be defined as 5 joint density results. However, if one or two joint density results are remaining after the final full joint lot is formed, they will be added to the previous joint lot. Three or more joint density results remaining after the final full joint lot will constitute a separate joint lot.

Calculation of in-place joint density will be determined using the G_{mb} of joint density cores and the project average plant G_{mm} of the respective mix. The average of the individual joint density results in a joint lot will be used to determine the appropriate pay adjustment for that joint lot. The calculation of material quantity used to construct the joints will be based on the joint core density, the specified thickness, a width of one foot and the length of the joint that each core represents. This quantity will be deducted from the total tonnage.

401.03.7 Joints. Placement of the HMA shall be as continuous as possible. Rollers shall not pass over the unprotected end of a freshly laid mixture unless authorized by the Engineer.

Both longitudinal and transverse joints in successive courses shall be staggered so as not to be one above the other. Longitudinal joints shall be staggered a minimum of 6 inches and shall be arranged so that the longitudinal joint in the top course being constructed shall be at the location of the line dividing the traffic lanes. Any HMA that falls on the cold side of the mat during paving operations shall be raked onto the hot joint. Care shall be taken to ensure that the material pushed onto the hot side of the joint remains in the joint area and is not broadcast over the pavement.

Unless otherwise permitted by the Engineer, a notched wedge joint shall be used. Longitudinal drop-offs will not be allowed on both sides of a lane. Joints shall be constructed so that the height of the notch is the same as the nominal maximum aggregate size. The width of the sloped portion of the joint shall be at least 6" for each inch of lift thickness if the joint will be exposed to traffic, but in all cases it shall be 12" minimum. Tack coat shall be applied to and shall completely cover the longitudinal notched wedge joint, using either a brush or the tack coat distribution truck. Transverse joints and joints at intersections shall be manually brushed with tack coat, leaving a completely covered face.

401.03.8 Pavement Samples. As directed, the Contractor shall cut samples from the compacted pavement for testing by the Engineer. Samples of the mixture shall be taken for the full depth of the course at the locations directed by the Engineer.

Where samples have been taken, new material shall be placed and compacted to conform to the surrounding area.

401.03.9 Surface Tolerances. At the Engineer's discretion the surface may be tested at selected locations, using an approved 10-foot straightedge furnished by the Contractor. The variation of the surface from the testing edge of the straightedge between any two contacts with the surface shall at no point exceed 1/4-inch. All humps or depressions exceeding the specified tolerance shall be corrected by removing defective work and replacing it with new material as directed.

401.03.10 Thickness Requirements. The thickness of a pavement shall be that as shown on the Plans and shall not vary from the specified thickness by more than that specified in **Subsection 401.04**, below, except as otherwise provided for in resurfacing existing pavements.

401.03.11 Weather Limitations. HMA shall not be placed on any wet surface, or when weather conditions otherwise prevent the proper handling or finishing of the HMA.

For lifts with a target compacted lift thickness less than or equal to 1.5" both the air and surface temperature in the shade shall be 45° F or greater. For lifts with a target compacted lift thickness greater than 1.5" both the air and surface temperature in the shade shall be 40° F or greater. If an approved WMA (warm mix additive) is used both the air and surface temperature in the shade shall be 35° F or greater regardless of lift thickness. No HMA shall be placed on frozen ground.

For projects that do not specify pay adjustments all rolling shall be completed before the temperature of the mat falls below 165° F. The HMA mat (not including WMA modified pavement) shall be at least 265° F when placed.

401.03.12 Cold Weather Paving. If the existing pavement is removed before the winter shutdown, the Contractor shall not close the project for the season until a new HMA layer has been placed and striped with temporary epoxy pavement markings.

401.03.13 Drop-Offs.

a. Longitudinal Drop-Offs. A longitudinal drop-off occurs along the outside edges of pavement and is the difference in elevation between the top of recently placed HMA pavement and the top of existing ground (or pavement).

1. For Posted Speeds of 35 mph or Less. Drop-offs greater than 3 inches but less than 5 inches shall be tapered to a maximum 1-to-1 slope to existing ground or pavement. Drop-offs 5 inches, or greater, shall be tapered to a maximum 4-to-1 horizontal to vertical slope to existing ground or pavement.

2. For Posted Speeds Greater than 35 mph. Longitudinal drop-offs will not be permitted within 2 feet of a travel lane. The first 2 feet adjacent to a travel lane must be at grade with the travel lane. However, should either the sequence of operation required by the Contract or the Contractor's approved sequence of operation result in overnight drop-offs greater than 3 inches occurring between 2 and 6 feet from the edge of a travel lane, then such drop-offs shall be tapered to a 4-to-1 horizontal to vertical slope to existing ground or pavement.

All tapers shall be constructed with HMA conforming to the requirements of this **SECTION 401** of these Specifications.

Longitudinal drop-offs within the roadway cross section will not be allowed except as otherwise detailed on the Plans or as described in a Special Provision.

Longitudinal drop-offs will not be paid for separately, but will be included in the contract unit price for HMA pavements as listed in the Proposal.

b. Transverse Drop-Offs. Transverse drop-offs occur as follows:

Pavement removal. A transverse drop-off occurs when pavement removal operations cease at the end of a working day. The drop-off is the difference in elevation between the bottom of the excavated pavement and the top of the existing pavement.

Pavement overlay. A transverse drop-off occurs when pavement overlay operations cease at the end of a working day. The drop-off is the difference in elevation between the top of the overlay pavement and the top of the existing pavement.

If traffic is allowed across either of these drop-offs during the period prior to the resumption of pavement removal or pavement overlay operations, tapers must be provided as follows:

1. For Posted Speeds of 35 mph or Less. Transverse drop-offs in place at the end of a working day shall be graded at a slope of 2 feet horizontal to 1 inch vertical.

2. For Posted Speeds Greater than 35 mph. Transverse drop-offs in place at the end of a working day shall be graded at a slope of 5 feet horizontal to 1 inch vertical.

All slopes shall be constructed with HMA conforming to the requirements of **SECTION 401** of these Specifications.

The Contractor shall place "BUMP" signs in accordance with the MUTCD (Manual on Uniform Traffic Control Devices) at each drop-off for each direction of traffic.

Prior to the resumption of pavement overlay operations the transition slope shall be removed as follows: The pavement overlay shall be saw cut back approximately 6 inches to expose a fresh, full thickness vertical face. This face shall be brush-painted or pressure sprayed with tack coat, after which the HMA paving may resume.

Transverse drop-offs will not be paid for separately, but will be included in the contract unit prices for HMA pavements as listed in the Proposal.

401.04 METHOD OF MEASUREMENT.

401.04.1 Measurement of HMA Pavement. HMA Pavements will be measured by the number of tons actually placed in accordance with the Plans and/or as directed by the Engineer.

a. Determination of Thickness. The design thickness of each course as well as of the total HMA pavement structure shall be that indicated on the Plans, or as ordered by the Engineer.

Prior to the determination of placed thickness, the roadway shall exhibit acceptable workmanship and all defects shall have been corrected. The placed thickness of HMA pavement will be determined by cutting or coring holes to full depth. For courses with In-Place Density Cores specified, the average thickness of the Density Cores will be used to determine placed thickness.

For courses where In-Place Density Cores are not specified the following requirements apply: For projects with less than 1 paved lane mile, two cores will be taken. For projects with 1 to 2

paved lane miles, four cores will be taken. For projects with greater than 2 paved lane miles, two cores will be taken from each lane mile, except that there will be a minimum of ten cores for the project, all at the discretion of the Engineer.

Cores will be measured in accordance with ASTM D3549; Standard Test Method for Thickness or Height of Compacted HMA Paving Mixture Specimens. The depth measurement will be considered as applying for the full width of the lane. Measurements will be made at random locations determined by the Engineer and all information relative thereto will be recorded in the project records.

For the determination of thickness, a shoulder width of eight feet or greater will be considered to be a separate lane of the roadway. A shoulder width of less than eight feet will be considered part of the adjacent lane. The Contractor shall fill all holes cut or cored in the pavement with a compacted, dense HMA which is acceptable to the Engineer. If required by the Engineer, the Contractor shall maintain and control traffic while the pavement samples are being taken and while the holes are being filled and compacted. Payment will be made for the applicable traffic control item(s).

b. Adjustment of Tonnage Quantity.

The pavement thickness will be considered acceptable if both of the following requirements are met:

(a) The total HMA tonnage delivered and placed does not exceed the tonnage calculated from the approved area measured from the final surface course width by the project length and the pavement thickness specified in the Contract Documents by more than 5 percent.

and,

(b) When Specification Conformity Analysis (Federal Highway Administration Technical Advisory T5080.12; dated June 23, 1989) is applied to the entire roadway or sections thereof as determined by the Engineer, at least 80 percent of the total HMA pavement will have a thickness that meets the minimum pavement thickness. The minimum pavement thickness is that contained in the contract documents minus ½-inch, (e.g., a total pavement thickness of 7 inches will have a minimum pavement thickness requirement of 6.5 inches).

If the first requirement is not met, no payment will be made for all tonnage exceeding 5 percent, unless unusual field conditions are present and documented (e.g., pavement rutting).

If the second requirement indicates that the pavement thickness is deficient, the Contractor with permission of the Engineer shall place a correction course not less than one inch in depth after compaction, provided an acceptable grade and cross section can be achieved. Where an acceptable grade and cross section cannot be achieved through the above means, the Contractor shall reconstruct by cutting back and into the pavement a sufficient distance to permit the placement of an acceptable depth and place new material to achieve the proper depth, cross section and profile. These areas where a corrective course is placed or reconstruction of the pavement is performed, will be measured again as though originally constructed; no compensation will be made to the Contractor for the material removed or removal of materials and disposal thereof or for restoration of affected supporting base or adjacent construction, or for traffic control, adjusting

all utility appurtenances in the roadway or for correcting pavement striping. Compensation will be made for the additional pavement correction course accepted in place.

Determination of the quantity to be used for adjusted payment or exclusion for payment will be based on tons per square yard per inch thickness as determined using in-place density cores or 96% of the plant core (AASHTO T245) densities if in-place densities are not available.

Sweeping and cleaning, as included in the items covered by this section, refers to the normal removal of dust, debris, etc. only. Any sweeping and cleaning necessary due to construction being held over for the winter season, in accordance with the approved construction schedule, will be paid for separately.

Work described in **Subsection 401.03.4; Conditioning of Existing Surface**, will be paid for at the contract unit prices for the material used.

Tolerance Limitation. Pavement will be considered acceptable when meeting the specifications. Pavement that is not accepted will be excluded from the tolerance allowance. When delivery tickets are directly collected by the Engineer from each truck prior to placing in the hopper, the delivery tickets may be used in the determination of total tonnage delivered and placed. Delivery tickets not collected directly by the Engineer prior to placing in the hopper will not be used to determine tonnage.

When delivery tickets are not used to determine tonnage, the accepted total tonnage delivered and placed will be calculated according to the following formula: [final surface course width] x [project length] x [specified pavement thickness] x [the average unit weight of all acceptance density cores] = contract tonnage. If density cores are not required then 96% of the average unit weight of the plant produced acceptance gyratory cores shall be used.

Payment will be made at full contract unit bid prices with pay adjustments for all accepted HMA up to 105% of the contract quantity tonnage. Accepted HMA quantities above 105% and up to 110% of the contract quantity tonnage will be paid at 50% of the contract unit bid price with the resultant adjusted price further modified by additional pay adjustments as applicable according to the following formula: Pay adjustments will apply to 50% of the contract unit bid price for quantities above 105% and up to 110%.

401.05 BASIS OF PAYMENT. The accepted quantity of the HMA will be paid for at its respective contract unit price per ton as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, materials and equipment, and for all incidentals required to finish the work, complete and accepted by the Engineer.

Pay adjustments for binder content, air voids and in-place density will be added together to determine a final pay adjustment for both the mat and the joint. If more than one pay adjustment is negative then only the most negative adjustment will be added to the remaining non-negative adjustments to determine the final pay adjustment. Pay adjustments will be applied to the unit bid price for the applicable item code.

- c. Do not smooth edges of the work or around obstructions with an edging tool but rather, allow the stamped pattern to abut such areas.

Once the concrete has attained a compressive strength of 3,000 psi and a minimum of seventy-two (72) hours curing time, the surface of the concrete shall be carefully power washed to remove any debris without removing all traces of the release agent and thereafter sealed.

Repairs and Protection. The Contractor shall repair or replace broken or defective concrete as required, at no additional expense to the State.

Protect concrete from damage until acceptance of the work. Exclude traffic from pavement until the concrete has attained a compressive strength of 3,000 psi and a minimum of seventy-two (72) hours curing time. Maintain the pavement free of stains and other damage until accepted by the Engineer. Sweep concrete pavement and wash free of stains, discolorations, dirt, and other foreign material just prior to final inspection.

The Engineer shall determine when the concrete is ready to receive traffic.

METHOD OF MEASUREMENT. The accepted quantity of "Integrally Colored and Stamped Portland Cement Concrete Crosswalk" will be measured for payment by the "Square Yard" actually installed in accordance with the Plans and/or as directed by the Engineer.

BASIS OF PAYMENT. "Integrally Colored and Stamped Portland Cement Concrete Crosswalk" will be paid for at the contract unit price bid per "Square Yard" as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, tools, materials, equipment, trimming and fine grading, joint materials, contraction/expansion joint construction, steel reinforcing, sealants, sample(s), trial run, protection and all other incidentals required to finish the work, complete and accepted by the Engineer.

Full depth saw cut of flexible pavement and rigid base will be paid for under Code 932.0210.

Removal and disposal of flexible pavement and rigid base will be paid for under Code 201.0407.

Installation of the granite edging and curb lock will be paid for under Codes 906.0112 and 601.0300, respectively.

CONSTRUCTION METHODS. Construction shall be in accordance with **Subsection 906.03.1** of the RIDOT Standard Specifications for Road and Bridge Construction, Amended 2010, with all revisions, and the details on the Plans.

METHOD OF MEASUREMENT. “Providence Standard Granite Apron Stone, Standard P-18”, “Providence Standard Granite 2’-0” Radius Corner, RI Std. 7.3.4 Modified (7”)”, and “Providence Standard Granite 3’-0” Transition Curb, RI Std. 7.3.1 Modified (7”)” will be measured for payment by the unit “Each” of such curbing actually installed in accordance with the Plans and/or as directed by the Engineer. “Providence Standard Granite Inlet Stone, Standard P-17”, “Providence Standard Granite Curb, Straight” and “Providence Standard Granite Curb, Circular” shall be measured for pavement by the unit “Linear Foot” of such curbing actually installed in accordance with the Plans and/or as directed by the Engineer.

BASIS OF PAYMENT. “Providence Standard Granite Apron Stone, Standard P-18”, “Providence Standard Granite 2’-0” Radius Corner, RI Std. 7.3.4 Modified (7”)”, and “Providence Standard Granite 3’-0” Transition Curb, RI Std. 7.3.1 Modified (7”)” will be paid for at the contract bid price per “Each”, as listed in the Proposal. “Providence Standard Granite Inlet Stone, Standard P-17”, “Providence Standard Granite Curb, Straight” and “Providence Standard Granite Curb, Circular” will be paid for at the contract bid price per “Linear Foot”, as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials and equipment, including excavation unless otherwise noted to be paid for separately, joints, gravel borrow including compaction and trimming and fine grading unless otherwise noted to be paid for separately, backfilling, cutting of existing granite curb, delivery of stockpiled granite curb, disposal of excess granite materials, curb ramp transition curb and ramp stones, removal of existing sidewalk behind curb, and all other incidentals required to finish the work, complete and accepted by the Engineer.

The following work will be paid for separately under appropriate work items: sawcutting, the removal and disposal of existing pavement, both rigid and flexible, and new sidewalk.

**JOB SPECIFIC
CODE 900.9901**

BASEMENT VAULT REPAIRS

DESCRIPTION. This work shall consist of performing repairs to the basement vault substrate, which is the basement vault roof structure, that may be exposed during the course of the project construction, only after initial excavation reveals any potential repairs and the Department agrees in writing that further repairs are necessary.

The required repairs should bring the basement vault to a condition to allow for the placement of the sidewalk above at the direction of the Engineer.

All work shall be performed in accordance with the RIDOT Standard Specifications for Road and Bridge Construction, Amended 2010, with all revisions.

The known basement vault locations are in the building located at No. 250 South Water Street (245-257 South Main Street) and in the building located at No. 250 Benefit Street (Licht Judicial Complex).

SUBMITTALS. The Contractor shall submit written descriptions of their proposed repairs to the Engineer for approval. The description shall include a list of all equipment and materials necessary.

MATERIALS. The Contractor shall supply all required materials to adequately repair the surfaces of the basement vaults. All materials shall be used per the Manufacturer's recommendations and to the Engineer's requirements.

CONSTRUCTION METHODS. The basement vault substrate will be repaired at the direction of the Engineer.

During repair to the basement vault substrate, extreme care is to be used in close proximity to the existing buildings, vaults, and granite curbing. Under this contract the vaults are to remain in place and any damage to these or the building structures, or any adjustments to the curbing necessitated by the repairs shall be replaced/performed by the Contractor at no additional cost to the State.

If required, the Contractor shall provide temporary bracing of existing vault walls and ceilings prior to beginning repairs. The Contractor shall also provide protection for the adjacent structure from water/seepage.

METHOD OF MEASUREMENT. "Basement Vault Repairs" will be calculated for payment by the actual cost, verified by the force account records for vault repairs.

must be paid to attaining proper compaction of the materials beneath the brick pavers. The final surface created by the brick pavers must be uniform in height and have a change in level of less than one eighth of an inch (1/8"). All brick pavers found to exceed these tolerances must be reset to the satisfaction of the Engineer.

After setting the brick pavers, the joint filling mixture (1 part Portland cement and 3 parts clean sand) is to be brushed into the joints and fogged with water, being careful not to allow the cement to dry on the surface of the bricks. After the surface is dry, additional joint filler mixture shall be uniformly distributed as necessary to completely fill all of the voids. The process shall be repeated until all joints are full.

The Contractor shall protect the sidewalks for the duration of the Contract. Any damage to adjacent properties, buildings, sidewalk, or lawn resulting from the Contractor's operations shall be repaired to the satisfaction of the Engineer at the Contractor's expense.

METHOD OF MEASUREMENT. "Brick Sidewalk" will be measured for payment by the "Square Foot" in accordance with the Plans, Specifications, and as directed by the Engineer.

BASIS OF PAYMENT. "Brick Sidewalk" will be paid for at the contract unit price bid per "Square Foot" as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, materials, and equipment, including new brick pavers, setting the brick pavers, sand and cement mixture, stone dust setting bed, edge restraints, and for all other incidentals required to finish the work, complete and accepted by the Engineer.

Excavation and concrete subbase will be paid for separately under the appropriate work items.

JOB SPECIFIC

905.9909 – PORTLAND CEMENT SIDEWALK MONOLITHIC STD 43.1.0
905.9910 – PORTLAND CEMENT CONCRETE DRIVEWAY STD 43.5.0

This job specific specification for these items of work shall follow the standard specification described in **Section 905 – Sidewalks and Driveways**, on pages AC12-5 through AC12-8 of the Compilation of Approved Specifications, dated 12/23/11, except as modified herein:

1. Add the following to Subsection 905.02.1 Portland Cement Concrete:

All concrete shall be integrally colored in accordance with job specific specification 601.9901.

2. Add the following to Subsection 905.02.3 Other Materials:

c. Crushed Stone. Crushed stone for ventilation shall conform to **Subsection M.01.09** of the RIDOT Standard Specifications for Road and Bridge Construction, Amended 2010, with all revisions.

d. Tree Vents. The tree vent shall consist of 4" PVC pipe and a slotted drain cover. The drain cover shall be rated for outdoor/exterior use and appropriate for sidewalk traffic loading. The drain cover shall allow for future access to the PVC pipe.

e. Filter Fabric. Shall meet the general requirements of **Subsection M.18.18** of the RIDOT Standard Specifications for Road and Bridge Construction, Amended 2010, with all revisions.

3. Replace the second paragraph of Subsection 905.03.1 - Scheduling Sidewalk Construction with the following:

Removal of sidewalks shall be performed in accordance with the provisions of the job specific specification for Item Code 201.9901 – Remove and Dispose Sidewalks and Driveways of these Specifications.

4. Replace Subsection 905.03.3(a) with the following:

a. Excavation. Excavation shall be made to the required depth and to a width that will permit the installation and bracing of the forms. All existing material, including gravel borrow, shall be excavated to the limits indicated on the Plans. If tree root systems are encountered, then the excavation limits shall be adjusted and special treatments shall be applied to the tree roots.

The existing gravel subbase shall be left in place where the root system is visible in the subbase. Where root systems are not visible, excavation shall proceed in shallow layers that do not exceed

4 inches in depth until the root system is located. The maximum depth of excavation from the finished grade is equal to 12 inches for sidewalk and 16 inches for driveways to allow for the installation of the proposed sidewalk and driveway material along with the associated subbase material. No stockpiling of removed material will be allowed around the root zone of any tree.

The tree roots will not be allowed to remain uncovered for more than one (1) hour. Exposed roots shall be covered with a 1-inch minimum layer of loam immediately after exposure. Loam shall remain over the tree roots until the sidewalk is installed. The roots shall also be kept moist, and not allowed to dry out. Water shall be provided by the Contractor until the actual surface is placed within the sidewalk area. Heavy equipment shall not be permitted to traverse the remaining root system. Refer to the Tree Root Pruning detail on the Plans.

The foundation shall be shaped and compacted to a firm even surface conforming to the section shown on the Plans. All unsuitable material shall be removed and replaced with acceptable material.

All construction operations shall be accomplished in a manner such that the health of the tree and corresponding root system is not compromised. A RIDOT Landscape Representative shall be present during the placement of the crushed stone for the sidewalk ventilation. Heavy equipment shall not traverse the root zone areas. The root zone area shall be defined as the areas directly below the outermost drip line of the tree canopy. The ventilation system will be installed five feet (5') beyond the limits of the root zone within the sidewalk. If conditions do not allow for installation with heavy equipment, the placement of crushed stone will be done by hand.

Crushed stone shall be placed at a depth of six inches (6") below the sidewalk base material and 12" in diameter for each vent. The crushed stone shall be encased in filter fabric and moderately compacted by making two passes with a vibratory compactor. It is important that the crushed stone not be overly compact in order to provide proper ventilation to the root systems of the affected tree.

The PVC pipes and crushed stone shall be put into place at the spacing indicated on the Plans or Details prior to installation of the brick sidewalk. Crushed stone shall be placed inside the PVC pipes, leaving a space of approximately 1 inch between the crushed stone and the slotted drain cover. The slotted drain cover shall be set flush with the finished sidewalk surface such that water is not channeled into the vent. The PVC pipes shall serve as vents, not drains. The vents shall be situated along the perimeter of each designated tree's dripline within the sidewalk area as designated on the Plans or Details. The vent openings shall be temporarily covered with plastic, or another countermeasure approved by the Engineer, during stone dust and brick placement and joint filling to prevent debris from entering the vents. The temporary covering shall be completely removed once the surrounding work is completed and approved.

All work shall be to the satisfaction of the Engineer. A RIDOT Landscape Representative must be notified at least three (3) days in advance of the commencement of work. There will NOT be

any payment for sidewalk work done in areas with sidewalk ventilation without the presence of a RIDOT Landscape Representative.

5. Add the following paragraph to Subsection 905.03.3(b) Gravel Borrow Subbase:

The existing gravel subbase will be left in place where the root system is visible in the subbase. Refer to the Tree Root Pruning detail on the Plans.

6. Replace Subsection 905.03.3(f) with the following:

f. Finishing. The surface shall be finished with a medium brush. No plastering of the surface will be permitted. All outside edges of the slab and all joints shall be edged with a 1/4-inch radius edging tool.

7. Replace the first paragraph of Subsection 905.03.3(g) with the following:

g. Joints. Expansion joints shall be of the dimensions specified, and shall be filled with an approved type of premolded expansion joint filler. Sidewalks and driveways shall be divided into sections by control joints formed by a jointing tool or other acceptable means as directed. These control joints shall extend into the concrete for at least 1/3 of the depth and shall be approximately 1/8-inch wide. At no time shall the distance between transverse, longitudinal, and/or dummy control joints exceed 5 feet. The control joints shall be located to match building lines, columns, entrances, driveways, etc. The Contractor shall coordinate with the Engineer, the City of Providence Department of Public Works, and the City of Providence Department of Planning and Development for the final locations of the control joints.

8. Replace the first paragraph of Subsection 905.05 Basis of Payment with the following:

905.05.1 Portland Cement Concrete Sidewalks and Driveways. The accepted quantities of "Portland Cement Concrete Sidewalks and Driveways" will be paid for at the contract unit price per cubic yard as listed in the Proposal. A maximum 5 percent overrun of the calculated quantities based on the required thickness as shown on the Plans is permissible. The price so stated constitutes full and complete compensation for all labor, materials and equipment, including coloring, expansion joint material, reinforcement, crushed stone, PVC pipe, filter fabric, vent covers and all other incidentals required to finish the work, complete and accepted by the Engineer.

Excavation and gravel borrow subbase will be paid for separately under appropriate work items.

**JOB SPECIFIC
CODE 929.0110**

FIELD OFFICE

The job specific specification for this item of work shall follow the standard specification described in **Section 929 – Field Offices and Materials Laboratory**, on pages 9-52 through 9-58 of the RIDOT Standard Specifications for Road and Bridge Construction, Amended 2010, with all revisions, pages AC-108 through AC-110 of the Compilation of Approved Specifications, dated January 2011, and pages AC12-10 through AC12-11 of the Compilation of Approved Specifications, dated December 2011, except as modified herein:

1. Replace Subsection 929.02.1 – Location with the following:

929.02.1 Location. The field office or material laboratory shall be located on a site that is both satisfactory to the Engineer and convenient to the project site. The location shall provide a minimum of ten (10) parking spaces.

2. Replace Subsection 929.02.2 – Minimum Spatial Requirements with the following:

929.02.2 Minimum Spatial Requirements. Unless specified otherwise in the Special Provisions of the Contract, the Engineer's field office or materials laboratory each shall contain a minimum of 1,000 square feet of floor area, at least 4 rooms, and 7 feet minimum of headroom. It shall contain a sufficient number of windows to provide at least 27 square feet of natural light.

Existing building structures meeting the above minimum requirements are considered acceptable.

3. Replace Subsection 929.03.2e – Telephone with the following:

e. Telephone. Telephone service and instruments for two (2) incoming phone lines shall be provided.

The Contractor shall also provide and install 6 additional phone jacks, required wiring, and phones to be located throughout the field office at the locations specified by the Engineer.

4. Replace Subsection 929.03.4a – Furnishings with the following:

a. Furnishings.

1. Two work tables, 30 inches high, with a minimum of 24 square feet of work area.
2. Two drafting stools.
3. Four folding-type chairs.
4. Two fire resistant drawer-type safe, legal size, with combination or key lock.
5. Two four-drawer legal size metal filing cabinet equipped with lock.
6. Four two-drawer (14 ½" x 16") metal filing cabinets.
7. Four round wastebaskets.
8. Two plan racks of an approved design to be equipped with 10 rods.
9. Two ADA kits including 25-foot tape measure, electronic level, and pressure gauge to measure the force required to activate a pedestrian pushbutton.

5. Replace Subsection 929.03.5a – Furnishings with the following:

a. Furnishings.

1. Six office type desks, minimum top dimensions 32" x 60", with two or more drawers on each side.
2. Six swivel desk chairs.

6. Replace Subsection 929.05 – Basis of Payment with the following:

929.05 BASIS OF PAYMENT. "Field Office" will be paid for at the unit price per month as listed in the Proposal. The price so-stated shall constitute full compensation for furnishing and maintaining the field office, together will all associated costs of computer and printing equipment, facsimile and copying machines, peripherals, paper, supplies, and all other incidentals required to provide this service, complete and accepted by the Engineer.

The timely provision of the required equipment for use by the State's engineering force shall be mandatory consideration for initial payments to the Contractor for any and all work performed.

**JOB SPECIFIC
CODE 906.0700**

**REMOVE, HANDLE, HAUL TRIM RESET CURB EDGING,
STRAIGHT, CIRCULAR ALL TYPES**

This job specific specification for this item of work shall follow the standard specification described in **Section 906 – Curbing for Roadways**, on pages AC-98 through AC-101 of the Compilation of Approved Specifications, dated 1/24/2011, except as modified herein:

1. Replace Subsection 906.05.5 with the following:

906.05.5 Remove, Handle, Haul, Trim and Reset Curbing and Edging, Straight and/or Circular, All Types. The accepted quantities of “Remove, Handle, Haul, Trim and Reset Curbing and Edging, Straight and/or Circular, All Types,” for each kind and type specified, will be paid for at the respective contract unit prices per linear foot as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials and equipment, including excavation unless otherwise noted to be paid for separately, joints, gravel borrow including compaction and trimming and fine grading unless otherwise noted to be paid for separately, backfilling, cutting of existing granite curb, delivery of stockpiled granite curb, disposal of excess granite materials, curb ramp transition curb and ramp stones, removal of existing sidewalk behind curb, and all other incidentals required to finish the work, complete and accepted by the Engineer.

The following work will be paid for separately under appropriate work items: sawcutting, the removal and disposal of existing pavement, both rigid and flexible, and new sidewalk.

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029	202.0100 Cont.	FROM ITEM CODE 501.9901		7.00	0004	01
		FROM ITEM CODE 905.9901		272.00	0004	01
		FROM ITEM CODE 905.9902		18.00	0004	01
		FROM ITEM CODE 905.9903		28.00	0004	01
		FROM ITEM CODE 905.9905		80.00	0004	01
		FROM ITEM CODE 905.9907		54.00	0004	01
		FROM ITEM CODE 905.9909		1,395.00	0004	01
		FROM ITEM CODE 905.9910		136.00	0004	01
		FROM ITEM CODE 905.9911		9.00	0004	01
Item 202.0100 Total:				2,500.00		
030	204.0100	TRIMMING AND FINE GRADING	SY			
		PROJECT WIDE				
		ADDITIONAL QUANTITY		715.00	0004	01
		FOR P2 AREAS		27.00	0004	01
		FOR UTILITY PATCH REPAIR		2,400.00	0004	01
		FROM ITEM CODE 401.0300		36.00	0004	01
		FROM ITEM CODE 501.9901		32.00	0004	01
		FROM ITEM CODE 905.9901		1,183.00	0004	01
		FROM ITEM CODE 905.9902		80.00	0004	01
		FROM ITEM CODE 905.9903		124.00	0004	01
		FROM ITEM CODE 905.9905		359.00	0004	01
		FROM ITEM CODE 905.9907		121.00	0004	01
		FROM ITEM CODE 905.9909		6,274.00	0004	01
		FROM ITEM CODE 905.9910		610.00	0004	01
		FROM ITEM CODE 905.9911		39.00	0004	01
Item 204.0100 Total:				12,000.00		
031	209.9901	INLET SEDIMENT CONTROL	EACH			
		DRAINAGE & UTILITY PLAN NO. 1				
		10+44 R		3.00	0004	01
		10+48 R		3.00	0004	01
		10+70 R		3.00	0004	01

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Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
031	209.9901 Cont.	38+95 R, 34' OFFSET		3.00	0004	01
		38+95 R, 39' OFFSET		3.00	0004	01
		39+30 R		3.00	0004	01
		39+31 R		3.00	0004	01
		39+69 R		3.00	0004	01
		40+69 R		3.00	0004	01
		DRAINAGE & UTILITY PLAN NO. 6				
		42+96 R		3.00	0004	01
		43+24 R		3.00	0004	01
		44+61 R		3.00	0004	01
		45+60 R		3.00	0004	01
		45+61 L		3.00	0004	01
		47+50 R		3.00	0004	01
		DRAINAGE & UTILITY PLAN NO. 7				
		49+22 R		3.00	0004	01
		49+38 R		3.00	0004	01
		50+43 R		3.00	0004	01
		51+87 R		3.00	0004	01
		51+97 R		3.00	0004	01
		PROJECT WIDE				
		REPLACEMENTS, AS DIRECTED		13.00	0004	01
		AND/OR APPROVED BY ENGINEER				
				Item 209.9901 Total:		160.00
032	212.2000	CLEANING AND MAINTENANCE OF	LS			
		EROSION CONTROLS				
		PROJECT WIDE				
		PROJECT WIDE		1.00	0004	01
				Item 212.2000 Total:		1.00
033	302.0100	GRAVEL BORROW SUBBASE COURSE	CY			
		PROJECT WIDE				
		ADDITIONAL QUANTITY		497.00	0004	01

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033	302.0100 Cont.	FROM ITEM CODE 401.0300		8.00	0004	01
		FROM ITEM CODE 501.9901		10.00	0004	01
		FROM ITEM CODE 905.9901		272.00	0004	01
		FROM ITEM CODE 905.9902		18.00	0004	01
		FROM ITEM CODE 905.9903		28.00	0004	01
		FROM ITEM CODE 905.9907		27.00	0004	01
		FROM ITEM CODE 905.9909		1,395.00	0004	01
		FROM ITEM CODE 905.9910		136.00	0004	01
		FROM ITEM CODE 905.9911		9.00	0004	01
Item 302.0100 Total:				2,400.00		
034	401.1005	CLASS 19.0 HMA FOR MISCELLANEOUS WORK	TON			
		PROJECT WIDE				
		ADDITIONAL QUANTITY		26.00	0004	01
		DRIVEWAYS		6.00	0004	01
		ELEVATION CHANGES		18.00	0004	01
Item 401.1005 Total:				50.00		
035	401.2002	CLASS 12.5 HMA FOR LEVELLING	TON			
		GENERAL PLAN NO. 1				
		10+30 - 16+00 M		369.00	0004	01
		GENERAL PLAN NO. 2				
		16+00 - 22+50 M		418.00	0004	01
		GENERAL PLAN NO. 3				
		22+50 - 29+00 M		405.00	0004	01
		GENERAL PLAN NO. 4				
		29+00 - 35+50 M		438.00	0004	01
		GENERAL PLAN NO. 5				
		35+50 - 42+00 M		507.00	0004	01
		GENERAL PLAN NO. 6				
		42+00 - 48+50 M		416.00	0004	01
		GENERAL PLAN NO. 7				

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042	501.9901	Cont. PORTLAND CEMENT CONCRETE CROSSWALK				
		GENERAL PLAN NO. 6				
		45+06 - 45+16 M		32.00	0004	01
		Item 501.9901 Total:		32.00		
043	502.1000	FULL DEPTH CLEANING AND SEALING OF JOINTS AND CRACKS 2-1/2" NOM. WIDTH OR LESS IN PCC PAVEMENT	LF			
		PROJECT WIDE				
		PROJECT WIDE		8,100.00	0004	01
		Item 502.1000 Total:		8,100.00		
044	503.1010	REPAIRING DETERIORATED/DAMAGED JOINTS 2 1/2" TO 8" NOM. WIDTH IN FINISHED PCC PAVEMENT	CF			
		PROJECT WIDE				
		PROJECT WIDE		950.00	0004	01
		Item 503.1010 Total:		950.00		
045	504.9901	SCARIFYING CONCRETE PAVEMENT	SY			
		GENERAL PLAN NO. 5				
		36+21 - 36+71 R		165.00	0004	01
		36+48 - 36+70 L		80.00	0004	01
		Item 504.9901 Total:		245.00		
046	601.0300	CLASS A PORTLAND CEMENT CONCRETE	CY			
		PROJECT WIDE				
		ADDITIONAL QUANTITY		26.00	0004	01
		AT CURB REPLACEMENT LOCATIONS		76.00	0004	01
		AT CURB RESETTING LOCATIONS		160.00	0004	01

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046	601.0300 Cont.	AT EXISTING BRICK SIDEWALK		7.00	0004	01
		RIGID CONCRETE BASE LOCATIONS				
		AT NEW BRICK SIDEWALK		80.00	0004	01
		LOCATIONS				
		FOR SPCCC		1.00	0004	01
Item 601.0300 Total:				350.00		

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047	603.1000	CONTROLLED LOW STRENGTH MATERIAL	CY			
		DRAINAGE & UTILITY PLAN NO. 2				
		21+29 L		10.00	0004	01
		DRAINAGE & UTILITY PLAN NO. 5				
		38+38 R		90.00	0004	01
		EXISTING GRANITE SIDEWALK BACKFILLING				
		9 LOCATIONS			0004	01
		PROJECT WIDE				
		UTILITY PATCH REPAIRS		400.00	0004	01
Item 603.1000 Total:				500.00		
048	701.0512	REINFORCED CONCRETE PIPE M 170	LF			
		CLASS IV 12 INCH				
		DRAINAGE & UTILITY PLAN NO. 1				
		10+89 - 11+07 R		15.00	0004	01
		14+00 - 14+25 R		21.00	0004	01
		14+12 - 14+32 L		16.00	0004	01
		DRAINAGE & UTILITY PLAN NO. 2				
		20+59 - 20+90 R		29.00	0004	01
		DRAINAGE & UTILITY PLAN NO. 5				
		39+31 - 39+44 R		16.00	0004	01
		DRAINAGE & UTILITY PLAN NO. 6				
		43+36 - 43+48 R		8.00	0004	01
		45+35 - 45+66 L		27.00	0004	01
		47+75 - 47+95 R		17.00	0004	01
		DRAINAGE & UTILITY PLAN NO. 7				
		49+46 - 49+68 R		19.00	0004	01
Item 701.0512 Total:				168.00		
049	701.6012	12 INCH DUCTILE IRON SEWER SAFE	LF			
		PIPE CLASS 52				
		DRAINAGE & UTILITY PLAN NO. 1				

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077	707.1000	Cont.				
		44+67 R		3.00	0004	01
		45+42 L		1.00	0004	01
		45+50 R, OFFSET 1'		1.00	0004	01
		45+50 R, OFFSET 31'		3.00	0004	01
		47+44 L		1.00	0004	01
		47+60 R		3.00	0004	01
		47+62 R		1.00	0004	01
		DRAINAGE & UTILITY PLAN NO. 7				
		49+17 L		1.00	0004	01
		49+31 R, OFFSET 25'		3.00	0004	01
		49+31 R, OFFSET 40'		3.00	0004	01
		49+32 L		1.00	0004	01
		49+62 R		1.00	0004	01
		50+52 R		1.00	0004	01
		51+82 L		1.00	0004	01
		51+93 R		3.00	0004	01
		51+98 R		3.00	0004	01
		52+32 R		1.00	0004	01
		54+39 L		1.00	0004	01
		54+44 L		1.00	0004	01
		54+79 L		3.00	0004	01
Item 707.1000 Total:				110.00		
078	707.1900	ADJUST FRAME & COVER TO GRADE	EACH			
		DRAINAGE & UTILITY PLAN NO. 1				
		10+71 R		1.00	0004	01
		DRAINAGE & UTILITY PLAN NO. 2				
		16+03 R		1.00	0004	01
		18+00 L		3.00	0004	01
		DRAINAGE & UTILITY PLAN NO. 3				
		23+38 R		1.00	0004	01
		25+00 L		3.00	0004	01
		26+13 R		1.00	0004	01

Distribution of Quantities

Project Name - South Main Street/North Main Street ADA Accessibility Improvements
 Estimate Name - Advertising
 R.I. Contract No. - 2013-CH-050
 FAP Nos: STP-AWDA(027)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
078	707.1900 Cont.	DRAINAGE & UTILITY PLAN NO. 4				
		29+05 L		1.00	0004	01
		29+72 R		1.00	0004	01
		29+78 L		1.00	0004	01
		30+56 L		1.00	0004	01
		30+56 R		1.00	0004	01
		31+21 R		3.00	0004	01
		31+39 R		1.00	0004	01
		31+40 L		1.00	0004	01
		DRAINAGE & UTILITY PLAN NO. 5				
		36+60 R		3.00	0004	01
		39+44 R		1.00	0004	01
		41+06 L		3.00	0004	01
		41+28 R		3.00	0004	01
		DRAINAGE & UTILITY PLAN NO. 6				
		42+52 L		1.00	0004	01
		45+66 L		1.00	0004	01
		45+68 R		1.00	0004	01
		46+00 R		3.00	0004	01
		47+65 L		1.00	0004	01
		DRAINAGE & UTILITY PLAN NO. 7				
		49+19 R		1.00	0004	01
		49+41 R		1.00	0004	01
		49+56 L		1.00	0004	01
		50+36 L		1.00	0004	01
		51+84 R		1.00	0004	01
		52+00 R		1.00	0004	01
		54+21 L		1.00	0004	01
		54+40 R		3.00	0004	01
		54+72 R		1.00	0004	01
Item 707.1900 Total:				48.00		
079	707.2000	ADJUST FRAME AND GRATE TO GRADE	EACH			

Distribution of Quantities

Project Name - South Main Street/North Main Street ADA Accessibility Improvements
 Estimate Name - Advertising
 R.I. Contract No. - 2013-CH-050
 FAP Nos: STP-AWDA(027)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
108	905.9905 Cont.	GENERAL PLAN NO. 6				
		44+05 - 44+30 L		315.00	0004	01
		44+78 - 45+46 R		428.00	0004	01
		44+88 - 45+33 L		180.00	0004	01
		GENERAL PLAN NO. 7				
		51+01 - 51+18 L		151.00	0004	01
		51+60 - 51+86 R		182.00	0004	01
		51+80 - 51+97 L		150.00	0004	01
		53+49 - 54+09 L		564.00	0004	01
		PROJECT WIDE				
		50% OF 905.9901		8,000.00	0004	01
		ADDITIONAL QUANTITY		476.00	0004	01
Item 905.9905 Total:				11,700.00		
109	905.9906	SCARIFYING CONCRETE SIDEWALK	SY			
		GENERAL PLAN NO. 4				
		29+00 - 29+50 R		60.00	0004	01
Item 905.9906 Total:				60.00		
110	905.9907	INTEGRALLY COLORED/EXPOSED	SY			
		AGGREGATE FINISH PORTLAND CEMENT				
		CONCRETE PLAZA AT MEMORIAL PARK				
		GENERAL PLAN NO. 4				
		29+88 - 30+38 L		121.00	0004	01
		ADDITIONAL QUANTITY		9.00	0004	01
Item 905.9907 Total:				130.00		
111	905.9908	PRESSURE WATER CLEANING OF STONE	SY			
		MASONRY SURFACES				
		GENERAL PLAN NO. 3				
		26+41 - 27+92 R		137.00	0004	01
		GENERAL PLAN NO. 6				
		44+80 - 45+04 R		14.00	0004	01

Distribution of Quantities

Project Name - South Main Street/North Main Street ADA Accessibility Improvements
 Estimate Name - Advertising
 R.I. Contract No. - 2013-CH-050
 FAP Nos: STP-AWDA(027)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
112	905.9909 Cont.	48+50 - 49+53 L		13.00	0004	01
		48+86 - 49+21 R		11.00	0004	01
		49+14 - 49+21 R		2.00	0004	01
		49+15 - 49+20 R		1.00	0004	01
		49+39 - 49+45 R		1.00	0004	01
		49+40 - 49+49 R		3.00	0004	01
		49+40 - 49+73 R		10.00	0004	01
		49+59 - 50+33 L		9.00	0004	01
		49+73 - 50+00 R		4.00	0004	01
		50+16 - 50+32 R		2.00	0004	01
		50+25 - 50+32 R		1.00	0004	01
		50+39 - 51+01 L		8.00	0004	01
		51+00 - 51+40 R		6.00	0004	01
		51+18 - 51+80 L		7.00	0004	01
		51+81 - 51+86 R		1.00	0004	01
		51+97 - 53+49 L		16.00	0004	01
		51+99 - 52+35 R		11.00	0004	01
		52+00 - 52+10 R		3.00	0004	01
		52+35 - 54+24 R		35.00	0004	01
		54+09 - 54+38 L		4.00	0004	01
		54+23 - 54+38 L		2.00	0004	01
		54+88 - 55+42 L		6.00	0004	01
		54+89 - 54+96 L		1.00	0004	01
		PROJECT WIDE				
		ADDITIONAL QUANTITY		95.00	0004	01
Item 905.9909 Total:				1,000.00		

113	905.9910	PORTLAND CEMENT CONCRETE DRIVEWAY	CY			
		STD 43.5.0				
		GENERAL PLAN NO. 1				
		14+66 - 14+83 R		5.00	0004	01
		GENERAL PLAN NO. 2				
		20+06 - 20+24 R		6.00	0004	01

Distribution of Quantities

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 Estimate Name - Advertising
 R.I. Contract No. - 2013-CH-050
 FAP Nos: STP-AWDA(027)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
S124	919.9901	Cont. DRAINAGE & UTILITY PLAN NO. 5				
		36+72 R		1.00	0004	01
		37+00 R		1.00	0004	01
		40+75 R		1.00	0004	01
		PROJECT WIDE				
		AS DIRECTED		19.00	0004	01
Item 919.9901 Total:				40.00		
125	922.0100	TEMPORARY CONSTRUCTION SIGNS	SF			
		STANDARD 29.1.0 AND 27.1.1				
		PROJECT WIDE				
		ADDITIONAL QUANTITY		83.00	0004	01
		G20-2A		134.00	0004	01
		R11-2		40.00	0004	01
		R11-4		50.00	0004	01
		R3-2		8.00	0004	01
		R9-10		24.00	0004	01
		R9-11		24.00	0004	01
		R9-8		54.00	0004	01
		R9-9		24.00	0004	01
		RI STD. 27.1.1		36.00	0004	01
		SPECIAL-RAISED STRUCTURE		225.00	0004	01
		W11-2		150.00	0004	01
		W12-1		8.00	0004	01
		W13-1		24.00	0004	01
		W1-4B(L)		18.00	0004	01
		W1-4B(R)		18.00	0004	01
		W1-4L		18.00	0004	01
		W16-7P		24.00	0004	01
		W16-9P		24.00	0004	01
		W20-1		234.00	0004	01
		W20-4		18.00	0004	01
		W20-5(R)(B)		18.00	0004	01

Distribution of Quantities

Project Name - South Main Street/North Main Street ADA Accessibility Improvements
 Estimate Name - Advertising
 R.I. Contract No. - 2013-CH-050
 FAP Nos: STP-AWDA(027)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
125	922.0100	Cont.				
		W20-7		54.00	0004	01
		W21-5		14.00	0004	01
		W4-2R		18.00	0004	01
		W8-11		225.00	0004	01
		W8-15		225.00	0004	01
		W8-24		90.00	0004	01
		W9-3		18.00	0004	01
Item 922.0100 Total:				1,900.00		
126	923.0105	DRUM BARRICADE STANDARD 26.2.0	BDAY			
		PROJECT WIDE				
		PROJECT WIDE		75,000.00	0004	01
Item 923.0105 Total:				75,000.00		
127	923.0125	PLASTIC PIPE TYPE III BARRICADE	EACH			
		STANDARD 26.3.1				
		PROJECT WIDE				
		PROJECT WIDE		32.00	0004	01
Item 923.0125 Total:				32.00		
128	923.0200	FLUORESCENT TRAFFIC CONES STANDARD	EACH			
		26.1.0				
		PROJECT WIDE				
		PROJECT WIDE		200.00	0004	01
Item 923.0200 Total:				200.00		
129	924.0113	ADVANCE WARNING ARROW PANEL	PDAY			
		PROJECT WIDE				
		PROJECT WIDE		150.00	0004	01
Item 924.0113 Total:				150.00		
130	926.0121	UNANCHORED PRECAST CONCRETE	LF			
		BARRIER FOR TEMPORARY TRAFFIC				

Distribution of Quantities

Project Name - South Main Street/North Main Street ADA Accessibility Improvements
 Estimate Name - Advertising
 R.I. Contract No. - 2013-CH-050
 FAP Nos: STP-AWDA(027)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
201	T15.2000 Cont.	12"X18"				
		46+69 R, 6-24, SPECIAL P9R,		1.50	0004	01
		12"X18"				
		47+25 R, 6-25A, R7-1L,		1.50	0004	01
		12"X18"				
		47+25 R, 6-25B, SPECIAL P9R,		1.50	0004	01
		12"X18"				
		47+26 L, 6-26, SPECIAL P9,		1.50	0004	01
		12"X18"				
		47+92 R, 6-27A, R7-1R,		1.50	0004	01
		12"X18"				
		47+92 R, 6-27B, SPECIAL P9L,		1.50	0004	01
		12"X18"				
		SIGNING & STRIPING PLAN NO. 7				
		48+79 R, 7-1A, R7-1L, 12"X18"		1.50	0004	01
		48+79 R, 7-1B, SPECIAL P9R,		1.50	0004	01
		12"X18"				
		49+34 L, 7-3B, SPECIAL P9,		1.50	0004	01
		12"X18"				
		49+93 R, 7-5A, R7-1L, 12"X18"		1.50	0004	01
		49+93 R, 7-5B, SPECIAL P9R,		1.50	0004	01
		12"X18"				
		50+86 L, 7-9B, SPECIAL P9,		1.50	0004	01
		12"X18"				
		51+19 R, 7-10A, R7-107R,		1.50	0004	01
		12"X18"				
		51+19 R, 7-10B, RIPTA,		1.50	0004	01
		12"X18"				
		51+60 R, 7-11A, R7-1L,		1.50	0004	01
		12"X18"				
		51+60 R, 7-11B, SPECIAL		1.50	0004	01
		P10R, 12"X18"				
		52+29 R, 7-14, R7-1, 12"X18"		1.50	0004	01
		52+95 L, 7-16A, R7-1R,		1.50	0004	01
		12"X18"				

Distribution of Quantities

Project Name - South Main Street/North Main Street ADA Accessibility Improvements
 Estimate Name - Advertising
 R.I. Contract No. - 2013-CH-050
 FAP Nos: STP-AWDA(027)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
201	T15.2000 Cont.	52+95 L, 7-16B, SPECIAL P9L, 12"X18"		1.50	0004	01
		53+00 R, 7-17, R7-1, 12"X18"		1.50	0004	01
		53+83 R, 7-18, R7-1, 12"X18"		1.50	0004	01
		53+88 L, 7-19, R7-1, 12"X18"		1.50	0004	01
Item T15.2000 Total:				255.00		
202	T15.9901	STREET NAME SIGNS - GROUND MOUNTED EACH				
		SIGNING & STRIPING PLAN NO. 1				
		13+88 L		1.00	0004	01
		14+06 R		1.00	0004	01
		SIGNING & STRIPING PLAN NO. 2				
		18+84 L		1.00	0004	01
		18+98 R		1.00	0004	01
		20+90 L		1.00	0004	01
		21+32 R		1.00	0004	01
		22+44 L		1.00	0004	01
		SIGNING & STRIPING PLAN NO. 3				
		28+65 R		1.00	0004	01
		SIGNING & STRIPING PLAN NO. 5				
		40+58 L		1.00	0004	01
		41+65 L		1.00	0004	01
		SIGNING & STRIPING PLAN NO. 6				
		42+87 R		1.00	0004	01
		43+45 L		1.00	0004	01
		44+55 R		1.00	0004	01
		45+42 R		1.00	0004	01
		47+38 R		1.00	0004	01
		SIGNING & STRIPING PLAN NO. 7				
		49+08 R		1.00	0004	01
		50+22 R		1.00	0004	01
		51+74 R		1.00	0004	01
Item T15.9901 Total:				18.00		

Distribution of Quantities

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 Estimate Name - Advertising
 R.I. Contract No. - 2013-CH-050
 FAP Nos: STP-AWDA(027)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
S214	T20.2014 Cont.	34+55 - 34+65 L		50.00	0004	01
		SIGNING & STRIPING PLAN NO. 5				
		36+47 - 36+51 R		86.00	0004	01
		40+77 - 40+79 L		40.00	0004	01
		SIGNING & STRIPING PLAN NO. 6				
		43+08 - 43+10 R		48.00	0004	01
		SIGNING & STRIPING PLAN NO. 7				
		49+29 - 49+30 R		50.00	0004	01
		54+62 - 54+62 L		84.00	0004	01
Item T20.2014 Total:				806.00		
S215	T20.2016	6 INCH EPOXY RESIN PAVEMENT	LF			
		MARKINGS YELLOW				
		SIGNING & STRIPING PLAN NO. 1				
		10+30 - 10+44 L		14.00	0004	01
		11+00 - 11+20 L		20.00	0004	01
		13+49 - 13+67 L		19.00	0004	01
		14+07 - 14+26 L		20.00	0004	01
		SIGNING & STRIPING PLAN NO. 2				
		18+52 - 18+68 L		16.00	0004	01
		19+12 - 19+32 L		20.00	0004	01
		20+63 - 20+79 L		16.00	0004	01
		21+31 - 21+51 L		20.00	0004	01
		22+31 - 22+47 L		32.00	0004	01
		SIGNING & STRIPING PLAN NO. 3				
		22+78 - 22+98 L		26.00	0004	01
		24+19 - 24+36 L		18.00	0004	01
		24+99 - 25+11 L		16.00	0004	01
		26+74 - 26+92 L		17.00	0004	01
		27+02 - 27+19 L		17.00	0004	01
		28+07 - 28+25 L		18.00	0004	01
		SIGNING & STRIPING PLAN NO. 4				
		29+90 - 30+09 L		19.00	0004	01

Distribution of Quantities

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 Estimate Name - Advertising
 R.I. Contract No. - 2013-CH-050
 FAP Nos: STP-AWDA(027)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
S215	T20.2016 Cont.	30+18 - 30+36 L		18.00	0004	01
		31+30 - 31+40 L		10.00	0004	01
		32+04 - 32+29 L		33.00	0004	01
		33+19 - 33+35 L		17.00	0004	01
		33+45 - 33+62 L		17.00	0004	01
		34+74 - 34+93 L		27.00	0004	01
		35+47 - 35+50 L		3.00	0004	01
		SIGNING & STRIPING PLAN NO. 5				
		35+50 - 36+13 L		63.00	0004	01
		37+36 - 38+82 L		146.00	0004	01
		39+43 - 39+57 L		22.00	0004	01
		SIGNING & STRIPING PLAN NO. 6				
		43+05 - 43+20 L		15.00	0004	01
		43+30 - 43+46 L		16.00	0004	01
		43+74 - 43+74 L		16.00	0004	01
		43+81 - 43+81 L		16.00	0004	01
		44+18 - 45+04 L		94.00	0004	01
		45+17 - 45+33 L		16.00	0004	01
		47+65 - 47+85 L		20.00	0004	01
		SIGNING & STRIPING PLAN NO. 7				
		51+65 - 51+85 L		20.00	0004	01
		52+95 - 54+20 L		126.00	0004	01
		55+01 - 55+43 L		42.00	0004	01
Item T20.2016 Total:				1,045.00		

S216	T20.2019	12 INCH EPOXY RESIN PAVEMENT	LF			
		MARKINGS YELLOW				
		SIGNING & STRIPING PLAN NO. 2				
		22+31 - 22+47 L		33.00	0004	01
		SIGNING & STRIPING PLAN NO. 3				
		22+78 - 22+96 L		34.00	0004	01
		24+99 - 25+11 L		14.00	0004	01
		28+07 - 28+25 L		35.00	0004	01

Distribution of Quantities

Project Name - South Main Street/North Main Street ADA Accessibility Improvements

Estimate Name - Advertising

R.I. Contract No. - 2013-CH-050

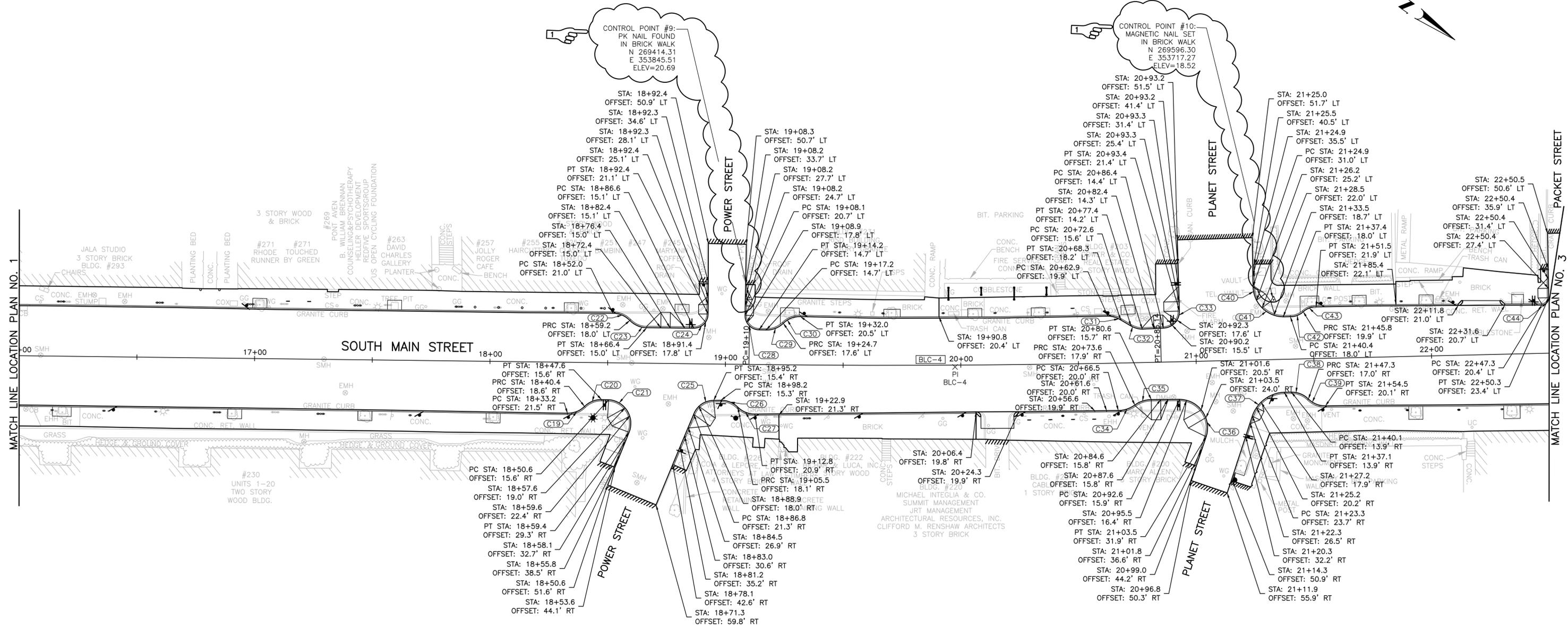
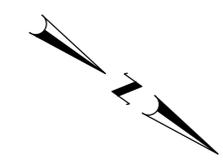
FAP Nos: STP-AWDA(027)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
S216	T20.2019 Cont.	SIGNING & STRIPING PLAN NO. 4				
		31+30 - 31+40 L		16.00	0004	01
		32+04 - 32+29 L		50.00	0004	01
		34+74 - 34+93 L		34.00	0004	01
		SIGNING & STRIPING PLAN NO. 5				
		35+89 - 39+13 L		46.00	0004	01
		39+43 - 39+57 L		23.00	0004	01
		SIGNING & STRIPING PLAN NO. 6				
		44+18 - 45+04 L		155.00	0004	01
		47+65 - 47+85 L		38.00	0004	01
		SIGNING & STRIPING PLAN NO. 7				
		51+65 - 51+85 L		39.00	0004	01
		52+95 - 53+40 L		60.00	0004	01
Item T20.2019 Total:				577.00		
S217	T20.2020	EPOXY RESIN PAVEMENT ARROW - STRAIGHT, LEFT, RIGHT, OR COMBINED STANDARD 20.1.0	EACH			
		SIGNING & STRIPING PLAN NO. 5				
		36+97 L		1.00	0004	01
		37+08 L		1.00	0004	01
		37+18 L		1.00	0004	01
		39+24 R		1.00	0004	01
		SIGNING & STRIPING PLAN NO. 7				
		52+46 R		1.00	0004	01
		53+26 R		1.00	0004	01
		53+59 L		1.00	0004	01
		53+59 R		1.00	0004	01
		54+04 L		1.00	0004	01
		54+04 R		1.00	0004	01
		54+08 R		1.00	0004	01
Item T20.2020 Total:				11.00		

Distribution of Quantities

Project Name - South Main Street/North Main Street ADA Accessibility Improvements
 Estimate Name - Addendum No. 1
 R.I. Contract No. - 2013-CH-050
 FRP Nos: STP-AWDA(027)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
222	603.9901	GRANITE SIDEWALK VOID CLSM BACKFILLING EXISTING GRANITE SIDEWALK BACKFILLING	CY			
222	603.9901 Cont.	9 LOCATIONS		10.00	0004	01
				Item 603.9901 Total:		10.00
223	925.0112	PORTABLE CHANGEABLE MESSAGE SIGN PROJECT WIDE NORTH OF COLLEGE STREET NORTH OF JAMES STREET	PDAY			
				450.00	0004	01
				450.00	0004	01
				Item 925.0112 Total:		900.00

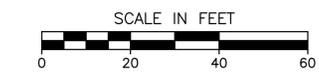


CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD	POINT OF INTERSECTION	POINT OF CURVATURE	CENTER POINT	POINT OF TANGENCY
BLC-4	5000.00'	175.14'	87.58'	2'00"25"	175.13'	N 269502.44 E 353818.77	N 269430.45 E 353868.64	N 266583.12 E 349758.57	N 269572.64 E 353766.41

CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD
C19	10.00'	8.00'	4.23'	45°51'40"	7.79'
C20	10.00'	8.00'	4.23'	45°51'00"	7.79'
C21	10.00'	19.00'	13.98'	108°51'43"	16.27'
C22	10.00'	8.00'	4.23'	45°51'00"	7.79'
C23	10.00'	8.00'	4.23'	45°50'12"	7.79'
C24	6.00'	9.50'	6.08'	90°43'18"	8.54'
C25	9.00'	11.00'	6.31'	70°01'41"	10.33'
C26	10.00'	8.00'	4.23'	45°50'40"	7.79'
C27	10.00'	8.00'	4.23'	45°50'40"	7.79'

CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD
C28	6.00'	9.50'	6.08'	90°43'06"	8.54'
C29	10.00'	8.00'	4.23'	45°51'00"	7.79'
C30	10.00'	8.00'	4.23'	45°50'57"	7.79'
C31	10.00'	5.83'	3.00'	33°22'54"	5.75'
C32	10.00'	5.00'	2.55'	28°37'32"	4.94'
C33	7.00'	11.00'	7.01'	90°04'31"	9.91'
C34	12.00'	7.50'	3.88'	35°48'26"	7.38'
C35	12.00'	7.50'	3.88'	35°48'36"	7.38'
C36	12.00'	22.50'	16.34'	107°25'47"	19.35'

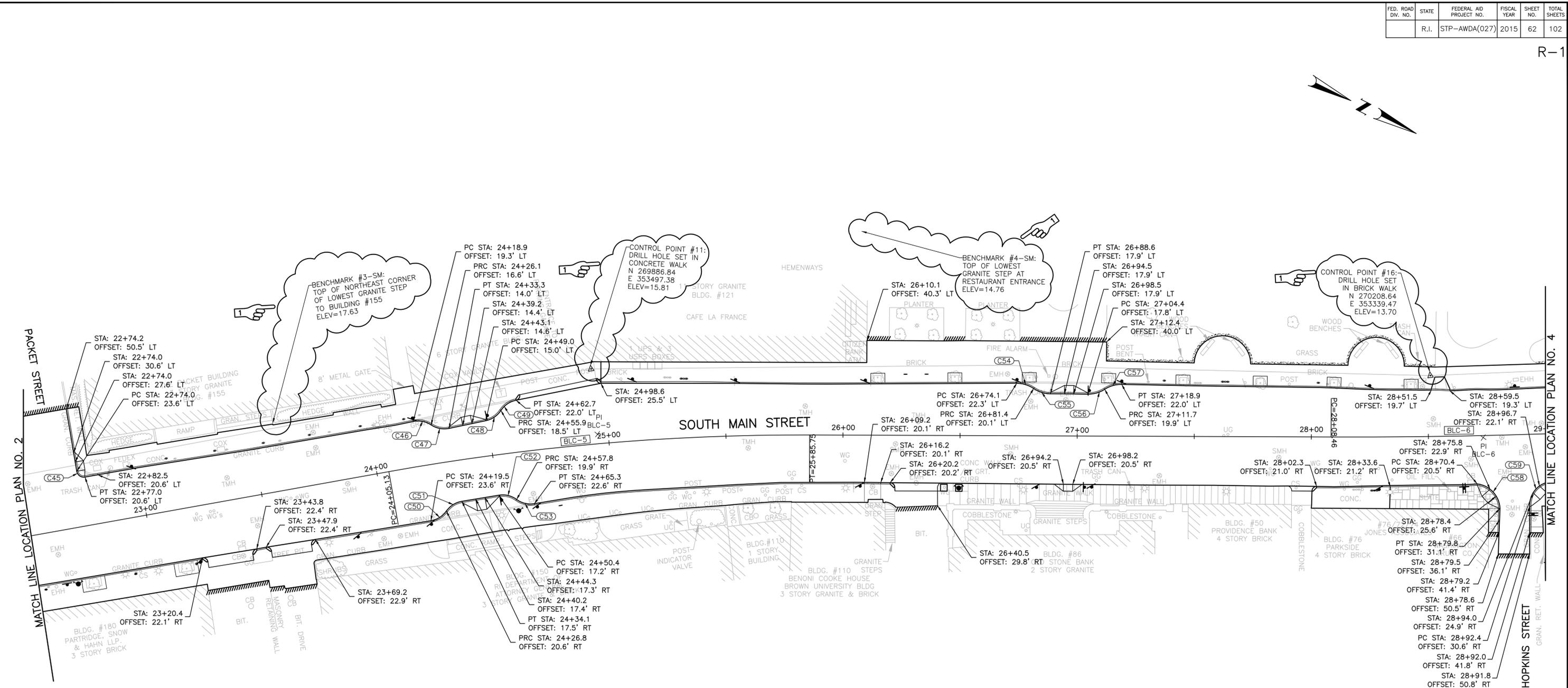
CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD
C37	15.00'	18.00'	10.26'	68°45'26"	16.94'
C38	10.00'	8.00'	4.23'	45°50'56"	7.79'
C39	10.00'	8.00'	4.23'	45°51'23"	7.79'
C40	13.00'	6.00'	3.05'	26°26'36"	5.95'
C41	13.00'	10.00'	5.26'	44°04'25"	9.76'
C42	8.00'	6.00'	3.15'	42°58'57"	5.86'
C43	8.00'	6.00'	3.15'	42°57'56"	5.86'
C44	3.00'	4.75'	3.04'	90°43'48"	4.27'



REVISIONS			RHODE ISLAND DEPARTMENT OF TRANSPORTATION
NO.	DATE	BY	
			SOUTH MAIN ST/NORTH MAIN ST ADA ACCESSIBILITY IMPROVEMENTS FROM JAMES STREET TO SMITH STREET
			PROVIDENCE
			RHODE ISLAND
			LOCATION PLAN NO. 2
			CHECKED BY _____ DATE _____ SCALE 1" = 20'

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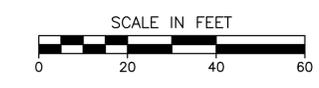
ADDENDUM NO. 1



BASELINE CURVE TABLE									
CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD	POINT OF INTERSECTION	POINT OF CURVATURE	CENTER POINT	POINT OF TANGENCY
BLC-5	1000.00'	180.62'	90.56'	10°20'56"	180.38'	N 269901.72 E 353520.94	N 269829.13 E 353575.08	N 269829.13 E 354376.65	N 269982.85 E 353480.71
BLC-6	2500.00'	129.90'	64.97'	2°58'38"	129.89'	N 270240.59 E 353352.94	N 270182.39 E 353381.79	N 270427.04 E 351141.95	N 270297.10 E 353320.88

CURB CURVE TABLE					
CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD
C45	3.00'	4.75'	3.04'	90°45'14"	4.27'
C46	10.00'	8.00'	4.23'	45°51'41"	7.79'
C47	10.00'	8.00'	4.23'	45°51'41"	7.79'
C48	10.00'	8.00'	4.23'	45°51'10"	7.79'
C49	10.00'	8.00'	4.23'	45°50'38"	7.79'
C50	10.00'	8.00'	4.23'	45°51'03"	7.79'
C51	10.00'	8.00'	4.23'	45°51'03"	7.79'
C52	10.00'	8.00'	4.23'	45°51'08"	7.79'
C53	10.00'	8.00'	4.23'	45°51'08"	7.79'

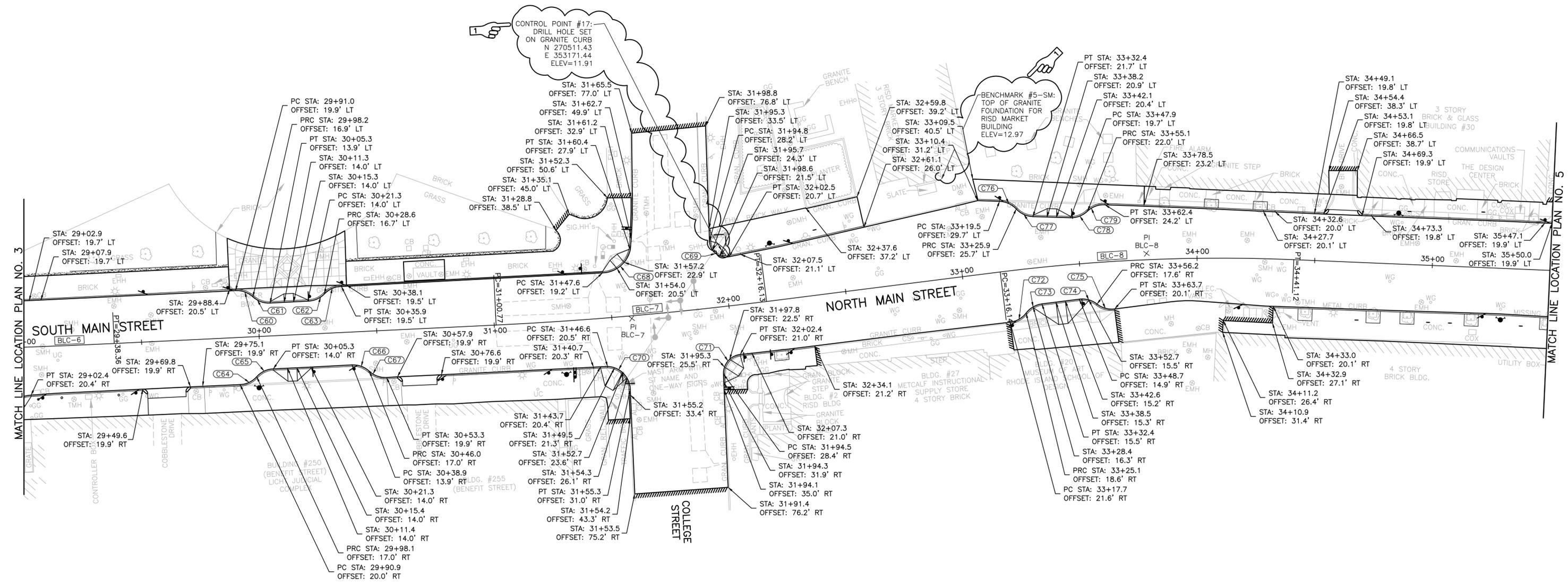
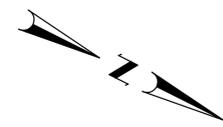
CURB CURVE TABLE					
CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD
C54	13.00'	7.64'	3.94'	33°41'30"	7.53'
C55	13.00'	7.64'	3.93'	33°40'14"	7.53'
C56	13.00'	7.66'	3.95'	33°45'54"	7.55'
C57	13.00'	7.66'	3.95'	33°45'49"	7.55'
C58	11.00'	15.50'	9.35'	80°44'27"	14.25'
C59	10.00'	16.00'	10.29'	91°38'53"	14.34'



REVISIONS			<p align="center">RHODE ISLAND DEPARTMENT OF TRANSPORTATION</p> <p align="center">SOUTH MAIN ST/NORTH MAIN ST ADA ACCESSIBILITY IMPROVEMENTS FROM JAMES STREET TO SMITH STREET</p> <p align="center">PROVIDENCE RHODE ISLAND</p> <p align="center">LOCATION PLAN NO. 3</p>
NO.	DATE	BY	
CHECKED BY _____ DATE _____ SCALE 1" = 20'			

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ADDENDUM NO. 1



BASELINE CURVE TABLE									
CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD	POINT OF INTERSECTION	POINT OF CURVATURE	CENTER POINT	POINT OF TANGENCY
BLC-7	1500.00'	115.35'	57.70'	4°24'22"	115.32'	N 270489.08 E 353213.21	N 270438.79 E 353241.50	N 269071.93 E 351934.01	N 270537.06 E 353181.15
BLC-8	750.00'	124.99'	62.64'	9°32'54"	124.84'	N 270672.29 E 353090.78	N 270620.21 E 353125.58	N 271036.94 E 353749.15	N 270729.42 E 353065.10

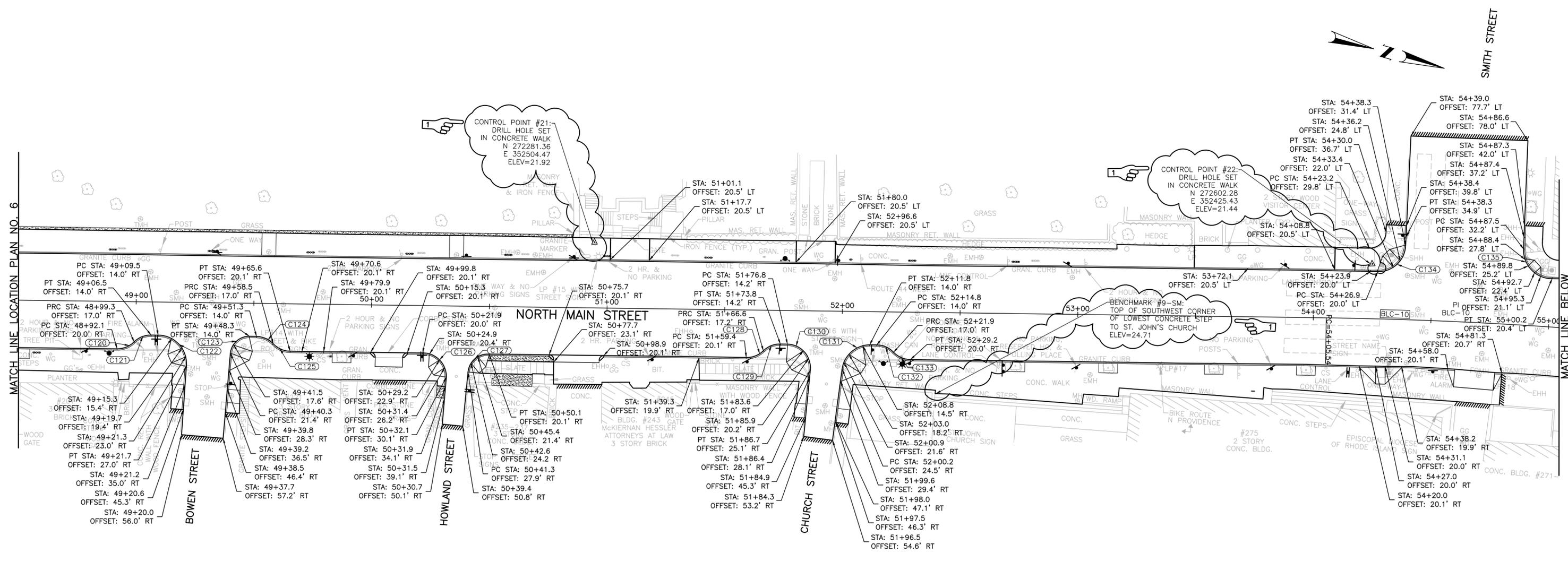
CURB CURVE TABLE					
CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD
C60	10.00'	8.00'	4.23'	45°50'34"	7.79'
C61	10.00'	8.00'	4.23'	45°49'15"	7.79'
C62	10.00'	8.00'	4.23'	45°48'35"	7.78'
C63	10.00'	8.00'	4.23'	45°50'31"	7.79'
C64	10.00'	8.00'	4.23'	45°48'33"	7.78'
C65	10.00'	8.00'	4.23'	45°51'11"	7.79'
C66	10.00'	8.00'	4.23'	45°50'41"	7.79'
C67	10.00'	8.00'	4.23'	45°51'22"	7.79'
C68	12.50'	16.50'	9.70'	75°37'23"	15.33'
C69	7.00'	12.00'	8.09'	98°14'54"	10.59'

CURB CURVE TABLE					
CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD
C70	10.00'	15.00'	9.32'	85°56'34"	13.63'
C71	8.00'	12.00'	7.45'	85°57'20"	10.91'
C72	10.00'	8.00'	4.23'	45°50'46"	7.79'
C73	10.00'	8.00'	4.23'	45°49'57"	7.79'
C74	10.00'	8.00'	4.23'	45°49'13"	7.79'
C75	10.00'	8.00'	4.23'	45°49'13"	7.79'
C76	10.00'	8.00'	4.23'	45°49'34"	7.79'
C77	10.00'	8.00'	4.23'	45°50'12"	7.79'
C78	10.00'	8.00'	4.23'	45°49'50"	7.79'
C79	10.00'	8.00'	4.23'	45°50'40"	7.79'



REVISIONS			<p align="center">RHODE ISLAND DEPARTMENT OF TRANSPORTATION</p> <p align="center">SOUTH MAIN ST/NORTH MAIN ST ADA ACCESSIBILITY IMPROVEMENTS FROM JAMES STREET TO SMITH STREET</p> <p align="center">PROVIDENCE RHODE ISLAND</p> <p align="center">LOCATION PLAN NO. 4</p>
NO.	DATE	BY	
CHECKED BY _____ DATE _____ SCALE 1" = 20'			

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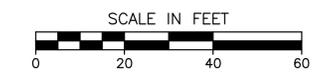
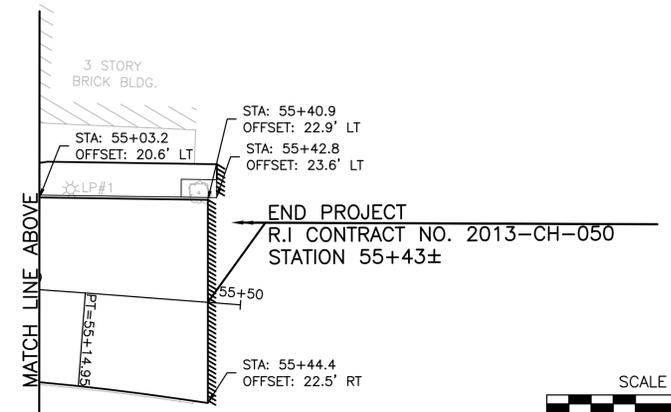
MATCH LINE LOCATION PLAN NO. 6

MATCH LINE BELOW

CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD	POINT OF INTERSECTION	POINT OF CURVATURE	CENTER POINT	POINT OF TANGENCY
BLC-10	1750.00'	109.41'	54.72'	3'34"56"	109.39'	N 272642.38 E 352438.74	N 272589.44 E 352452.59	N 272642.57 E 352439.57	N 272696.08 E 352428.22

CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD
C120	10.00'	8.00'	4.23'	45°50'11"	7.79'
C121	10.00'	8.00'	4.23'	45°50'12"	7.79'
C122	12.00'	20.00'	13.21'	95°27'26"	17.77'
C123	8.00'	12.00'	7.45'	85°56'37"	10.91'
C124	10.00'	8.00'	4.23'	45°50'12"	7.79'
C125	10.00'	8.00'	4.23'	45°49'15"	7.79'
C126	10.00'	16.00'	10.30'	91°40'24"	14.35'
C127	8.50'	13.00'	8.16'	87°38'45"	11.77'
C128	10.00'	8.00'	4.23'	45°50'16"	7.79'

CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD
C129	10.00'	8.00'	4.23'	45°50'09"	7.79'
C130	10.00'	16.50'	10.83'	94°32'22"	14.69'
C131	12.00'	17.00'	10.28'	81°10'52"	15.62'
C132	10.00'	8.00'	4.23'	45°51'06"	7.79'
C133	10.00'	8.00'	4.23'	45°51'06"	7.79'
C134	11.50'	18.00'	11.43'	89°39'55"	16.22'
C135	12.00'	19.50'	12.67'	93°06'51"	17.43'

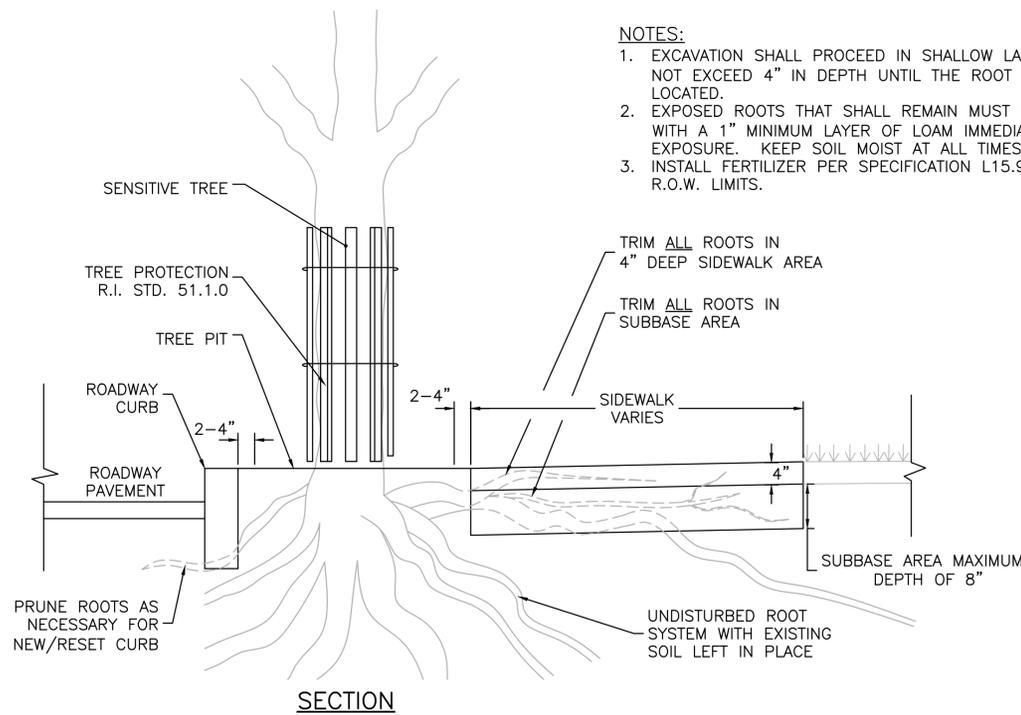


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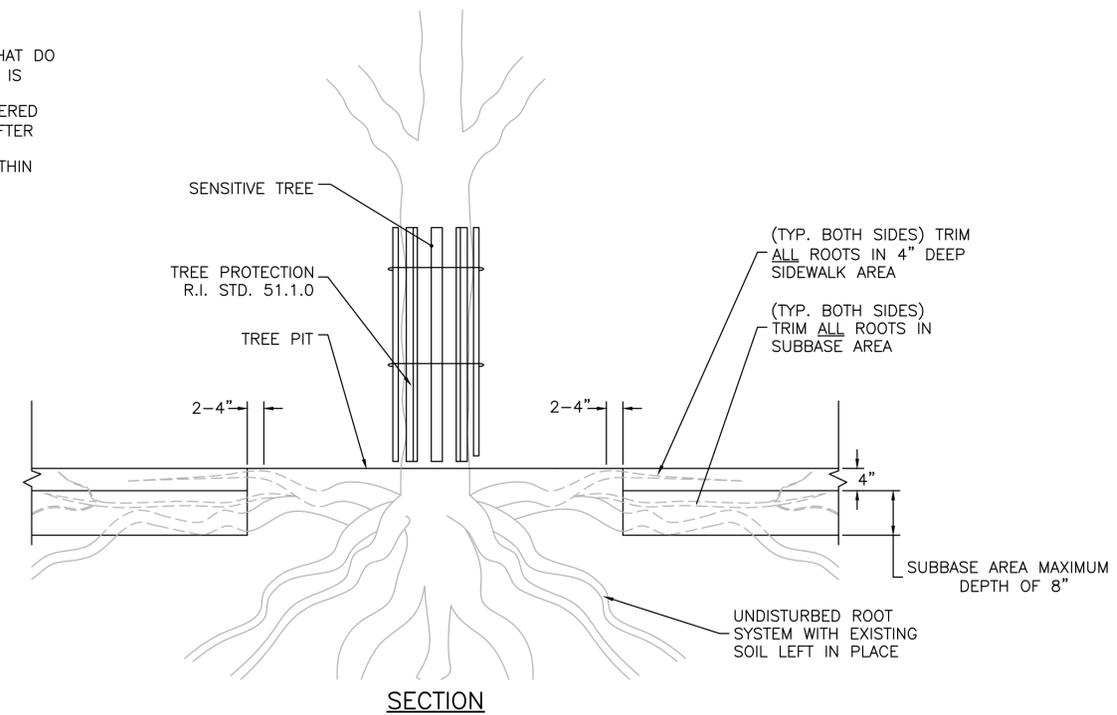
REVISIONS			RHODE ISLAND DEPARTMENT OF TRANSPORTATION
NO.	DATE	BY	
			SOUTH MAIN ST/NORTH MAIN ST ADA ACCESSIBILITY IMPROVEMENTS FROM JAMES STREET TO SMITH STREET PROVIDENCE RHODE ISLAND
			LOCATION PLAN NO. 7
CHECKED BY _____ DATE _____ SCALE 1" = 20'			

ADDENDUM NO. 1

- NOTES:**
- EXCAVATION SHALL PROCEED IN SHALLOW LAYERS THAT DO NOT EXCEED 4" IN DEPTH UNTIL THE ROOT SYSTEM IS LOCATED.
 - EXPOSED ROOTS THAT SHALL REMAIN MUST BE COVERED WITH A 1" MINIMUM LAYER OF LOAM IMMEDIATELY AFTER EXPOSURE. KEEP SOIL MOIST AT ALL TIMES.
 - INSTALL FERTILIZER PER SPECIFICATION L15.9902 WITHIN R.O.W. LIMITS.

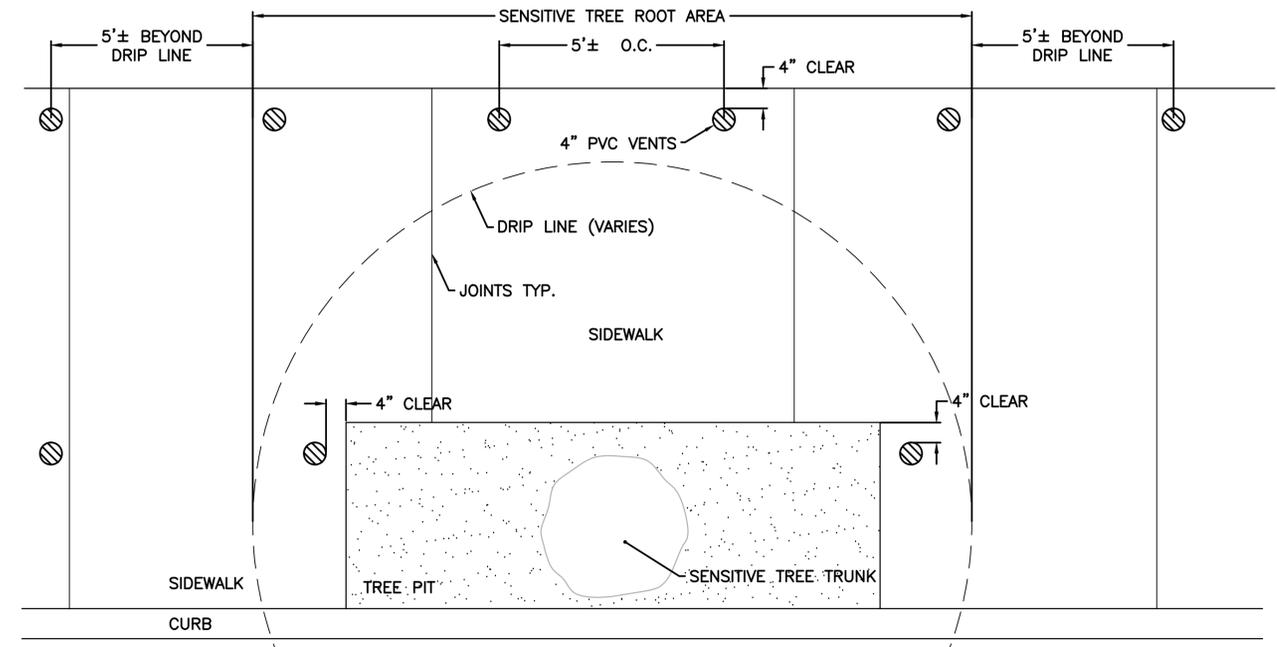


SECTION



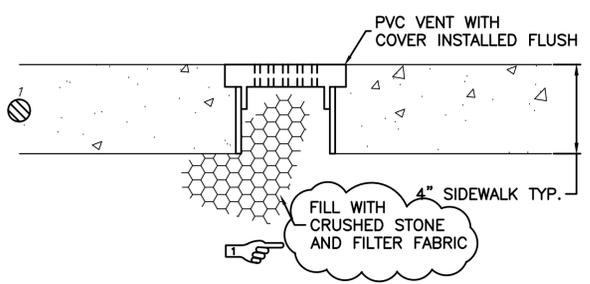
SECTION

TREE ROOT PRUNING
(NOT TO SCALE)



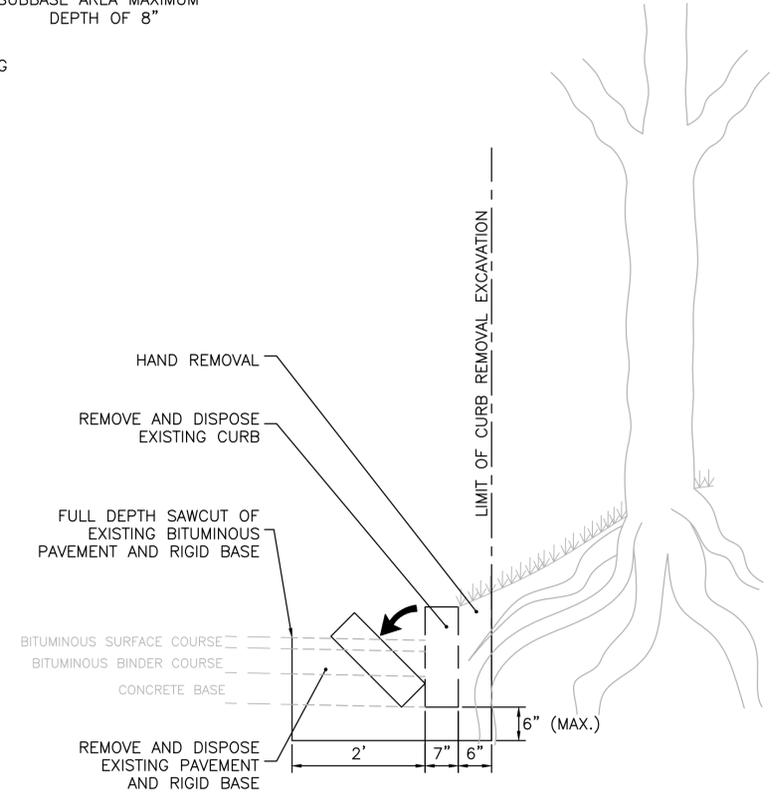
PLAN VIEW AT TREE PIT

- NOTES:**
- REFER TO SPECIFICATIONS 905.9901 - REMOVE, STOCKPILE, AND RESET BRICK SIDEWALKS AND DRIVEWAYS, 905.9909 - PORTLAND CEMENT SIDEWALK MONOLITHIC STD. 43.1.0, AND 905.9910 PORTLAND CEMENT CONCRETE DRIVEWAY STD. 43.5.0.



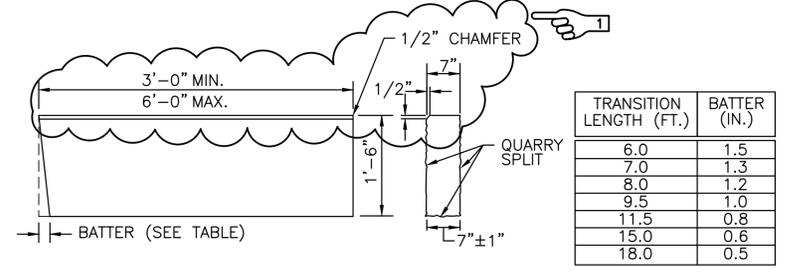
SECTION

PVC VENT DETAIL (VNT)
(NOT TO SCALE)

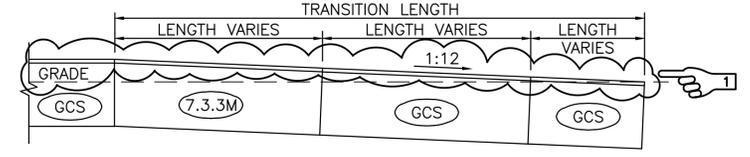


EXISTING CURB REMOVAL DETAIL
(NOT TO SCALE)

Prepared by: VERI / WATERMAN ASSOCIATES, INC. 333 Westminster Street Providence, RI 02903 401.274.1360 401.454.0350 (fax) vwa@vwasoc.com <small>A Division of Waterman Design Associates, Inc., Westborough, MA</small>	REVISIONS NO. DATE BY			RHODE ISLAND DEPARTMENT OF TRANSPORTATION SOUTH MAIN ST/NORTH MAIN ST ADA ACCESSIBILITY IMPROVEMENTS FROM JAMES STREET TO SMITH STREET PROVIDENCE RHODE ISLAND
	[REVISIONS TABLE]			
 BRYANT ASSOCIATES Engineers Surveyors Construction Managers 640 George Washington Hwy, Bldg. C, Suite 100 Lincoln, Rhode Island 02865	CHECKED BY _____ DATE _____ SCALE 1" = 20'			LANDSCAPE DETAILS SHEET NO. 1
	[REVISIONS TABLE]			

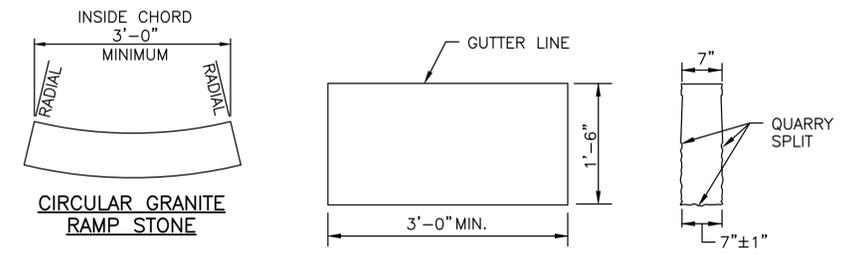


TRANSITION LENGTH (FT.)	BATTER (IN.)
6.0	1.5
7.0	1.3
8.0	1.2
9.5	1.0
11.5	0.8
15.0	0.6
18.0	0.5



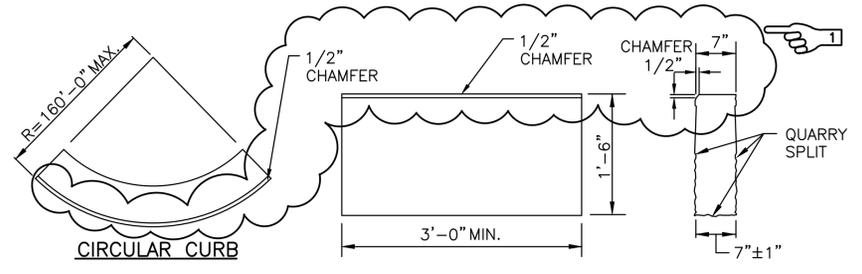
- NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
 2. THE CONTRACTOR MAY CUT EXISTING CURB SECTIONS AS REQUIRED TO MEET THIS DETAIL AND THE R.I. STANDARD SPECIFICATIONS.
 3. WHERE OLD CURBING IS BEING REUSED, MINIMUM LENGTH OF STRAIGHT OR CIRCULAR CURB FILLER PIECES TO BE 3'-0" (GREATER LENGTHS PREFERRED).
 4. TOP SURFACE TO BE DRESSED BY SAW. REMAINDER TO BE QUARRY SPLIT.

PROVIDENCE STANDARD 7" GRANITE CURB RAMP TRANSITION CURB (7.3.3M)
(NOT TO SCALE)



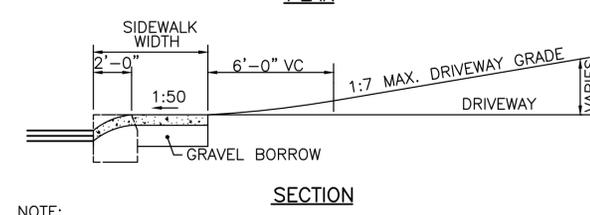
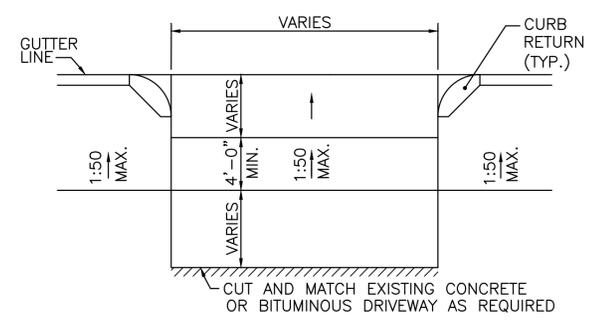
- NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
 2. TOP SURFACE TO BE DRESSED BY SAW. REMAINDER TO BE QUARRY SPLIT.
 3. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR RAMP STONE TO BE 4'-0".
 4. CIRCULAR RAMP STONE IS REQUIRED ON CURVES WITH RADII OF 160'-0" OR LESS. STRAIGHT RAMP STONE TO BE USED ON CURVES OF MORE THAN 160'-0" RADIUS.
 5. RAMP STONE SHALL BE SET IN ACCORDANCE WITH R.I. STD. 43.3.0 AND IN CONJUNCTION WITH R.I. STD. 7.3.3.
 6. THE CURB RAMP ON THE NORTHWEST CORNER OF PLANET STREET WILL NOT HAVE A RAMP STONE DUE TO THE ADJACENT ELECTRIC MANHOLE.

PROVIDENCE STANDARD 7" GRANITE RAMP STONE (7.3.9M)
(NOT TO SCALE)



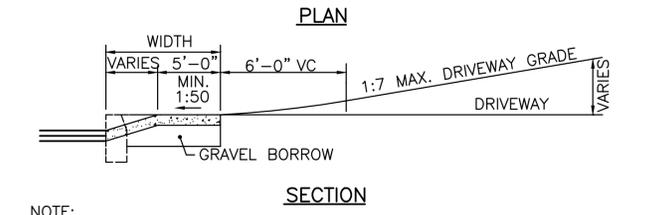
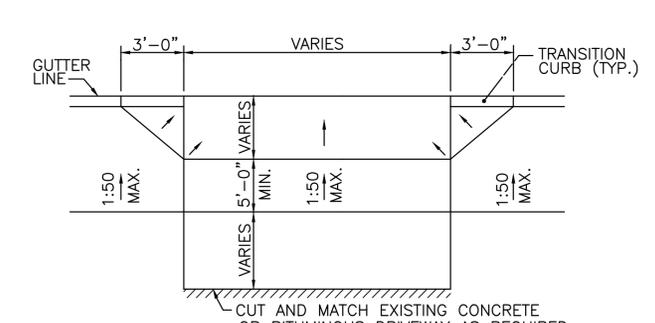
- NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
 2. TOP SURFACE TO BE DRESSED BY SAW. REMAINDER TO BE QUARRY SPLIT.
 3. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR PIECES TO BE 3'-0".
 4. CIRCULAR CURB IS REQUIRED ON CURVES WITH RADII OF 160'-0" OR LESS. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 160'-0" RADIUS.

GRANITE CURB PROVIDENCE STANDARD 7" (GCS, GCC)
(NOT TO SCALE)



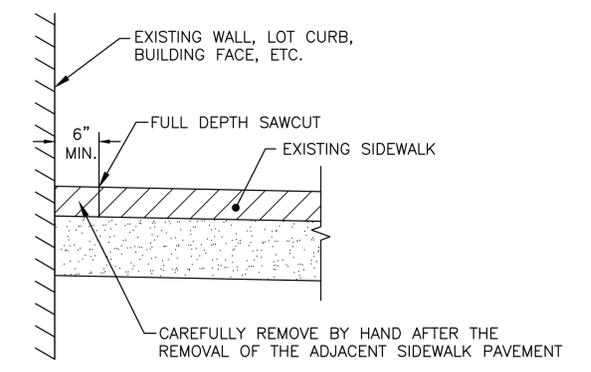
- NOTE:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.

DRIVEWAY DEVELOPMENT FOR CURB RETURN (DDCR)
(NOT TO SCALE)

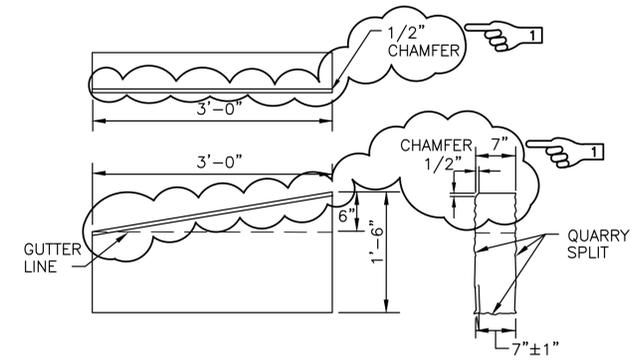


- NOTE:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.

DRIVEWAY DEVELOPMENT FOR 3'-0" TRANSITION CURB (MODIFIED) (43.4.0M)
(NOT TO SCALE)

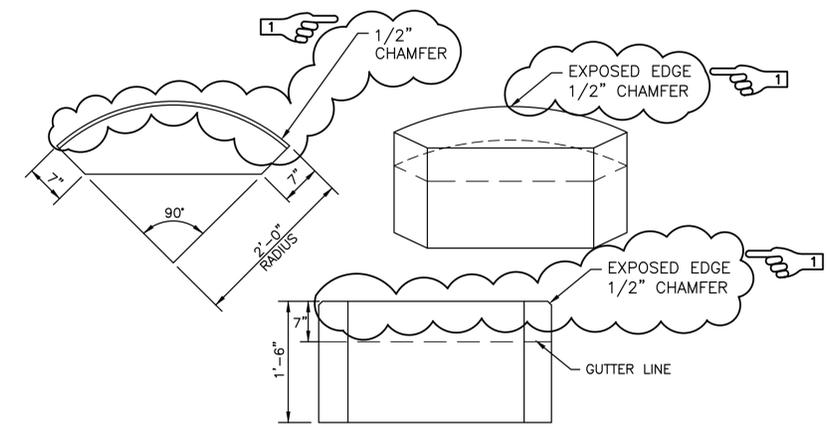


SIDEWALK SAWCUT/REMOVAL DETAIL
(NOT TO SCALE)



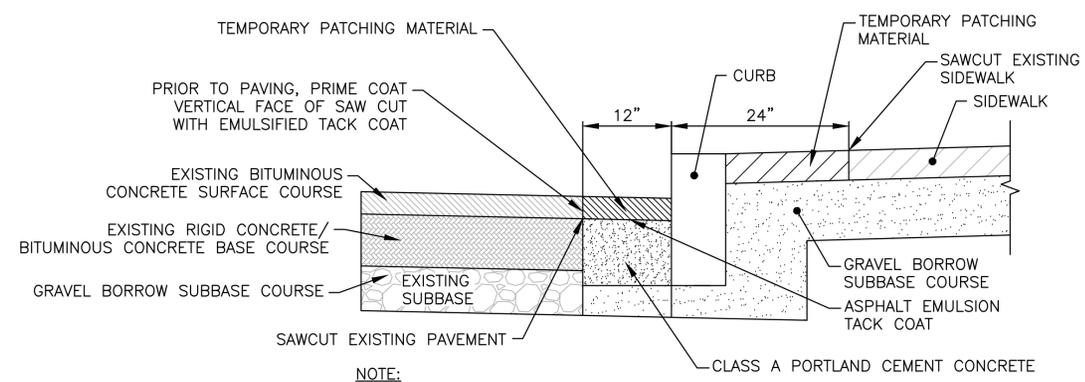
- NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
 2. TOP SURFACE TO BE DRESSED BY SAW. REMAINDER TO BE QUARRY SPLIT.

PROVIDENCE STANDARD 7" 3'-0" GRANITE TRANSITION CURB (7.3.1M)
(NOT TO SCALE)



- NOTE:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
 2. TOP SURFACE TO BE DRESSED BY SAW. REMAINDER TO BE QUARRY SPLIT.

PROVIDENCE STANDARD GRANITE 2'-0" RADIUS CORNER (7.3.4M)
(NOT TO SCALE)



- NOTE:
1. WHERE BRICK SIDEWALK IS BEING RESET, THE BRICKS LOCATED WITHIN 24" OF THE FACE OF THE CURB SHALL BE STOCKPILED UNTIL THE REMAINDER OF THE SIDEWALK WORK IS TO BE COMPLETED.

CURB RESETTING DETAIL
(NOT TO SCALE)

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REVISIONS			RHODE ISLAND DEPARTMENT OF TRANSPORTATION	
NO.	DATE	BY		
			SOUTH MAIN ST/NORTH MAIN ST ADA ACCESSIBILITY IMPROVEMENTS FROM JAMES STREET TO SMITH STREET	
			PROVIDENCE RHODE ISLAND	
			DETAILS SHEET NO. 1	
			CHECKED BY	DATE
			SCALE	

SECTION

28 7/16"

31 3/8"

SECTION

27 1/2" DIA

26 1/8" DIA

1"

1 7/8"

14 1/2"

24" DIA

26" DIA

35 1/8"

SECTION

NOTE: NON-MACHINED FRAME

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IRON WORKS EST. 1893
800-626-4653
www.ejw.com
MADE IN USA

PRODUCT NUMBER
00225311

CATALOG NUMBER
2253Z

2253Z FRAME

LOAD RATING
HEAVY DUTY

COATING
UNDIPPED

MATERIAL SPECIFICATION
FRAME - GRAY IRON
ASTM A48 CL35B

OPEN AREA
N/A

✓ DESIGNATES MACHINED SURFACE

DRAWN	DATE
DAL	09/11/09
LAST REVISED	DATE
DAL	03/12/10

REFERENCE INFORMATION

2006 Cover

SECTION A-A

31 3/4" DIA

1 1/2"

2 1/4"

27 1/4" DIA

1 3/4"

EJW EAST JORDAN
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MADE IN USA

PRODUCT NUMBER
00200648

Design Features

- Materials
Gray Iron (CL35)
- Design Load
Heavy Duty
- Open Area
Open Area
- Coating
Undipped
- ✓ Designates Machined Surface

Certification

- ASTM A48
- Country of Origin: USA

Drawing Revision
10/20/2008 Designer: KKP
03/19/2012 Revised By: DJH

Disclaimer
Weights (lbs/kg), dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

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Contact
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2256 Cover

SECTION

25 5/8" DIA

1"

1 3/4"

3"

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MADE IN USA

PRODUCT NUMBER
00225622

Design Features

- Materials
Gray Iron (CL35)
- Design Load
Heavy Duty
- Open Area
N/A
- Coating
Undipped
- ✓ Designates Machined Surface

Certification

- ASTM A48
- Country of Origin: USA

Drawing Revision
1/19/2012 Designer: SDC
1/24/2012 Revised By: SDC

Disclaimer
Weights (lbs/kg), dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

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Contact
800 626-4653
ejco.com

SECTION A-A

3 1/8" STACK

3/4"

32"

30"

39"

1 13/16"

8"

EJW EAST JORDAN
IRON WORKS EST. 1893
800-626-4653
www.ejw.com
MADE IN USA

PRODUCT NUMBER
00200813

CATALOG NUMBER
2008ZPT

FRAME

LOAD RATING
HEAVY DUTY

COATING
UNDIPPED

MATERIAL SPECIFICATION
GRAY IRON
ASTM A48 CL35B

OPEN AREA
N/A

✓ DESIGNATES MACHINED SURFACE

DRAWN	DATE
SBB	09/17/08
LAST REVISED	DATE
SBB	12/18/08

REFERENCE INFORMATION
00200813

TOP SURFACE OF APRON OR REGULAR INLET STONE SHALL BE SAWN TO APPROXIMATELY TRUE PLANES. TOP SURFACE SHALL HAVE NO PROJECTION OR DEPRESSION GREATER THAN 1/8".

SECTION

7"

1 1/2"

9"

2"

1 1/2"

1 1/2"

8"

END OF ALL STONES SHALL BE SQUARE AND SO FINISHED THAT WHEN STONES ARE SET NO SPACE MORE THAN 1/4" SHALL SHOW IN THE JOINT FOR THE FULL WIDTH OF THE TOP OR DOWN THE FACE FOR 9"

REAR VIEW

5'

3"

FRONT FACE SHALL BE AT RIGHT ANGLES TO THE PLANE OF THE TOP AND SHALL BE SMOOTH QUARRY SPLIT

FRONT VIEW

5'

9"

15"

30"

15"

18"

1/2" CHAMFER

1/2"

LOWER HALF OF ENDS MAY BE QUARRY FACED WITH NO PROJECTIONS BEYOND DEPRESSED PORTION AND NO DEPRESSION MORE THAN 1" DEEP

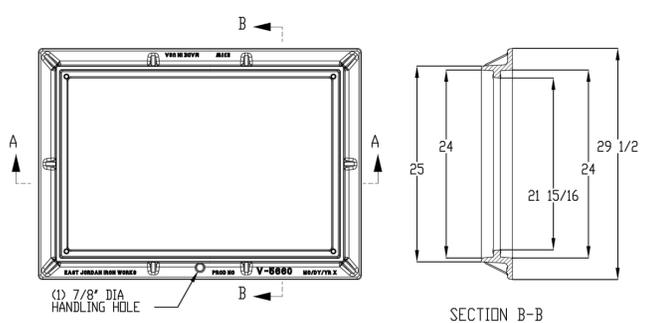
PROVIDENCE STANDARD GRANITE APRON STONE. P-18
STANDARD P-18
(NOT TO SCALE)

PROVIDENCE STANDARD CATCH BASIN FRAME AND COVER STANDARDS P3 AND P4
(NOT TO SCALE) **(PFC)**

PROVIDENCE STANDARD 32" LOCKING SANITARY MANHOLE FRAME AND COVER
(NOT TO SCALE) **(SMH)**

REVISIONS			RHODE ISLAND DEPARTMENT OF TRANSPORTATION
NO.	DATE	BY	
			SOUTH MAIN ST/NORTH MAIN ST ADA ACCESSIBILITY IMPROVEMENTS FROM JAMES STREET TO SMITH STREET PROVIDENCE RHODE ISLAND
			DETAILS SHEET NO. 11
			CHECKED BY _____ DATE _____ SCALE _____

V5660 Frame



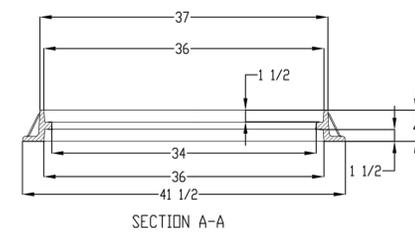
Product Number
45660010

Design Features
-Materials
-Gray Iron (CL35)
-Design Load
-Heavy Duty
-Open Area
-Iris
-Coating
-Undipped
-Designates Machined Surface

Certification
-ASTM A48
-Country of Origin: USA

Drawing Revision
04/16/2002 Designer: SBB
05/16/2012 Revised By: DJH

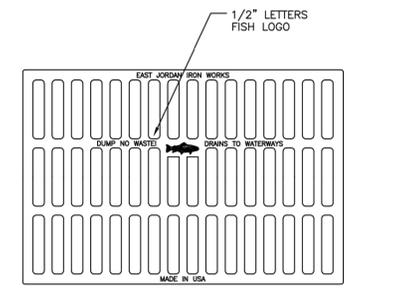
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NOTE: FRAME IS REVERSIBLE AND CAN BE INSTALLED AS A TOP FLANGE UNIT.

SECTION A-A

V5660 Grate



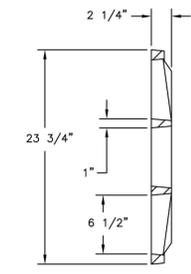
Product Number
45660033

Design Features
-Materials
-Gray Iron (CL35)
-Design Load
-Heavy Duty
-Open Area
-390 SQ. INCHES
-Coating
-Undipped
-Designates Machined Surface

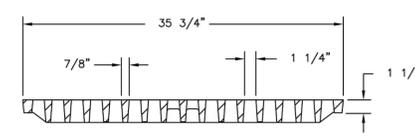
Certification
-ASTM A48
-Country of Origin: USA

Drawing Revision
07/29/2002 Designer: DEW
01/03/2012 Revised By: SDC

Disclaimer
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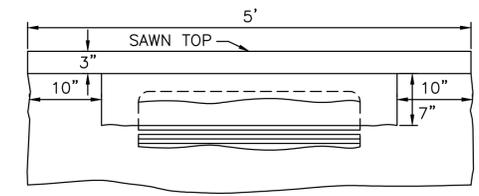


GRATE SECTION



GRATE SECTION

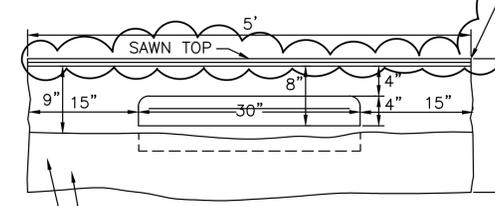
PROVIDENCE STANDARD FRAME AND GRATE (PFG)
(NOT TO SCALE)



REAR VIEW

BACK SURFACE SHALL HAVE NO PROJECTIONS FOR A DISTANCE OF 3" DOWN FROM THE TOP.

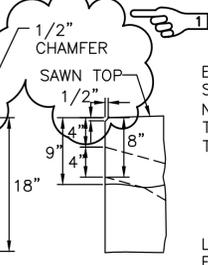
QUARRY FACED WITH NO PORTIONS MORE THAN 1" ABOVE OR MORE THAN 1" BEFORE A GENERAL PLANE.



FRONT VIEW

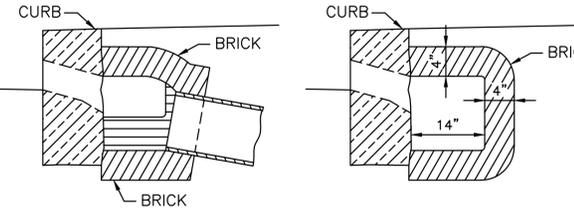
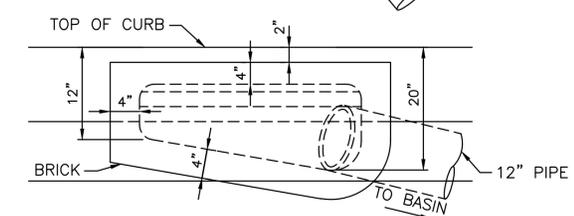
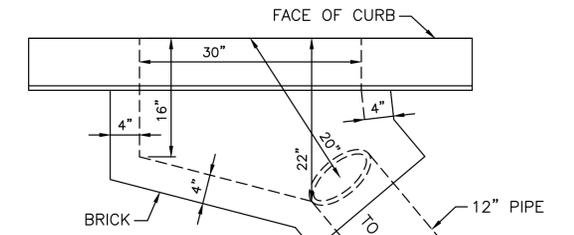
FRONT FACE SHALL BE AT RIGHT ANGLES TO THE PLANE OF THE TOP AND SHALL BE SMOOTH QUARRY SPLIT

FRONT FACE SHALL HAVE NO PROJECTIONS GREATER THAN 3/4" OR DEPRESSIONS GREATER THAN 1/2" FOR A DISTANCE DOWN FROM THE TOP OF 9"

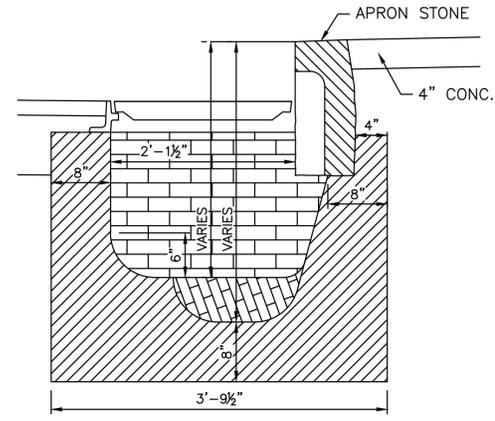
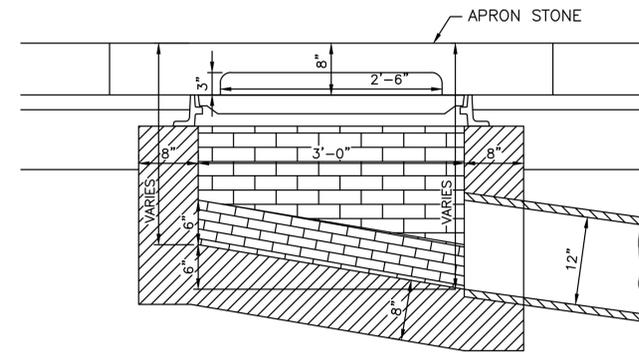


END VIEW

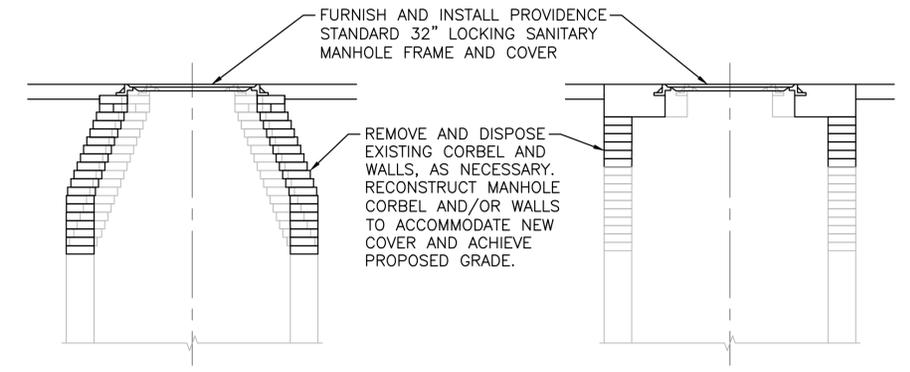
PROVIDENCE STANDARD GRANITE INLET STONE. (P-17)
STANDARD P-17
(NOT TO SCALE)



PROVIDENCE STANDARD INLET. (P-16)
STANDARD P-16
(NOT TO SCALE)



PROVIDENCE STANDARD GUTTER INLET. (P-13)
STANDARD P-13
(NOT TO SCALE)



MANHOLES WITH CORBELS

MANHOLES WITH VERTICAL WALLS

RECONSTRUCT MANHOLE CORBEL SECTION OR VERTICAL WALL (RMH)
(NOT TO SCALE)

REVISIONS			RHODE ISLAND	
NO.	DATE	BY	DEPARTMENT OF TRANSPORTATION	
			SOUTH MAIN ST/NORTH MAIN ST ADA ACCESSIBILITY IMPROVEMENTS FROM JAMES STREET TO SMITH STREET	
			PROVIDENCE	RHODE ISLAND
			DETAILS SHEET NO. 12	
			CHECKED BY	DATE
			SCALE	

BRYANT ASSOCIATES
Engineers Surveyors Construction Managers
640 George Washington Hwy, Bldg. C, Suite 100
Lincoln, Rhode Island 02865

SPECIAL NOTICE

PROPOSAL

Project Name - South Main Street/North Main Street ADA
Accessibility Improvements

Estimate Name - Addendum No. 1

R.I. Contract No. - 2013-CH-050

FAP Nos - STP-AWDA(027)

All items in the Proposal must have a unit bid price in words and figures. All unit bid prices must be extended. Bids will not be accepted if they contain no unit price for an item or if they contain zero in words and figures as the unit price bid.

The minimum acceptable bid price for:

Code 212.2000, CLEANING AND MAINTENANCE OF EROSION CONTROLS is Six Thousand Dollars And No Cents (\$6,000.00) per LS

Code 907.0100, WATER FOR DUST CONTROL is Fourteen Dollars And Fifty Cents (\$14.50) per MGAL

Code 914.5010, FLAGPERSONS is Forty Nine Dollars And Fifty Cents (\$49.50) per MHRS

Code 914.5020, FLAGPERSONS - OVERTIME is Sixty Three Dollars And Fifty Cents (\$63.50) per MHRS

Code 937.0200, MAINTENANCE AND MOVEMENT TRAFFIC PROTECTION is One Hundred Thirty Five Thousand Dollars And No Cents (\$135,000.00) per LS

Code 943.0200, TRAINEE MAN-HOURS is Six Dollars And No Cents (\$6.00) per MHRS

The only acceptable bid price for:

Code 900.9901, BASEMENT VAULT REPAIRS is One Dollar And No Cents (\$1.00) per EACH

Items preceded with the letter "S" in the proposal are Specialty Items.

Revised: 2/19/2002

Total or gross sum of bid for Rhode Island Contract Number: 2013-CH-050

Federal-Aid Project Number(s): STP-AWDA(027)

WRITTEN IN WORDS:

The undersigned bidder declares that this Proposal is made without connection with any other person or persons making proposals for the same work, and is in all respects fair and without collusion or fraud. The undersigned bidder submits herewith, a proposal guarantee in the form of a bid bond in favor of the State of Rhode Island in the amount of 5% of the total or gross sum of the bid and agrees and consents that the proposal guarantee shall be forfeited to the State as liquidated damages if the required contract agreement and contract bond are not executed within ten(10) days of the notice of award. All surety companies must be listed with The Department of the Treasury, Fiscal Services, Circular 570, (Latest Revision published by The Federal Register). The State reserves the right to retain the surety of all bidders until the successful bidder enters into the Contract or until such time as the award or cancellation of the Contract is announced at which point Sureties will be returned to all bidders by the State of Rhode Island, Office of Purchases. The undersigned bidder further agrees, if awarded the contract on this proposal, to begin work within ten (10) calendar days after the date of execution of the contract unless otherwise specified under special provisions or permitted by the Engineer, and further agrees to complete the work on or before the dates outlined in the Contract Documents.

COMPLETION DATE(S)	
DESCRIPTION	DATE
Advertise Date	February 27, 2015
Pre-Bid Date	March 12, 2015
Bid-Opening Date	March 27, 2015
Substantial Completion Date	October 28, 2016

THE BIDDER ACKNOWLEDGES RECEIPT OF THE FOLLOWING:

ADDENDA	DATE POSTED	DOCUMENT(S)	PAGE
NO.1	March 19, 2015	1. Status Certification for: Debarment, Eligibility, Indictments, Convictions or Civil Judgements	1
		2. Anti-Collusion Certificate	2
		4. DBE Affirmative Action Certification	3 - 9
		3. Disclosure of Lobbying Activities	