

# BID REQUIREMENTS and CONDITIONS DOCUMENT

for

## **Columbus Boulevard & Chestnut Street Phase VII Downtown Complete Streets**

**New Britain, Connecticut**

PUBLIC BID No. 3951



**CITY OF NEW BRITAIN, CONNECTICUT**

HONORABLE ERIN E. STEWART, MAYOR

February 2020

Prepared By:



City of New Britain  
Public Works Department  
27 West Main Street  
New Britain, Connecticut  
(860) 826-3350



## **BID REQUIREMENTS and CONDITIONS DOCUMENT**

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**INVITATION FOR BIDS**

The CITY OF NEW BRITAIN, acting through the City Purchasing Agent, will receive bids for the **Columbus Boulevard & Chestnut Street – Phase VII Downtown Complete Streets project, Bid No. 3951 until 11:00 AM on the 31<sup>st</sup> day of March, 2020**, at the Office of the Purchasing Department, Room 401 - City Hall, 27 West Main Street, New Britain, CT. 06051, at which time there will be a public bid opening where all bids will be publicly opened and read aloud.

The scope of work generally consists of Complete Street Improvements on Columbus Boulevard, between the Harry Truman (Route 71) overpass, the north side of Chestnut Street, between Elm Street (Route 71) and Columbus Boulevard and on Herald Square. The work includes installation of new granite curbing, new concrete and brick paver sidewalks and pedestrian ramps to meet current ADA standards, new concrete driveway aprons, replacement of existing catch basin tops and installation of new catch basins, milling and paving, installation of new signage and pavements markings, installation of new street trees and minor traffic signal modifications.

The Bid Documents and Plans may be downloaded from the City of New Britain web site at <http://newbritainct.gov/bids> on or after **12:00 PM on the 10<sup>th</sup> day of March, 2020**. A complete set of the Bid Documents and Plans are on file at the Office of the Purchasing Dept., Room 401 - City Hall, for review only.

The City reserves the right to accept or reject any or all bids or any part of a bid presented, or to invite proposals as its interest may appear.

Each bid must be accompanied by a bid bond or by a certified check of the bidder in the amount of TEN percent (10%) of the total bid amount, payable to the City of New Britain. The bidder awarded the Contract shall, at the time of signing the Contract, submit an executed Performance Bond and Labor & Material Payment Bond in the amount of 100% of the Contract amount in accordance with C.G.S. 49-41 and Instruction to Bidders No. 17.

**A pre-bid conference shall be held on the 19<sup>th</sup> day of March 2020, at 2:00 PM, in Room 504, City Hall, 27 West Main Street, New Britain, CT, and attendance is strongly recommended.**

Attention is called to the fact that this is a prevailing wage project and not less than the minimum salaries and wages as set forth in the Bid Documents must be paid on this project. The Contractor must adhere to all relevant provisions of Section 46a-95 of the Connecticut General Statutes, and any other relevant laws and regulations regarding Affirmative Action.

An “affidavit” of non-collusion shall be included in the Bid Documents and must be completed by the prospective bidder and returned with the bid. Failure to return an executed non-collusion affidavit with a proposal may result in the subsequent rejection of subject bid. The Contractor shall comply with the Copeland Anti-Kickback Act and Regulations of the Secretary of Labor (29 CFR, Part 3).



## INVITATION FOR BIDS

The contractor who is selected to perform this State project must comply with CONN. GEN. STAT. §§ 4a-60, 4a-60a, 4a-60g, and 46a-68b through 46a-68f, inclusive, as amended by June 2015 Special Session Public Act 15-5.

State law requires a minimum of twenty-five (25%) percent of the state-funded portion of the contract for award to subcontractors holding current certification from the Connecticut Department of Administrative Services (“DAS”) under the provisions of CONN. GEN. STAT. § 4a-60g. (25% of the work with DAS certified Small and Minority owned businesses and 25% of that work with DAS certified Minority, Women and/or Disabled owned businesses.) The contractor must demonstrate good faith effort to meet the 25% set-aside goals.

For municipal public works contracts and quasi-public agency projects, the contractor must file a written or electronic non-discrimination certification with the Commission on Human Rights and Opportunities. Forms can be found at:

[http://www.ct.gov/opm/cwp/view.asp?a=2982&q=390928&opmNav\\_GID=1806](http://www.ct.gov/opm/cwp/view.asp?a=2982&q=390928&opmNav_GID=1806)

This contract will need to comply with C.G.S. Sec. 4b-91. The Contractors must be pre-qualified by the State of Connecticut Department of Administrative Services (DAS). This requirement is a prerequisite for selecting the Lowest Responsible and Qualified Bidder.

An Affirmative Action/Equal Opportunity Employer. Minority/Women's Business Enterprises are encouraged to apply. This contract is subject to state set-aside and contract compliance requirements.

JACK PIEPER  
PURCHASING AGENT

**INSTRUCTIONS TO BIDDERS**

**1. RECEIPT AND OPENING OF BIDS**

The City of New Britain, (herein called the "Owner"), invites bids on the form attached hereto, all blanks of which must be appropriately filled in. Bids will be received by the Owner at the Office of the Purchasing Agent, located in Room 401, City Hall, 27 West Main St., New Britain, Connecticut 06051, until **11:00 AM on the 31<sup>st</sup> day of March, 2020**, and then at said office publicly opened and read aloud. The envelopes containing the bids must be sealed, addressed to the City of New Britain at the aforementioned address and designated as Bids for the **Columbus Boulevard & Chestnut Street – Phase VII Downtown Complete Streets project, Bid No. 3951**.

The Owner may consider informal any bid not prepared and submitted in accordance with provisions hereof and may waive any informalities in or reject any and all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered.

**2. PREPARATION OF PROPOSAL**

Proposals must be submitted on the prescribed forms included in the **Bid Proposal Submittal Package**, and any attachments as designated and necessary. All blank spaces must be filled in and all prompts answered. All responses shall be typewritten or hand printed in ink.

All bids must be completed on the **Form of Bid** included in the Bid Proposal Submittal Package, with the unit price for each item furnished in both words and figures, and the amount bid for each item furnished in figures. In addition, the total bid amount must be furnished in both words and figures. If there is a discrepancy between written words and figures, the words shall govern. All prices and amounts shall be typewritten or hand printed in ink. The Bidder's attention is directed to the eleven (11) stipulations set forth in the said Form of Bid and agreed to by the Bidder with his submittal of a bid for the subject project. All bids shall be subject to all requirements of the Bid Documents, including the Specifications, Drawings, any referenced documents, and these Instructions to Bidders. All bids must be regular in every respect and no interlineation, excisions or special conditions shall be made or included in the Bid Forms by the bidder.

In addition to the forms noted below, all bidders must complete, sign and return the: "CHRO Contract Compliance Regulations Notification to Bidders" form to the grantee at the time of bid opening. Bids not including this form should be considered incomplete and rejected." The form can be found in the Bid Proposal Submittal Package or at:

<http://www.ct.gov/chro/lib/chro/pdf/notificationtobidders.pdf>

Each bidder's proposal shall include, completed in full, the following forms:

- a) Statement of Bidder's Qualifications / Notary's Certificate

## INSTRUCTIONS TO BIDDERS

- b) Prospective Vendor's Residency and Tax Payment Certification
- c) Certification of Non-Segregated Facilities
- d) Certification of Bidder Regarding Equal Employment Opportunity
- e) Certification by Proposed Subcontractor Regarding Equal Employment Opportunity
- f) Certification of Non-Collusion
- g) CHRO Notification to Bidders and Bidder Contract Compliance Monitoring Report
- h) Bid / Proposal Affidavit
- i) Form of Bid / Bid Bond

Any other specific pages requiring vendor response shall be enclosed in envelopes (outer and inner), both of which shall be sealed and clearly labeled with the words "Bid Proposal", the bid number, the bidder's name, and the date and time of Bid Opening, in order to guard against premature opening of the Bid.

Once bids have been received, analyzed and an apparent low bidder has been identified, the following forms must be completed by the apparent low bidder and returned to the City of New Britain for approval:

- a) Contractor's Proposed Progress Chart
- b) State of Connecticut Certificate of Compliance with Connecticut General Statute Section 31-57b
- c) Anticipated Source of Material, Form CON-83
- d) State of Connecticut Gift and Campaign Contribution Certification
- e) Certificate of Insurance, Standard ACCORD Form
- f) Affirmative Action Program Certification

The Owner may consider as irregular any bid on which there is an alteration of or departure from the Bid Forms hereto attached and at its option may reject the same. The Owner reserves the right to reject any Bid submitted that is not in full compliance with these Instructions to Bidders as being not responsive. The Owner also reserves the right to reject the Bid of any Bidder it considers not responsible.

If the Contract is awarded, it will be awarded on the basis of the lowest bid and the selected Alternative and/or Optional Bid items, if any.

If forwarded by mail, the sealed envelope containing the proposal and marked as directed above, must be enclosed in another envelope addressed as specified in Article 1 of these Instructions to Bidders.

Erasures or other changes in the Bid Documents must be explained and noted over the signature of the Bidder.

### **3. BID DOCUMENTS**

The Bid Documents for the Project shall consist of the following:

- a) Bid Requirements and Conditions Document
- b) Bid Proposal Submittal Document
- c) Project Plans
- d) Special Technical Specifications
- e) Connecticut Department of Transportation Form 817, including the July 2019 Supplement
- f) New Britain Standard Specifications for Municipal Construction dated May 2008 available on the web under the Documents link at [www.newbritainct.gov](http://www.newbritainct.gov)

#### **4. QUALIFICATIONS OF BIDDER**

The Owner may make such investigations as he deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any and all bids if evidence submitted by or investigation of such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the Contract and to complete the work contemplated therein.

To assist the Owner in assessing the Bidder's ability to successfully perform the work, the Bidder shall complete in full the Statement of Bidder's Qualifications (pages SBQ-1 through SBQ-8) included in the Bid Proposal Submittal Package.

#### **5. DISQUALIFICATION OF BIDDERS**

More than one proposal from an individual, partnership, firm or corporation, or any association under the same or different names, will not be considered. Reasonable ground for believing that any bidder is interested in more than one proposal for the work contemplated will cause the rejection of all proposals in which such bidder is interested. Any or all proposals will be rejected if there is reason for believing that collusion exists among bidders, and all participants in such collusion will not be considered in future proposals for the same work.

#### **6. BID SECURITY OR GUARANTY**

Each bid must be accompanied by a bid bond or by a certified check of the bidder in the amount of TEN percent (10%) of the total bid amount, payable to the City of New Britain.

Such bonds or checks will be returned to all bidders, with the exception of the three lowest bidders, within three days after the formal opening of bids, and the remaining checks, or bid bonds, will be returned to the three lowest bidders within 48 hours after the Owner and the accepted bidder have executed the contract, or if no contract has been so executed, within 90 days after the date of opening of bids, or upon demand of the bidder at any time thereafter, so long as he has not been notified of the acceptance of his bid.

The bid must also be accompanied by a letter from an approved bonding company satisfactory to the Owner stating that said bonding company will bond the

## INSTRUCTIONS TO BIDDERS

Contractor for one hundred percent (100%) of his total bid amount, including any alternates, if said bidder shall be awarded the Contract for this project.

### **7. POWER OF ATTORNEY**

Attorneys in fact who sign bid bonds or contract bonds must file with each bond a certified copy of their power of attorney to sign said bonds.

### **8. CONFLICT OF INTEREST**

No member, officer, or employee of the OWNER, or its designees or agents, no member of the governing body of the locality in which the program is situated, and no other public official of such locality or localities who exercises any function or responsibilities with respect to the program during the tenure, or for one year thereafter, shall have any interest, direct or indirect, in any contract or subcontract, or the proceeds thereof, under the agreement. The Grantee shall incorporate, or cause to be incorporated, in all such contracts or subcontracts a provision prohibiting such interest pursuant to the purposes of this article.

### **9. CONDITIONS OF WORK**

Each bidder is responsible to inform himself fully of the conditions relating to the construction and labor under which the work is to be performed. Failure to do so will not relieve a successful bidder of his obligation to furnish all material and labor necessary to carry out the provisions set forth in his bid. Insofar as possible, work shall be performed in such a manner as not to conflict with, or adversely affect other contractors or individuals routine performance of their duties, or otherwise affected by the work.

### **10. OBLIGATION OF BIDDER AND INSPECTION OF SITE**

Prior to bid submittal, it is the responsibility of each bidder to visit the project site and verify and become familiar with existing site conditions and other site attributes which may affect performance of the proposed work. It is also the bidder's responsibility to understand and be thoroughly familiar with the terms, obligations and requirements of the improvement plans, specification, and all other Bid Documents, and of all applicable City, State and Federal laws, codes, regulations, and requirements, and to make due allowance in his bid for all contingencies. Submittal of a Bid Proposal shall be considered conclusive evidence that the bidder has met these responsibilities. The failure or omission of any Bidder to receive or examine any form, instrument or documents shall in no way relieve any bidder from any obligation in respect to his bid.

If any omissions, errors, or other inconsistencies are noticed in the Bid Documents, it is the responsibility of the bidder to call them to the attention of Owner prior to bid submittal.

### **11. ENFORCEMENT OF TERMS AND CONDITIONS**

The bidders are notified that all terms and conditions of the Contract and these Bid Documents will be rigidly enforced.

**12. ADDENDA AND INTERPRETATIONS**

No interpretation of the meaning of the plans, specifications or other Bid Documents will be made to any bidder orally. Every request for such interpretation should be made in writing addressed to the Owner, and, to be given consideration, must be received at least ten days prior to the scheduled bid opening. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the Bid Documents which, if issued, will be mailed by CERTIFIED mail with return receipt requested to all prospective bidders (at the respective addresses furnished for such purpose) not later than five days prior to the scheduled bid opening. Failure of any bidder to receive any such addendum or interpretation shall not relieve any bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the Bid Documents.

**13. WITHDRAWAL OF BIDS**

The following procedure shall apply for withdrawal of bids. A bidder may withdraw the bid by submitting either a written or facsimile request of withdrawal to the owner. The request of withdrawal must be received by the owner before the scheduled bid opening and may be made by mail, facsimile or hand-delivery. The bid guarantee of any bidder withdrawing the bid in compliance with this section shall be returned.

**14. REJECTION OF BIDS**

- A. The Owner may reject a bid if:
1. The bidder fails to furnish any of the information requested pursuant to Article 2 of these Instructions to Bidders;
  2. The submitted Bid does not strictly conform to law or the requirements of the Bid Documents;
  3. The submitted Bid is conditional or qualified;
  4. The submitted Bid is determined, in the opinion of the Owner, to be unbalanced. An unbalanced bid is defined as a bid containing a unit price or lump sum amount for any item which is deemed unreasonable when considering the item by itself and not in conjunction with the bid as a whole or any other item, or items, contained therein.
  5. The owner determines, by means of Article 2 of these Instructions to Bidders or any other appropriate means, the bidder to be not responsible, incompetent, or unqualified or incapable to perform the work specified.
- B. The Owner, however, reserves the right to reject any or all bids and to waive any informalities in a bid

**15. ACCEPTANCE AND AWARD OF CONTRACT**

The Owner will accept one of the submitted bids on each contract or will reject all bids on any or all contracts. Acceptance of the bid and Notice of Award will be in writing and signed the Owner or its designee and mailed to the address designated in the successful bidder's proposal. The Notice shall contain information and instructions as to the time and place set for execution of the Contract. The successful bidder shall appear at the designated time and place to execute the Contract and furnish all bonds and certificates of insurance required.

**16. LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT**

The successful bidder shall execute and deliver the contract and required bonds within 10 days after he has received notice of the acceptance of his bid. Failure or refusal to do so shall cause the bidder to forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his bid.

**17. SECURITY FOR FAITHFUL PERFORMANCE**

The bidder awarded the Contract shall, at the time of signing the Contract, submit an executed performance bond in the amount of 100% of the Contract amount conditioned upon the faithful performance of the Contract. Said performance bond shall be from a company or companies authorized to transact business in the State of Connecticut. The approved bonds shall also contain a labor and material bond for 100% of the Contract amount for the payment of all persons performing labor or furnishing materials in connection with this Contract.

**18. SUBCONTRACTING**

The successful bidder may utilize the services of specialty subcontractors on those portions of the work which, under normal contracting practices are performed by specialty subcontractors. The successful bidder shall not award any portion of the work to a subcontractor without prior written approval of the Owner. The acceptance of any and all subcontractors shall reside with the Owner, and the Owner's decision shall be final. The successful bidder shall be fully responsible to the Owner for the performance, finished products, acts, and omissions of his subcontractors and persons directly or indirectly employed thereby.

The successful bidder shall cause appropriate provisions to be included in all subcontracts relative to this project to bind subcontractors to the provisions of the Contract and these Bid Documents as applicable to work performed by the subcontractor on this project; and appropriate provisions to give the Owner the same powers and authority over any subcontractor as it has over the Contractor under the provisions of said documents.

**19. WAGES AND SALARIES**

Attention of the bidders is particularly called to the requirements concerning the payment of not less than the prevailing wage and salary rates as set forth by the State and Federal (if applicable) wage rates included in this Bid Requirements and Conditions Document (see Construction Contracts – Required Contract Provisions – Exhibit E),

and the conditions of employment with respect to certain categories and classifications of employees included therein.

The rates of pay set forth are the minimum to be paid during the life of the Contract. It is therefore the responsibility of the bidders to inform themselves as to local labor conditions, such as the length of work day and work week, overtime compensation, health and welfare contributions, labor supply and prospective changes or adjustments of rates.

**20. EQUAL EMPLOYMENT OPPORTUNITY**

Attention of the bidders is called to the applicable State and Federal requirements for ensuring that employees and applicants for employment are not discriminated against because of their race, creed, color, or national origin.

**21. EXECUTIVE ORDER No. 17**

To comply with the Governor's Executive Order No. 17, the Contractor and any subcontractors holding a contract directly under the Contractor shall list all employment openings with the Connecticut State Employment Service. The Labor Commissioner may allow exceptions to listing of employment openings which the Contractor proposed to fill from within its organization with employees on the rolls of the Contractor on the date of publication of the invitation to bid, or the date on which the public announcement was published or promulgated advising of the program concerned.

**22. LAWS AND REGULATIONS**

The bidder's attention is directed to the fact that all applicable State and Municipal laws, rules, ordinances and regulations of all authorities having jurisdiction over construction work in the locality of the project shall apply to the contract throughout, and they are deemed to be included herein as if written out in full.

**23. TIME FOR COMPLETION AND LIQUIDATED DAMAGES**

See Contract and Form of Agreement.

**24. APPROVALS**

The Contractor shall be responsible for obtaining all the necessary permits and approvals from the City of New Britain and the State of Connecticut, as required to complete the work in accordance with the improvement plans and other Contract Documents. The Owner will assist within its means in the approval process. However, any delays to the Contractor or the project, or any actions against either due to failure to obtain the necessary approvals, or to do so in a timely manner, or due to the Contractors lack of knowledge of the necessary approvals or the approval process, remain solely the responsibility of the Contractor.

**25. START OF CONSTRUCTION**

The successful bidder agrees to commence construction within ten (10) calendar days after receipt of the Notice to Proceed from the Owner. The Notice to Proceed



shall be sent by the Owner after execution and delivery of the Contract and required bonds in accordance with Article 17 of these Instructions to Bidders.

## **26. REFERENCE SPECIFICATIONS**

- A. The State of Connecticut Department of Transportation "Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 817" with the July 2019 Supplemental Specifications, (also referred to as "Form 817"), is hereby made a part of these Bid Documents and the ensuing Contract by reference. Form 817 and Supplemental Forms may be viewed at the State of Connecticut, Department of Transportation's website at:

<https://portal.ct.gov/DOT/Publications/Form-817>

- B. The most recent edition of the "City of New Britain Standard Specifications for Municipal Construction" (also referred to as "Standard Specifications") is hereby made a part of these Bid Documents and the ensuing Contract by reference. Copies of the Standard Specifications are available for review and purchase from the New Britain Bureau of Engineering, or on the web under Documents link at:

[http://www.newbritainct.gov/services/public\\_works/divisions/engineering\\_n\\_row\\_management.htm](http://www.newbritainct.gov/services/public_works/divisions/engineering_n_row_management.htm)

and copies are available for review at the New Britain Bureau of Engineering.

## **27. CONFLICTING PROVISIONS**

In the event of conflicts or inconsistencies between separate provisions of these Bid Documents and/or the executed Contract, such conflicts shall be resolved by applying the following in decreasing order of precedence:

### Contractual Matters

- 1) Contract-Form of Agreement
- 2) Invitation to Bid
- 3) Instructions to Bidders
- 4) Special Provisions
- 5) Supplemental General Conditions
- 6) General Conditions

### Technical Matters

- 1) Special Technical Specifications
- 2) Contract Drawings
- 3) Reference Specifications

## **28. SAFETY AND HEALTH REGULATIONS**

These construction documents, and the joint and several phases of construction hereby contemplated are to be governed at all times, by applicable provisions of the federal law(s), including but not limited to, the latest amendments of the following:

## INSTRUCTIONS TO BIDDERS

- (1) William-Steiger Occupational Safety and Health Act of 1970, Public Law 91-956;
- (2) Part 1910 - Occupational Safety and Health Standards, Chapter SVII of Title 29, Code of Federal Regulations;
- (3) Part 1926 (formerly Part 1518) - Safety and Health Regulations for Construction, Chapter XIII of Title 29, Code of Federal Regulations.

In the event of any inconsistencies between the above laws and regulations and the provisions of these documents, the laws and regulations shall prevail.

### **29. SALES TAX**

The Owner is exempt from Connecticut State Sales and Use Taxes on materials and equipment to be incorporated in this work. The Contractor may purchase materials or supplies to be consumed in the performance of this contract without payment of tax and shall not include taxes in his Contract Price.

### **30. SOURCE OF MATERIALS**

Anticipated Source of Material, form CON-83 shall be completed in full by the apparent low bidder and submitted to the Engineer prior to Award of the Contract.

### **31. METHOD OF AWARD - Lowest Responsible Bidder**

Bids will be compared on the basis of the total sum of the unit prices submitted by the bidder for each Base Bid item applied to the estimated quantity designated in the bid form for that item. Award will be made to the lowest responsible bidder with the lowest Base Bid Price in accordance with and pursuant to Section 2-578 Items 1 through 12, inclusive, of the City of New Britain Code of Ordinances.

CONTRACT-FORM OF AGREEMENT/BONDS

FORM OF AGREEMENT BETWEEN THE CONTRACTOR AND OWNER

THIS AGREEMENT, made the \_\_\_\_ day of \_\_\_\_\_ in the year **TWO THOUSAND AND TWENTY** by and between **THE CITY OF NEW BRITAIN**, hereinafter called the "OWNER" and \_\_\_\_\_, located in \_\_\_\_\_, hereinafter called the "CONTRACTOR".

**WITNESSETH:**

**WHEREAS**, the City is desirous of entering into a contract for the **Columbus Boulevard & Chestnut Street – Phase VII Downtown Complete Streets project, Bid No. 3951** in the City of New Britain Connecticut,

**WHEREAS**, the Contractor has entered a bid price and is adjudged the successful bidder, for the **Columbus Boulevard & Chestnut Street – Phase VII Downtown Complete Streets project, Bid No. 3951** in the City of New Britain, Connecticut.

WITNESSETH THAT, the Contractor and the Owner for the considerations hereinafter named agree as follows:

**Article 1. SCOPE OF WORK**-- The Contractor shall furnish all of the materials and perform all of the work shown on the drawings and described in the specifications prepared by the City of New Britain as and in these Contract Documents entitled: **Columbus Boulevard & Chestnut Street – Phase VII Downtown Complete Streets project, Bid No. 3951**; and shall do everything required by the Contract Documents as designated in Article 3 of this Agreement.

**Article 2. THE CONTRACT PRICE**-- The Owner will pay the Contractor for the performance of the Contract in current funds, for the **Columbus Boulevard & Chestnut Street – Phase VII Downtown Complete Streets project, Bid No. 3951** at the unit prices stipulated in the bid proposal submittal document that the Contractor submitted for the several respective items of work completed subject to additions and deductions as provided in the Section entitled "Changes in the Work" under the "General Conditions."

City agrees to pay the Contractor for the **Columbus Boulevard & Chestnut Street – Phase VII Downtown Complete Streets project, Bid No. 3951** at the unit prices quoted in the Contractor's bid response of an estimated total bid price of \$\_\_\_\_\_

**Article 3. CONTRACT**-- The executed contract documents shall consist of the following:

- a. This Agreement
- b. Addenda thereto: No. \_\_\_\_ date \_\_\_\_\_; No. \_\_ date \_\_\_\_ No. \_\_ date \_\_\_\_\_
- c. Bid Requirements and Conditions Document

## CONTRACT-FORM OF AGREEMENT/BONDS

- d. Bid Proposal Submittal Document, as submitted by Contractor
- e. Project Plans
- f. Other Contract Drawings issued
- g. Special Technical Specifications
- h. Connecticut Department of Transportation Form 817 with the July 2019 supplement
- i. New Britain Standard Specifications for Municipal Construction

This Agreement, together with the other documents enumerated in this Article 3 and other documents, which are made part hereof by reference, forms the Contract between the parties hereto.

The Contractor and the Owner for themselves, their successors, executors and administrators and assigns hereby agree to the full performance of the covenants herein contained.

The specifications, conditions and the bid terms of **Bid No. 3951** are attached hereto, incorporated by reference and made a part of this agreement.

### **Article 4. NOTICE TO PROCEED, TIME OF COMPLETION, AND LIQUIDATED DAMAGES:**

The Contractor shall agree to commence work within ten (10) calendar days after receipt of the "Notice to Proceed" from the Owner. Such Notice may be sent after execution of this Agreement (also referred to herein as the "Contract").

**The Contractor shall agree to complete the work within 210 days from receipt of the Notice to Proceed.** The date of completion shall be known as the "Date of Substantial Completion" when all construction is sufficiently complete in accordance with the Contract Documents, so the owner can occupy or utilize the work or designated portion thereof for the use which it is intended, and the work is properly finished to provide the appearance intended, and the Certificate of Completion is issued by the Owner to the Contractor.

The Contractor shall prosecute the work continuously until completion. The rate of progress for any given Phase shall be at least that shown on the "Schedule of Progress" which is to be submitted to the Engineer by the Contractor in a form satisfactory to the Engineer prior to execution of this Agreement.

In general, work shall be prosecuted continuously throughout the term of the Contract. The Contractor will be expected to keep work going whenever possible. The Engineer will determine when conditions are unfavorable for work, or for any portion thereof, and may order that work be suspended on any part or all portions of the Contract whenever, in his opinion, the conditions are not such as will insure first class work.

The Contractor shall further agree that the Date of Completion of the Project Work provides reasonable time for completion of the work contemplated in accordance with the Improvement Plans, Specifications, and other Contract Documents, taking into consideration average weather conditions, availability of labor and delivery of materials and equipment.

If the Contractor neglects, fails or refuses to substantially complete the Project Work within the Time of Completion as specified herein, or any proper extension granted thereto by the Owner in accordance with the General Conditions, then the Contractor shall agree, as part consideration for the award of this Contract, to pay to the Owner a liquidated damage for breach of contract for **each and**

## CONTRACT-FORM OF AGREEMENT/BONDS

**every calendar day** that the Contractor shall be in default on the subject Project. This is not to be construed in any sense as a penalty.

Where actual damages for any delay in substantial completion of a Phase are impossible to determine by reason of the Owner's election not to terminate the right of the Contractor to proceed, the Contractor and his sureties shall be liable for, and shall pay to the Owner, the sum of **One Thousand Five Hundred Dollars (\$1,500.00)**, as fixed, agreed, and liquidated damages for **each calendar day** of such delay until the work is substantially completed and accepted.

The Owner, however, may accept the work if there has been such a degree of completion as will, in the Owner's opinion, make the project reasonably safe, fit, and convenient for the use and accommodation for which it was intended. In such case, the Contractor shall not be charged with liquidated damages, but the Owner may assess the actual damages by such delay.

**Article 5. GUARANTEE:** -- The Contractor guarantees the work done under this contract and the materials furnished by him and used in the work are free from defects, and the guarantee is for a term of **one year** from and after the date of the **Certificate of Project Completion**. It is agreed and understood that the Contractor will at any time during this one-year period, upon notification in writing from the Engineer, and without expense to the Owner, immediately execute all repairs which may be necessitated, as determined by the Engineer, by reason of any defective materials used therein, or by defective workmanship, or by reason of the normal use or functioning of all facilities constructed under this contract.

The Owner reserves the right to retain up to five percent (5%) of the Total Contract Price, or to accept, at the Owner's option, a Guarantee Bond for up to five percent (5%) of the Total Contract Price, and to hold such retainage or bond for the duration of the guarantee period. Upon expiration of the guarantee period, provided that all work is in good order, the Contractor shall be entitled to receive said retainage or, if posted, the release of the Guarantee Bond.

**The Contractor must provide to the Owner at the time of signing this contract Performance and Material Bonds for this project.**

**Article 6. PREVAILING WAGE RATES:** Prevailing Wage Rates do apply for this project. The Contractor will submit weekly a copy of all payrolls to the Owner. The copy shall be accompanied by a statement signed by the Owner or his agent indicating that the payrolls are correct and complete, that the wage rates contained therein are not less than those determined by the Connecticut Department of Labor and that of the Owner's prevailing wage rates for this project in accordance with the specifications, conditions, and bid terms of **Bid #3951**. The wages paid on an hourly basis to any person performing the work of any mechanic, laborer or worker on the work herein contracted to be done and the amount of payment or contribution paid or payable on behalf of each such person to any employee welfare fund, as defined in subsection (i) of section 31-53, shall be at a rate equal to the rate customary or prevailing for the same work in the same trade or occupation in the town in which such construction, remodeling, refinishing, refurbishing, rehabilitation, alteration or repair project is being undertaken. Any contractor who is not obligated by agreement to make payment or contribution on behalf of such persons to any such employee welfare fund shall pay to each mechanic, laborer or worker as part of such person's wages the amount of payment or contribution for such person's classification on each pay day.

## CONTRACT-FORM OF AGREEMENT/BONDS

**Article 7. INSURANCE COVERAGE:** The Contractor shall agree to maintain in force at all times during which services are to be performed the following coverages placed with company(ies) licensed by the State of Connecticut which have at least an “A-VIII” policyholders’ rating according to BEST Publications latest edition Key Rating Guide:

|   |   |              |
|---|---|--------------|
| Commercial General Liability:               | General Aggregate                       | \$ 2,000,000 |
|   | Prod./Compl.<br>Operations<br>Aggregate | \$ 2,000,000 |
|   | Occ. Aggregate                          | \$ 1,000,000 |
| Automobile Liability:                       | Liability Limit                         | \$ 2,000,000 |
| Umbrella                                    | Each Occurrence                         | \$1,000,000  |
| (Excess Liability)                          | Aggregate                               | \$1,000,000  |
| Workers’ Comp. And<br>Employer’s Liability: | WC Statutory Limits                     |              |
|   | EL Each Accident                        | \$500,000    |
|   | EL Disease Each Employee                | \$500,000    |
|   | EL Disease Policy Limit                 | \$500,000    |

The “City of New Britain”, “Consolidated School District” and the “State of Connecticut” shall be named as “Additional Insured”, and the Contractor agrees to provide replacement/renewal certificate at least 60 days prior to the expiration of the policy. Should any of the described policies be cancelled before the expiration date, written notice must be made to the City 30 days prior to cancellation.

The Contractor agrees to provide a certificate of insurance at the time of the execution of this contract as was as a replacement/renewal certificate at least 60 days prior to the expiration of the policy. Should any of the above-described policies be cancelled before the expiration date, written notice must be made to the City 30 days prior to cancellation. The Contractor also agrees to name the City as Additional Insured on all insurance policies except Workers Compensation and to provide a Waiver of Subrogation on all policies.

If any policy is written on a “Claims Made” basis, the policy must be continually renewed for a minimum of two (2) years from the completion date of this contract. If the policy is replaced and/or the retroactive date changed, then the expiring policy must be endorsed to extend the reporting period for claims for the policy in effect during the contract for two (2) years from the completion date.

Contractor covenants and agrees to hold the City harmless and to indemnify the City from (I) any and all claims arising from the performance of service enumerated herein, or any work or thing whatsoever done, or any condition created (other than by the City)during the term of this contract or any extensions thereof, but only to the extent caused by the negligent or otherwise wrongful act or omission of Contractor, its agent, employees, contractors or licensees and (II) all costs, expenses, liabilities incurred in or in connection with each such claim or action or proceeding brought thereon. In case an action or proceeding, be brought against the City by reason of any such claim, Contractor, upon notice from the City, shall resist and defend such action claim or proceeding.

## CONTRACT-FORM OF AGREEMENT/BONDS

**Article 8. HOLD HARMLESS AGREEMENT:**--The Contractor, its agents and assigns shall indemnify and hold harmless the State of Connecticut and the City of New Britain, including but not limited to, its elected officials, its officers, and agents, ("the State and City") from any and all claims made against the State and City, including but not limited to, damages, awards, costs and reasonable attorneys fees, to the extent any such claim directly and proximately results from the wrongful willful or negligent performance of services by the Contractor during the Contractor's performance of this Agreement or any other Agreements of the Contractor entered into by reason thereof. The City agrees to give the Contractor prompt notice of any such claim and absent a conflict of interest, an opportunity to control the defense thereof.

This Agreement shall be binding on and inure to the benefit of the parties hereto and to their respective successors and assigns.

**Article 9.** Any reference to this Agreement shall be by number. The number assigned to this Agreement shall be **Bid No. 3951**.

### **Article 10. Retention of Records and Records Accessibility:**

10.1 All services performed by Contractor shall be subject to the inspection and approval of City at all times, and Contractor shall furnish all information concerning the services. City or its representatives shall have the right, at reasonable hours, to inspect or examine the part of the plant or place of business or any books, records, and other documents of Contractor or its subcontractors or sub-Contractors pertaining to work performed under this agreement and shall allow such representatives free access to any and all such plants, places of business, books and records. City or its representatives will give the Contractor or its subcontractors or sub-Contractors at least twenty-four (24) hours' notice of such intended examination. At the City's request, the Contractor or sub-Contractors shall provide City with hard copies or an electronic format of any data or information in the possession or control of the Contractor or sub-Contractor which pertains to City's business under this agreement.

10.2 The Contractor shall retain and maintain accurate records and documents relating to performance of services under this agreement for a minimum of three (3) years starting from the date of submission of the final expenditure report with the following qualifications and shall make them available for inspection and audit by City or its representative:

- a. If any litigation, claim or audit is started before the expiration date of the three-year period, the records shall be retained until all litigation, claims or audit findings involving the records have been resolved; and
- b. Records for the purchase of equipment (i.e., non- expendable, tangible personal property) acquired with grant funds shall be retained for three years after the final disposition of said property.

10.3 Any subcontractor or sub-Contractor under this agreement shall retain and maintain accurate records and documents relating to performance of services under this agreement for a minimum of three (3) years from the expiration of the subcontract or sub grant and shall make them available for inspection and audit by the City or its representative.

10.4 The Contractor must incorporate this Article verbatim into any agreement it enters into with any subcontractor or sub-Contractor providing services under this agreement.

**Article 11. Non-Discrimination and Affirmative Action Provisions:**

(A)(1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, sexual orientation, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the state of Connecticut. The Contractor further agrees to take affirmative action to insure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to of race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved; (2) the Contractor agrees, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, to state that it is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the commission; (3) the Contractor agrees to provide each labor union or representative of workers with which such Contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such Contractor has a contract or understanding, a notice to be provided by the commission advising the labor union or workers' representative of the Contractor's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (4) the Contractor agrees to comply with each provision of this section and sections 46a-68e and 46a-68f and with each regulation or relevant order issued by said commission pursuant to sections 46a-56, 46a-68e, 46a-68f and 46a-86; (5) the Contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor as relate to the provisions of this section and section 46a-56.

(B) Any Contractor who is a party to a municipal public works contract or quasi-public agency project, where any such contract is valued at less than \$50,000 for each year of the contract, shall provide the Commission on Human Rights and Opportunities with a written or electronic representation that complies with the nondiscrimination agreement and warranty under subsection (A)(1) above, provided if there is any change in such representation, the Contractor shall provide the updated representation to the Commission not later than 30 days after such change. Any Contractor who is a party to a municipal public works contract or a quasi-public agency project, where any such contract is valued at \$50,000 or more for any year of the contract, shall provide the Commission with any one of the following: (1) Documentation in the form of a company or corporate policy adopted by resolution of the board of directors, shareholder, managers, members or other governing body of such Contractor that complies with the nondiscrimination agreement and warranty under subsection (A)(1) of this section; (2) Documentation in the form of a company or corporate policy adopted by a prior resolution of the board of directors, shareholders, managers, members or other governing body of such contractor if (a) the prior resolution is certified by a duly authorized corporate officer of such contractor to be in effect on the date the documentation is submitted, and the executive director of the Commission on Human Rights and Opportunities or designee certifies that the prior resolution complies with the nondiscrimination agreement and warranty under subdivision (A)(1) of this section; or (3) Documentation in the form of an affidavit signed under penalty of false statement by a chief executive officer, president, chairperson or other corporate officer duly authorized to adopt company or corporate policy that certifies that the company or corporate policy of the contractor complies with the nondiscrimination agreement and warranty under subdivision (A)(1) of this section and is in effect on the date the affidavit is signed..



## CONTRACT-FORM OF AGREEMENT/BONDS

(C) If the Contract is a municipal public works contract or a quasi-public agency project, the Contractor agrees and warrants that s/he will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works project. The Contractor shall include the provisions of subdivision (A)(1) of this section in every subcontract or purchase order entered into to fulfill any obligation of a municipal public works contract or contract for a quasi-public agency project, and such provisions shall be binding on a subcontractor, vendor or manufacturer, unless exempted by regulations or orders of the Commission on Human Rights and Opportunities. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions, including sanctions for noncompliance in accordance with section 46a-56; provided, if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission regarding a state contract, the contractor may request the state of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the state and the state may so enter.

(D) "Minority business enterprise" means any small contractor or supplier of materials fifty-one per cent or more of the capital stock, if any, or assets of which is owned by a person or persons: (1) Who are active in the daily affairs of the enterprise, (2) who have the power to direct the management and policies of the enterprise and (3) who are members of a minority, as such term is defined in subsection (a) of section 32-9n; and "good faith" means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations. "Good faith efforts" shall include, but not be limited to, those reasonable initial efforts necessary to comply with statutory or regulatory requirements and additional or substituted efforts when it is determined that such initial efforts will not be sufficient to comply with such requirements. Determination of the Contractor's good faith efforts shall include, but shall not be eliminated to, the following factors: The contractor's employment and subcontracting policies, patterns and practices; affirmative advertising recruitment and training; technical assistance activities and such other reasonable activities or efforts as the Commission on Human Rights and Opportunities may prescribe that are designed to ensure the participation of minority business enterprises in municipal public works contracts or quasi-public agency projects. "Municipal public works project" means that portion of an agreement entered into on or after October 1, 2015, between any individual, firm or corporation and a municipality for the construction, rehabilitation, conversion, extension, demolition or repair of a public building, highway or other changes or improvements in real property, which is financed in whole or in part by the state, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees but excluding any project of an alliance district, as defined in section 10-262u, finance by the state funding in an amount equal to fifty thousand dollars or less. "Quasi-public agency project" means the construction, rehabilitation, conversion, extension, demolition or repair of a building or other changes or improvements in real property pursuant to a contract entered into on or after October 1, 2015, which is financed in whole or in part by a quasi-public agency using state funds, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees.

**CONTRACT-FORM OF AGREEMENT/BONDS**

This Agreement was entered into pursuant to approval of the City of New Britain's Common Council, on \_\_\_\_\_, 2020 Resolution No. \_\_\_\_\_ and approved by the Mayor.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date first above written.

**OWNER: CITY OF NEW BRITAIN**

BY: \_\_\_\_\_  
Jack Pieper  
Purchasing Agent

**WITNESS:**

Signed in the presence of: \_\_\_\_\_

**CONTRACTOR:** \_\_\_\_\_

BY: \_\_\_\_\_

**WITNESS:**

Signed in the presence of: \_\_\_\_\_

STATE OF ss: \_\_\_\_\_ 2020

COUNTY OF

Personally appeared \_\_\_\_\_ who acknowledged the signing of this to be his free act and deed.

\_\_\_\_\_  
Notary  
Commissioner of Superior Court  
Justice of the Peace

CONTRACT-FORM OF AGREEMENT/BONDS

ACKNOWLEDGMENT OF PRINCIPAL, (IF A CORPORATION)

STATE OF \_\_\_\_\_)

) ss.

COUNTY OF \_\_\_\_\_)

On this \_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, personally came and appeared \_\_\_\_\_ to me known, who, being by me duly sworn, did depose and say that he is the \_\_\_\_\_ of \_\_\_\_\_ the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation: that one of the impressions affixed to said instrument is an impression of such seal: that it was so affixed by order of the director of said corporation, and that he signed his name thereto by like order.

SEAL

ACKNOWLEDGMENT OF PRINCIPAL, (IF A PARTNERSHIP)

STATE OF \_\_\_\_\_)

) ss.

COUNTY OF \_\_\_\_\_)

On this \_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, personally came and appeared \_\_\_\_\_ to me known and known to me to be one of the members of the firm of \_\_\_\_\_ described in and who executed the foregoing instrument and he acknowledged to me that he executed the same as and for the act and deed of said firm.

SEAL

ACKNOWLEDGMENT OF PRINCIPAL, (IF AN INDIVIDUAL)

STATE OF \_\_\_\_\_)

) ss.

COUNTY OF \_\_\_\_\_)

On this \_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, personally came and appeared \_\_\_\_\_ to me known and known to me to be the person described in and who executed the foregoing instrument and acknowledged that he executed the same.

SEAL

CONTRACT-FORM OF AGREEMENT/BONDS

CERTIFICATE OF CONTRACTOR'S ATTORNEY

I, the undersigned \_\_\_\_\_ the duly authorized and acting legal representative of \_\_\_\_\_, do hereby certify as follows:

I have examined the attached contract(s) and surety bonds and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements will be duly executed by the proper parties thereto acting through their duly authorized representatives. That said representatives have full power and authority to execute said agreements on behalf of the respective parties name thereon and that the foregoing agreements constitute valid and legally binding obligations upon the parties executing the same in accordance with terms, conditions and provisions thereof.

BY: \_\_\_\_\_  
Attorney-in-fact

Law Firm: \_\_\_\_\_

Address – Zip Code: \_\_\_\_\_

\_\_\_\_\_

Date: \_\_\_\_\_

# CONTRACT-FORM OF AGREEMENT/BONDS

## PERFORMANCE PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: That we \_\_\_\_\_  
(Name of Contractor)

a \_\_\_\_\_, hereinafter called "PRINCIPAL"  
(Corporation, Partnership or Individual)

and \_\_\_\_\_ of \_\_\_\_\_, State of \_\_\_\_\_  
(Surety)

hereinafter called the "SURETY", are held and firmly bound unto CITY OF NEW BRITAIN, hereinafter called "OWNER" in the penal sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) in lawful money of the United States, for the payment of which sum well and truly to be made we bind ourselves, our heirs, executors, administrators and successors jointly and severally, firmly by these presents.

THE CONDITION OF THIS OF THIS OBLIGATION is such that Whereas the Principal entered into a certain contract with the Owner, dated the \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_, copy of which is hereto attached and made a part hereof for the construction of the

**Columbus Boulevard & Chestnut Street  
Phase VII Downtown Complete Streets project  
Bid No. 3951**

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under such contract and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, and shall promptly make payment to all persons, firms subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such work, and all insurance premiums on said work, and for all labor, performed in such work whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

Provided, further, that the said Surety, for value received, hereby stipulates and agrees that no charge, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extensions of time alteration or addition to the terms of the contract or to the work or to the specifications.

CONTRACT-FORM OF AGREEMENT/BONDS

PROVIDED FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in three (3) counterparts, each one of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

ATTEST:

BY: \_\_\_\_\_  
(Principal) Secretary

(SEAL)

\_\_\_\_\_ (Address - Zip Code)

Witness as to Principal

\_\_\_\_\_  
\_\_\_\_\_ (Address - Zip Code)

ATTEST:

BY: \_\_\_\_\_  
Surety

(SEAL)

(Surety) Secretary Attorney-in-fact

\_\_\_\_\_ (Address - Zip Code)

\_\_\_\_\_  
Witness as to Surety

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is a Partnership, all partners should execute the bond.

\_\_\_\_\_ (Address - Zip Code)

CONTRACT-FORM OF AGREEMENT/BONDS

BOND NO.

LABOR AND MATERIAL PAYMENT BOND

Note: This bond is issued simultaneously with another Bond in favor of the Owner conditioned for the full and faithful performance of the Contract.

KNOW ALL MEN BY THESE PRESENTS:

That \_\_\_\_\_, as Principal (hereinafter called Principal) and \_\_\_\_\_ as surety (hereinafter called Surety) are held and firmly bound unto THE CITY OF NEW BRITAIN as Obligee (hereinafter called Owner) for the use and benefit of claimants as hereinbelow defined; in the amount of \_\_\_\_\_ Dollars (\$\_\_\_\_\_),

for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, principal has written agreement dated \_\_\_\_\_, entered into a Contract with Owner for the construction of

**Columbus Boulevard & Chestnut Street  
Phase VII Downtown Complete Streets project  
Bid No. 3951**

which Contract is by reference made a part hereof and is hereinafter referred to as the Contract.

NOW, THEREFORE, the condition of this obligation is such that, if the said Principal shall promptly pay for all materials furnished the said Principal shall promptly pay for all materials furnished and labor supplied or performed in the prosecution of the work included in and under the aforesaid Contract, whether or not the material or labor enters into and becomes a component part of the real asset, then this obligation shall be null and void otherwise it shall remain and be in full force and effect.

PROVIDED, that any alterations which may be made in the terms of the Contract or in the work to be done under it, or the giving by the Obligee of any extension of time for the performance of the Contract, or any other forbearance on the part of either the Obligee or the Principal to the other shall not in any way release the Principal and the Surety or either or any of them, their heirs, executors, administrators, successors or assigns from their liability hereunder, notice to the surety of any such alterations, extension or forbearance being hereby waived.

Any party, whether a subcontractor or otherwise, who furnished materials or supplies or performs labor or services in the prosecution of the work under said Contract, and who is not paid therefor, may bring a suit on this bond in the name of the person suing, prosecute the same to a final judgment, and have execution thereon for such sum as may be justly due.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several seals this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_, the name and corporate seal of each corporation partly being hereto affixed and these presents signed by its undersigned representative, pursuant to authority of its governing body.

CONTRACT-FORM OF AGREEMENT/BONDS

In the presence of:

|       |                        |
|-------|------------------------|
| _____ | _____ (SEAL)           |
| _____ | (Individual Principal) |
| _____ | _____                  |
| _____ | (Business Address)     |
| _____ | _____ (SEAL)           |
| _____ | (Partnership)          |
| _____ | _____                  |
| _____ | (Business Address)     |
| _____ |                        |

BY: \_\_\_\_\_

\_\_\_\_\_  
(Corporate Principal)

\_\_\_\_\_  
(Business Address)

BY:

Affix Corporate Seal

ATTEST:

\_\_\_\_\_  
(Corporate Surety)

BY:

Affix Corporate Seal

Countersigned

by

\*Attorney-in-Fact, State of

\*Power-of-Attorney for person signing for Surety Company must be attached to Bond.



## EQUAL OPPORTUNITY REQUIREMENTS

### STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATION EXECUTIVE ORDER 11246

1. The offertory's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

| <u>Females</u> | <u>Minorities</u> |
|----------------|-------------------|
| 8.0%           | 8.0%              |

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Specific Affirmative Action Obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.

EQUAL OPPORTUNITY REQUIREMENTS

4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is

New Britain,  
(City)

Hartford  
(County)

Connecticut  
(State)



## EQUAL OPPORTUNITY REQUIREMENTS

### ATTACHMENT B

The applicant agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereto, as defined in the regulations of the Secretary of Labor at 41 CFR Chapter 60, the following equal opportunity clause:

During the performance of this contract, the contractor agrees as follows:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay, or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers representative of the contractors' commitments under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations and relevant orders of the Secretary of Labor.

(5) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes to ascertain compliance with such rules, regulations and orders.

□

## EQUAL OPPORTUNITY REQUIREMENTS

(6) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further government construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for non-compliance: Provided however, that in the event a contractor becomes involved in, or is threatened with litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the City to enter into such litigation to protect the interests of the City.

The Contractor is further instructed that any prohibition against discrimination on the basis of age under the Age Discrimination Act of 1975 or with respect to an otherwise qualified handicapped individual as provided in Section 504 of the Rehabilitation Act of 1973 shall also apply to this contract.

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in construction work: Provided that if the applicant so participating is a State or local government the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibilities for securing compliance.

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## EQUAL OPPORTUNITY REQUIREMENTS

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government assisted construction contracts pursuant to the Executive order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the executive order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

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## EQUAL OPPORTUNITY REQUIREMENTS

### ATTACHMENT C

#### Standard Federal Equal Employment Opportunity Construction Specifications (Executive Order 11246)

1. As used in these specifications:

a. "Covered area" means the geographical area described in the solicitation from which this contract resulted:

b. "Director" means director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority.

c. "Employer identification number" means the Federal Social Security number used on the Employers Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

d. "Minority" includes:

1. Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
2. Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
3. Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands);
4. American Indian or Alaskan Native; (all persons having origins in any of the original peoples of North America and Maintaining identifiable tribal affiliations through membership and participation or community identification).
5. Portuguese (all persons of Portuguese, Brazilian or other Portuguese culture or origin regardless of race).

2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which the contract resulted.

## EQUAL OPPORTUNITY REQUIREMENTS

3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clauses, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to make good faith efforts to achieve the plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the contract should reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Contractor is expected to make substantially uniform progress toward the goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with

## EQUAL OPPORTUNITY REQUIREMENTS

specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organization's responses.

c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunity and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc. by specific review of the policy with all management personnel and with all minority and female employees at least once a year, and by posting the company EEO policy on bulletin board accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these terms with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.



## EQUAL OPPORTUNITY REQUIREMENTS

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with contractors and Subcontractors with whom the Contractor anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontract from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor union, contractor community, or other similar

## EQUAL OPPORTUNITY REQUIREMENTS

group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the contractor actively participated in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female work-force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's non-compliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the contract may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, of these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address,

## EQUAL OPPORTUNITY REQUIREMENTS

telephone numbers, construction trade, union affiliation, if any, employee identification number when assigned, social security number, race, sex, status (e.g. mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g. those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

City of New Britain

**General Conditions**

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**1. Contract and Contract Documents**

The Plans, Specifications and Addenda, hereinafter enumerated in Paragraph 1 of the Supplemental General Conditions, shall form part of this Contract; and the provisions thereof shall be as binding upon the parties hereto as if they were herein fully set forth. The table of contents, titles, headings, running headlines and marginal notes contained herein and in said documents are solely to facilitate reference to various provisions of the Contract Documents and in no way affect, limit or cast light on the interpretation of the provisions to which they refer.

**2. Definitions**

The following terms as used in this contract are respectively defined as follows:

- (a) "Contractor": A person, firm or corporation with whom the contract is made by the Owner.
- (b) "Subcontractor": A person, firm or corporation supplying labor and materials or only labor for work at the site of the project for, and under separate contract or agreement with, the Contractor.
- (c) "Work on (at) the project": Work to be performed at the location of the project including the transportation of materials and supplies to or from the location of the project, by employees of the Contractor and any Subcontractor.

**3. Additional Instructions and Detail Drawings**

The Contractor will be furnished additional instructions and detail drawings as necessary to carry out the work included in the contract. The additional drawings and instructions thus supplied to the Contractor will coordinate with the Contract Documents and will be so prepared that they can be reasonably interpreted as part thereof. The Contractor shall carry out the work in accordance with the additional detail drawings and instructions. The Contractor and the Architect/Engineer will prepare jointly (a) a schedule, fixing the dates at which special detail drawings will be required, such drawings, if any, to be furnished by the Architect/Engineer in accordance with said schedule, and (b) a schedule fixing the respective dates for the submission of shop drawings, the beginning of manufacture, testing and installation of materials, supplies and equipment, and the completion of the various parts of the work; each such schedule to be subject to change from time to time in accordance with the progress of the work.

**4. Shop or Setting Drawings**

The Contractor shall submit promptly to the Architect/Engineer two copies of each shop or setting drawing prepared in accordance with the schedule predetermined as aforesaid. After examination of such drawings by the Architect/Engineer and the return thereof, the Contractor shall make such corrections to the drawings as have been indicated and shall furnish the Architect/Engineer with two corrected copies. If requested by the Architect/Engineer the Contractor must furnish additional copies. Regardless of corrections made in or approval given to such drawings by the Architect/ Engineer, the Contractor will nevertheless be responsible for the accuracy of such drawings and for

their conformity to the Plans and Specifications, unless he notifies the Architect/Engineer in writing of any deviations at the time he furnishes such drawings.

**5. Materials, Services, and Facilities**

- (a) It is understood that except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all material, labor, tools, equipment, water, light, power, transportation, superintendence, temporary construction of every nature, and all other services and facilities of every nature whatsoever necessary to execute, complete, and deliver the work within the specified time.
- (b) Any work necessary to be performed after regular working hours, on Sundays or Legal Holidays, shall be performed without additional expense to the Owner.

**6. Contractor's Title to Materials**

No materials or supplies for the work shall be purchased by the Contractor or by any Sub-contractor subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. The Contractor warrants that he has good title to all materials and supplies used by him in the work, free from all liens, claims or encumbrances.

**7. Inspection and Testing of Materials**

- (a) All materials and equipment used in the construction of the project shall be subject to adequate inspection and testing in accordance with accepted standards. The laboratory or inspection agency shall be selected by the Owner. The Owner will pay for all laboratory inspection service direct, and not as part of the contract.
- (b) Materials of construction, particularly those upon which the strength and durability of the structure may depend, shall be subject to inspection and testing to establish conformance with specifications and suitability for uses intended.

**8. "Or Equal" Clause**

Whenever a material, article or piece of equipment is identified on the plans or in the specifications by reference to manufacturers' or vendors' names, trade names, catalogue numbers, etc., it is intended merely to establish a standard; and, any material, article, or equipment of other manufacturers and vendors which will perform adequately the duties imposed by the general design will be considered equally acceptable, provided the material, article, or equipment so proposed, is, in the opinion of the Architect/Engineer, of equal substance and function. It shall not be purchased or installed by the contractor without the Architect/Engineer's written approval.

**9. Patents**

- (a) The Contractor shall hold and save the Owner and its officers, agents, servants, and employees harmless from liability of any nature or kind, including cost and expenses for, or on account of, any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of the contract,

including its use by the Owner, unless otherwise specifically stipulated in the Contract Documents.

- (b) License or Royalty Fees: License and/or Royalty Fees for the use of a process which is authorized by the Owner of the project must be reasonable, and paid to the holder of the patent, or his authorized licensee, direct by the Owner and not by or through the Contractor.
- (c) If the contractor uses any design, device or materials covered by letters, patent, or copyright, he shall provide for such use by suitable agreement with the Owner of such patented or copyrighted design, device or materials, it is mutually agreed and understood that, without exception, the contract prices shall include all royalties or cost arising from the use of such design, device or materials, in any way involved in the work. The Contractor and/or his Sureties shall indemnify and save harmless the Owner of the project from any and all claims for infringement by reason of the use of such patented or copyrighted design, device or materials or any trademark or copyright in connection with work agreed to be performed under this contract, and shall indemnify the Owner for any cost, expense or damage which it may be obliged to pay by reason of such infringement at any time during the prosecution of the work or after completion of the work.

## **10. Surveys, Permits, and Regulations**

Unless otherwise expressly provided for in the Specifications, the Owner will furnish to the Contractor all surveys necessary for the execution of the work.

The Contractor shall procure and pay all permits, licenses and approvals necessary for the execution of his contract.

The Contractor shall comply with all laws, ordinances, rules, orders, and regulations relating to performance of the work, the protection of adjacent property, and the maintenance of passage- ways, guard fences or other protective facilities.

## **11. Contractor's Obligations**

The Contractor shall and will, in good workmanlike manner, do and perform all work and furnish all supplies and materials, machinery, equipment, facilities and means, except as herein otherwise expressly specified, necessary or proper to perform and complete all the work required by this contract, within the time herein specified, in accordance with the provisions of this contract and said specifications and in accordance with the plans and drawings covered by this contract any and all supplemental plans and drawings, and in accordance with the directions of the Architect/Engineer as given from time to time during the progress of the work. He shall furnish, erect, maintain, and remove such construction plant and such temporary works as may be required.

The Contractor shall observe, comply with, and be subject to all terms, conditions, requirements, and limitations of the contract and specifications, and shall do, carry on, and complete the entire work to the satisfaction of the Architect/Engineer and the Owner.

## **12. Weather Conditions**

In the event of temporary suspension of work, or during inclement weather, or whenever the Architect/Engineer shall direct, the Contractor will, and will cause his subcontractors to protect carefully his and their work and materials against damage or injury from the weather. If, in the opinion of the Architect/ Engineer, any work or materials shall have been damaged or injured by reason of failure on the part of the Contractor or any of his Subcontractors so to protect his work, such materials shall be removed and replaced at the expense of the Contractor.

## **13. Protection of Work and Property--Emergency**

The Contractor shall at all times safely guard the Owner's property from injury or loss in connection with this contract. He shall at all times safely guard and protect his own work, and that of adjacent property from damage. The Contractor shall replace or make good any such damage, loss or injury unless such be caused directly by errors contained in the contract or by the Owner, or his duly authorized representatives.

In case of an emergency which threatens loss or injury of property, and/or safety of life, the Contractor will be allowed to act, without previous instructions from the Architect/Engineer, in a diligent manner. He shall notify the Architect/Engineer immediately thereafter. Any claim for compensation by the Contractor due to such extra work shall be promptly submitted to the Architect/Engineer for approval.

Where the Contractor has not taken action but has notified the Architect/Engineer of an emergency threatening injury to persons or damage to the work or any adjoining property, he shall act as instructed or authorized by the Architect/Engineer.

The amount of reimbursement claimed by the Contractor on account of any emergency action shall be determined in the manner provided in Paragraph 17 of the General Conditions.

## **14. Inspection**

The authorized representatives of the City of New Britain and its agents shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records.

## **15. Reports, Records and Data**

The Contractor shall submit to the Owner such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data as the Owner may request concerning work performed or to be performed under this contract.

## **16. Superintendence by Contractor**

At the site of the work the Contractor shall employ a construction superintendent or foreman who shall have full authority to act for the Contractor. It is understood that such representative shall be acceptable to the Architect/Engineer and shall be one who can be continued in that capacity for the particular job involved unless he ceases to be on the Contractor's payroll.



**17. Changes (48 CFR Ch. 1 (Aug 1987) (10-1-90 Edition))**

- (a) The Owner may, at any time, without notice to the sureties, if any, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract, including changes -
  - (1) In the specifications (including drawings and designs);
  - (2) In the method or manner of performance of the work;
  - (3) In the Owner-furnished facilities, equipment, materials, services, or site; or
  - (4) Directing acceleration in the performance of the work.
- (b) Any other written or oral order (which, as used in this paragraph (b), includes direction, instruction interpretation or determination) from the Owner that causes a change shall be treated as a change order under this clause; provided, that the Contractor gives the Owner written notice stating (1) the date, circumstances, and source of the order and (2) that the Contractor regards the order as a change order.
- (c) Except as provided in this clause, no order, statement, or conduct of the Owner shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment.
- (d) If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any such order, the Owner shall make an equitable adjustment and modify the contract in writing. However, except for an adjustment based on defective specifications, no adjustment for any change under paragraph (b) of this clause shall be made for any costs incurred more than 20 days before the Contractor gives written notice as required. In the case of defective specifications for which the Owner is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.
- (e) The Contractor must assert its right to an adjustment under this clause within 30 days after (1) receipt of a written change order under paragraph (a) of this clause or (2) the furnishing of a written notice under paragraph (b) of this clause, by submitting to the Owner a written statement describing the general nature and amount of proposal, unless this period is extended by the Owner. The statement of proposal for adjustment may be included in the notice under paragraph (b) above.
- (f) No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this contract.

**18. Disputes**

- (a) All disputes arising under this contract or its interpretation, whether involving law or fact or both, or extra work, and all claims for alleged breach of contract shall within ten (10) days of commencement of the dispute be presented by the Contractor to the Owner for decision. All papers pertaining to the claims shall be filed in quadruplicate. Such notice need not detail the amount of the claim but shall state the facts surrounding the claim in sufficient detail to identify the claim, together with its character and scope. In the meantime, the Contractor shall proceed with the work as directed. Any claim not presented within the time limit specified within this paragraph shall be deemed to have been waived, except that if the claim is of a continuing character and notice of the claim is not given within ten days of its commencement, the claim will be considered only for a period commencing ten days prior to the receipt of the Owner of notice thereof.
- (b) The Contractor shall submit in detail his claim and proof thereof. Each decision by the Owner will be in writing and will be mailed to the Contractor by registered mail, return receipt requested.
- (c) If the Contractor does not agree with any decision of the Owner, he shall in no case allow the dispute to delay the work but shall notify the Owner promptly that he is proceeding with the work under protest and he may then except the matter in question from the final release.

**19. Arbitration and Litigation**

Any controversy or claim arising out of or relating to this contract, or the breach thereof, shall, at the option of the Owner, be settled by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association and judgment upon the award rendered by the Arbitrator(s) may be entered in any court having jurisdiction thereof. The Owner shall exercise its option to arbitrate concurrent with the rendering of its final decision on the claim. Should it fail to render a final decision within the prescribed time or fail to exercise its option, the claim will be determined in accordance with the Rules of the American Arbitration Association as hereinbefore stated.

**20. Time for Completion and Liquidated Damages**

It is hereby understood and mutually agreed, by and between the Contractor and the Owner, that the date of beginning and the time for completion as specified in the contract of the work to be done hereunder are ESSENTIAL CONDITIONS of this contract; and it is further mutually understood and agreed that the work embraced in this contract shall be commenced on a date to be specified in the "Notice to Proceed."

The Contractor agrees that said work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will insure full completion thereof within the time specified. It is expressly understood and agreed, by and between the Contractor and the Owner, that the time for the completion of the work described herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

If the said Contractor shall neglect, fail or refuse to complete the work within the time herein specified, or any proper extension thereof granted by the Owner, then the Contractor does hereby agree, as a part consideration for the awarding of this contract, to pay to the Owner the amount specified in the contract, not as a penalty but as liquidated damages for such breach of contract as hereinafter set forth, for each and every calendar day that the Contractor shall be in default after the time stipulated in the contract for completing the work.

The said amount is fixed and agreed upon by and between the Contractor and the Owner because of the impracticability and extreme difficulty of fixing and as ascertaining the actual damages the Owner would in such event sustain, and said amount is agreed to be the amount of damages which the Owner would sustain and said amount shall be retained from time to time by the Owner from current periodical estimates.

It is further agreed that time is of the essence of each and every portion of this contract and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the contract an additional time is allowed for the completion of any work, the new time limit fixed by such extension shall be of the essence of this contract.

Provided, that the Contractor shall not be charged with liquidated damages or any excess cost when the Owner determines that the Contractor is without fault and the Contractor's reasons for the time extension are acceptable to the Owner; Provided, further, that the Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the work is due:

- (a) To any preference, priority or allocation order duly issued by the Government;
- (b) To unforeseeable cause beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God, or of the public enemy, acts of the Owner, acts of another Contractor in the performance of a contract with the Owner, fires, flood, epidemics, quarantine restrictions, strikes, freight embargoes, and severe weather; and
- (c) To any delays of Subcontractors or suppliers occasioned by any of the causes specified in subsections (a) and (b) of this article:

Provided, further, that the Contractor shall, within ten (10) days from the beginning of such delay, unless the Owner shall grant a further period of time prior to the date of final settlement of the contract, notify the Owner, in writing, of the causes of the delay, who shall ascertain the facts and extent of the delay and notify the Contractor within a reasonable time of its decision in the matter.

## **21. Correction of Work**

All work, all materials, whether incorporated in the work or not, all processes of manufacture, and all methods of construction shall be at all times and places subject to the inspection of the Architect/Engineer who shall be the final judge of the quality and suitability of the work, materials, processes of manufacture, and methods of construction for the purposes for which they are used. Should they fail to meet his approval they shall be forthwith reconstructed, made good, replaced and/or corrected, as the case may be, by

the Contractor as his own expense. Rejected material shall immediately be removed from the site. If, in the opinion of the Architect/Engineer, it is undesirable to replace any defective or damaged materials or to reconstruct or correct any portion of the work injured or not performed in accordance with the Contract Documents, the compensation to be paid to the Contractor hereunder shall be reduced by such amount as in the judgement of the Architect/Engineer shall be equitable.

**22. Subsurface Conditions Found Different**

Should the Contractor encounter sub-surface and/or latent conditions at the site materially differing from those shown on the Plans or indicated in the Specifications, he shall immediately give notice to the Architect/Engineer of such conditions before they are disturbed. The Architect/Engineer will thereupon promptly investigate the conditions, and if he finds that they materially differ from those shown on the Plans and/or indicated in the Specifications he will at once make such changes in the Plans and/or Specifications as he may find necessary, any increase or decrease of cost resulting from such changes to be adjusted in the manner provided in Paragraph 17 of the General Conditions.

**23. Right of the Owner to Terminate Contract**

In the event that any of the provisions of this contract are violated by the Contractor, or by any of his Subcontractors, the Owner may serve written notice upon the Contractor and the Surety of its intention to terminate the contract, such notices to contain the reasons for such intention to terminate the contract, and unless within ten (10) days after the serving of such notice upon the Contractor, such violation or delay shall cease and satisfactory arrangement of correction be made, the contract shall, upon the expiration of said ten (10) days, cease and terminate. In the event of any such termination, the Owner shall immediately serve notice thereof upon the Surety and the Contractor and the Surety shall have the right to take over and perform the contract; Provided, however, that if the Surety does not commence performance thereof within ten (10) days from the date of the mailing to such Surety of notice of termination, the Owner may take over the work and prosecute the same to completion by contract or by force account for the account and at the expense of the Contractor and the Contractor and his Surety shall be liable to the Owner for any excess cost occasioned the Owner thereby, and in such event the Owner may take possession of and utilize in completing the work, such materials, appliances, and plant as may be on the site of the work and necessary therefore.

**24. Construction Schedule and Periodic Estimates**

Immediately after notification as to apparent low bidder, and prior to award of the contract, the Contractor shall deliver to the Owner an estimated construction progress schedule in form satisfactory to the Owner, showing the proposed dates of commencement and completion of each of the various subdivisions of work required under the Contract Documents and the anticipated amount of each monthly payment that will become due the Contractor in accordance with the progress schedule. The Contractor shall also furnish on forms to be supplied by the Owner (a) a detailed estimate giving a complete breakdown of the contract price and (b) periodic itemized estimates of work done for the purpose of making partial payments thereon. The costs employed in making up any of these schedules will be used only for determining the basis of partial

payments and will not be considered as fixing a basis for additions to or deductions from the contract price.

## **25. Payments to Contractor**

- (a) Not later than the 15th day of each calendar month the Owner shall make a progress payment to the Contractor on the basis of a duly certified and approved estimate of the work performed during the preceding calendar month under this contract; but to insure the proper performance of this contract, the Owner shall retain five percent (5%) of the amount of each estimate until final completion and acceptance of all work covered by this contract: Provided, that the Contractor shall submit his estimate not later than the first day of the month; Provided, further, that the Owner may at any time after fifty percent (50%) of the work has been completed, if it finds that satisfactory progress is being made, may make any of the remaining progress payments in full; Provided, further, that on completion and acceptance of each separate building, public work, or other division of the contract, on which the price is stated separately in the contract, payment may be made in full, including retained percentages thereon, less authorized deductions.
- (b) In preparing estimates, the material delivered on the site and preparatory work done may be taken into consideration.
- (c) All material and work covered by partial payments made shall thereupon become the sole property of the Owner, but this provision shall not be construed as relieving the Contractor from the sole responsibility for the care and protection of materials and work upon which payments have been made or the restoration of any damaged work, or as a waiver of the right of the Owner to require the fulfillment of all of the terms of the contract.
- (d) Owner's Right to Withhold Certain Amounts and Make Application Thereof: The Contractor agrees that he will indemnify and save the Owner harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, material men and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in the furtherance of the performance of this contract. The Contractor shall, at the Owner's request, furnish satisfactory evidence that all obligations of the nature herein above designated have been paid, discharged, or waived. If the Contractor fails so to do, then the Owner may, after having served written notice on the said Contractor, either pay unpaid bills, of which the Owner has written notice, direct, or withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the Contractor shall be resumed, in accordance with the terms of this contract, but in no event shall the provisions of this sentence be construed to impose any obligations upon the Owner to either the Contractor or his Surety. In paying any unpaid bills of the Contractor, the Owner shall be deemed the agent of the Contractor, and any payment so made by the Owner, shall be considered as a payment made under the contract by the Owner to the Contractor and the Owner shall not be liable to the Contractor for any such payments made in good faith.

**26. Acceptance of Final Payment Constitutes Release**

The acceptance by the Contractor of final payment shall be and shall operate as a release to the Owner of all claims and all liability to the Contractor for all things done or furnished in connection with this work and for every act and neglect of the Owner and others relating to or arising out of this work. No payments, however, final or otherwise, shall operate to release the Contractor or his Sureties from any obligations under this contract or the Performance and Payment Bond.

**27. Payments by Contractor**

The Contractor shall pay (a) for all transportation and utility services not later than the 20th day of the calendar month following that in which services are rendered, (b) for all materials, tools, and other expendable equipment to the extent of ninety percent (90%) of the cost thereof, not later than the 20th day of the calendar month following that in which such materials, tools, and equipment are delivered at the site of the project, and the balance of the cost thereof, not later than the 30th day following the completion of that part of the work in or on which such materials, tools, and equipment are incorporated or used, and (c) to each of his Subcontractors, not later than the 5th day following each payment to the Contractor, the respective amounts allowed the Contractor on account of the work performed by his Subcontractors to the extent of each subcontractor's interest therein.

**28. Insurance**

The Contractor shall not commence work under this contract until he has obtained all the insurance required under this paragraph and such insurance has been approved by the Owner, nor shall the Contractor allow any Subcontractor to commence work on his subcontract until the insurance required of the Subcontractor has been so obtained and approved.

- (a) Workers Compensation Insurance: The Contractor shall procure and shall maintain during the life of this contract Workers' Compensation Insurance as required by applicable State or territorial law for all of his employees to be engaged in work at the site of the project under this contract and, in case of any such work sublet, the Contractor shall require the Subcontractor similarly to provide Workers' Compensation Insurance for all of the latter's employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractor's Workers' Compensation Insurance. In case any class of employees engaged in hazardous work on the project under this contract is not protected under the Workers' Compensation Statute, the Contractor shall provide and shall cause each subcontractor to provide adequate employer's liability insurance for the protection of such of his employees as are not otherwise protected.
- (b) Contractor's Public Liability and Property Damage Insurance and Vehicle Liability Insurance: The Contractor shall procure and shall maintain during the life of this contract Contractor's Public Liability Insurance, Contractor's Property Damage Insurance and Vehicle Liability Insurance in the amounts specified in the Supplemental General Conditions.

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- (c) Subcontractor's Public Liability and Property Damage Insurance and Vehicle Liability Insurance: The Contractor shall either (1) require each of his Subcontractors to procure and maintain during the life of his subcontract, Subcontractor's Public Liability and Property Damage Insurance and Vehicle Liability Insurance of the type and in the amounts specified in the Supplemental General Conditions specified in subparagraph (b) hereof, or (2) insure the activities of this policy, specified in subparagraph (b) hereof.
- (d) Scope of Insurance and Special Hazards: The insurance required under subparagraphs (b) and (c) hereof shall provide adequate protection for the Contractor and his Subcontractors, respectively, against damage claims which may arise from operations under this contract, whether such operations be by the insured or by anyone directly or indirectly employed by him and, also against any of the special hazards which may be encountered in the performance of this contract as enumerated in the Supplemental General Conditions.
- (e) Proof of Carriage of Insurance: The Contractor shall furnish the Owner with certificates showing the type, amount, class of operations covered, effective dates and date of expiration of policies. Such certificates shall also contain substantially the following statement; "The insurance covered by this certificate will not be canceled or materially altered, except after ten (10) days written notice has been received by the Owner." The City of New Britain must be shown on the certificate(s) as "Additional Insured".

### **29. Contract Security**

The Contractor shall furnish a performance bond in an amount at least equal to one hundred percent (100%) of the contract prices as security for the faithful performance of this contract and also a payment bond in an amount not less than one hundred percent (100%) of the contract price or in a penal sum not less than that prescribed by State, territorial or local law, as security for the payment of all persons performing labor on the project under this contract and furnishing materials in connection with this contract. The performance bond and the payment bond may be in one or in separate instruments in accordance with local law.

### **30. Additional or Substitute Bond**

If at any time the Owner for justifiable cause shall be or become dissatisfied with any Surety or Sureties, then upon the Performance or Payment Bonds, the Contractor shall within five (5) calendar days after notice from the Owner so to do, substitute an acceptable bond (or bonds) in such form and sum and signed by such other Surety or Sureties as may be satisfactory to the Owner. The premiums on such bond shall be paid by the Contractor. No further payments shall be deemed due nor shall be made until the new Surety or Sureties shall have furnished such an acceptable bond to the Owner.

**31. Assignments**

The Contractor shall not assign the whole or any part of this contract or any monies due or to become due hereunder without written consent of the Owner. In case the Contractor assigns all or part of any monies due or to become due under this contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any monies due or to become due to the Contractor shall be subject to prior claims of all persons, firms and corporations of services rendered or materials supplied for the performance of the work called for in this contract.

**32. Mutual Responsibility of Contractors**

If, through acts of neglect on the part of the Contractor, any other Contractor or any Subcontractor shall suffer loss or damage on the work, the Contractor agrees to settle with such other Contractor or Subcontractors by agreement or arbitration if such other Contractor or Subcontractor will so settle. If such other Contractor or Subcontractor shall assert any claim against the Owner on account of any damage alleged to have been sustained, the Owner shall notify the Contractor, who shall indemnify and save harmless the Owner against any such claim.

**33. Separate Contract**

The Contractor shall coordinate his operations with those of other Contractors. Cooperation will be required in the arrangement for the storage of materials and in the detailed execution of the work. The Contractor, including his Subcontractors, shall keep informed of the progress and the detail work of other Contractors and shall notify the Architect/Engineer immediately of lack of progress or defective workmanship on the part of other Contractors. Failure of a Contractor to keep informed of the work progressing on the site and failure to give notice of lack of progress or defective workmanship by others shall be construed as acceptance by him of the status of the work as being satisfactory for proper coordination with his own work.

**34. Subcontracting**

- (a) The Contractor may utilize the services of specialty Subcontractors on those parts of the work which, under normal contracting practices, are performed by specialty Subcontractors.
- (b) The Contractor shall not award any work to any Subcontractor without prior written approval of the Owner, which approval will not be given until the Contractor submits to the Owner a written statement concerning the proposed award to the Subcontractor, which statement shall contain information as the Owner may require.
- (c) The Contractor shall be as fully responsible to the Owner for the acts and omissions of his Subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.
- (d) The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind Subcontractors to the Contractor by the



terms of the General Conditions and other Contract Documents insofar as applicable to the work of Subcontractors and to give the Contractor the same power as regards terminating any subcontract that the Owner may exercise over the Contractor under any provision of the Contract Documents.

- (e) Nothing contained in this contract shall create any contractual relation between any Subcontractor and the Owner.

### **35. Architect/Engineer's Authority**

The Architect/Engineer shall give all orders and directions contemplated under this contract and specifications, relative to the execution of the work. The Architect/Engineer shall determine the amount, quality, acceptability, and fitness of the several kinds of work and materials which are to be paid for under this contract and shall decide all questions which may arise in relation to said work and the construction thereof. The Architect/Engineer's estimates and decisions shall be final and conclusive, except as herein otherwise expressly provided. In case any question shall arise between the parties hereto relative to said contract or specifications, the determination or decision of the Architect/Engineer shall be a condition precedent to the right of the Contractor to receive any money or payment for work under this contract affected in any manner or to any extent by such question.

The Architect/Engineer shall decide the meaning and intent of any portion of the specifications and of any plans or drawings where the same may be found obscure or be in dispute. Any differences or conflicts in regard to their work which may arise between the Contractor under this contract and other Contractors performing work for the Owner shall be adjusted and determined by the Architect/Engineer.

### **36. Stated Allowances – DOES NOT APPLY**

~~The Contractor shall include in his proposal the cash allowances stated in the Supplemental General Conditions. The Contractor shall purchase the "Allowed Materials" as directed by the Owner on the basis of the lowest and best bid of at least three competitive bids. If the actual price for purchasing the "Allowed Materials" is more or less than the "Cash Allowance," the contract price shall be adjusted accordingly. The adjustment in contract price shall be made on the basis of the purchase price without additional charges for overhead, profit, insurance or any other incidental expenses. The cost of installation of the "Allowed Materials" shall be included in the applicable sections of the Contract Specifications covering this work.~~

### **37. Use of Premises and Removal of Debris**

The Contractor expressly undertakes at his own expense:

- (a) to take every precaution against injuries to persons or damage to property;
- (b) to store his apparatus, materials, supplies and equipment in such orderly fashion at the site of the work as will not unduly interfere with the progress of his work or the work of any other contractor's;

- (c) to place upon the work or any part thereof only such loads as are consistent with the safety of that portion of the work;
- (d) to clean up frequently all refuse, rubbish, scrap materials, and debris caused by his operations, to the end that at all times the site of the work shall present a neat, orderly and workmanlike appearance;
- (e) before final payment to remove all surplus material, false- work, temporary structures, including foundations thereof, plant of any description and debris of every nature resulting from his operations, and to put the site in a neat, orderly condition;
- (f) to affect all cutting, fitting or patching of his work required to make the same to conform to the plans and specifications and, except with the consent of the Architect/ Engineer, not to cut or otherwise alter the work of any other Contractor.

### **38. Lands and Rights-of-Way**

Prior to the start of construction, the Owner shall obtain all lands and rights-of-way necessary for the carrying out and completion of work to be performed under this contract.

### **39. General Guarantee**

Neither the final certificate of payment nor any provision in the Contract Documents, nor partial or entire occupancy of the premises by the Owner, shall constitute an acceptance of work not done in accordance with the Contract Documents or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The Contractor shall remedy any defects in the work and pay for any damage to other work resulting therefrom, which shall appear within a period of one year from the date of final acceptance of the work unless a longer period is specified. The Owner will give notice of observed defects with reasonable promptness.

### **40. Notice and Service Thereof**

Any notice to any Contractor from the Owner relative to any part of this contract shall be in writing and considered delivered and the service thereof completed, when said notice is posted, by certified or registered mail, to the said Contractor at his last given address, or delivered in person to the said Contractor or his authorized representative on the work.

### **41. Provisions Required by Law Deemed Inserted**

Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party the contract shall forthwith be physically amended to make such insertion or correction.

**42. Protection of Lives and Health**

In order to protect the lives and health of his employees under the contract, the Contractor shall comply with all pertinent provisions of the "Manual of Accident Prevention in Construction" issued by the Associated General Contractors of America, Inc., and shall maintain an accurate record of all cases of death, occupational disease, and injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment on work under the contract. He alone shall be responsible for the safety, efficiency, and adequacy of his plant, appliances, and methods, and for any damage which may result from their failure or their improper construction, maintenance, or operation.

**43. Subcontracts**

The Contractor will insert in any subcontracts the sections 52 through 56 contained herein and such other clauses as the City of New Britain may, by instructions, require, and also a clause requiring the Subcontractors to include these clauses in any lower tier subcontracts which they may enter into, together with a clause requiring this insertion in any further subcontracts that may in turn be made.

**44. Equal Employment Opportunity**

During the performance of this contract the Contractor agrees as follows:

- (a) The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- (b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.
- (c) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the labor union or workers' representative of the Contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (d) The Contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

- (e) The Contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the City of New Britain and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.
- (f) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of such rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further contracts or Federally assisted construction contracts, in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (g) The Contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each Subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the City of New Britain may direct as a means of enforcing such provisions, including sanction for noncompliance: Provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendors as a result of such direction by the City of New Britain; the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

**45. Interest of Member of or Delegate to Congress**

No member of or Delegate to Congress, or Resident Commissioner, shall be admitted to any share or part of this contract or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

**46. Other Prohibited Interests**

No official of the Owner who is authorized in such capacity and on behalf of the Owner to negotiate, make, accept or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspection, construction or material supply contract or any subcontract in connection with the construction of the project, shall become directly or indirectly interested personally in this contract or in any part hereof. No officer, employee, architect, attorney, engineer or inspector of or for the Owner who is authorized in such capacity and on behalf of the Owner to exercise any such legislative, executive, supervisory or other similar functions in connection of the project, shall become directly or indirectly interested personally in this contract or in any part thereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the project.

**47. Use and Occupancy Prior to Acceptance by Owner**

The Contractor agrees to the use and occupancy of a portion or unit of the project before formal acceptance by the Owner, provided the Owner:

- (a) Secures written consent of the Contractor except in the event, in the opinion of the Architect/Engineer, the Contractor is chargeable with unwarranted delay in final cleanup of punch list items or other contract requirements;
- (b) Secures endorsement from the insurance-carrier and consent of the Surety permitting occupancy of the building or use of the project during the remaining period of construction; or
- (c) When the project consists of more than one building, and one of the buildings is occupied, secures permanent fire and extended coverage insurance, including a permit to complete construction. Consent of the Surety must also be obtained.

**48. Photographs of the Project**

The Contractor shall furnish videos/ photographs of the project as required under Notice to Contractor.

**49. Suspension of Work**

Should the Owner be prevented or enjoined from proceeding with work either before or after the start of construction by reason of any litigation or other reason beyond the control of the Owner, the Contractor shall not be entitled to make or assert claim for damage by reason of said delay; but time for completion of the work will be extended to such reasonable time as the Owner may be determined will compensate for time lost by such delay with such determination to be set forth in writing.

**50. Withholding of Payments**

The City of New Britain may withhold or cause to be withheld from the Contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics employed by the Contractor or any Sub- contractor on the work the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic employed or working on the site of the work, all or part of the wages required by the contract, the City of New Britain may, after written notice to the Contractor or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

**51. Overtime**

- (a) No Contractor or Subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics, including watchmen and guards, shall require or permit any laborer or mechanic in any workweek in which he is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times his basic rate of pay for all hours worked in excess of forty hours in such workweek, as the case may be;

- (b) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subparagraph (1), the Contractor and any Subcontractor responsible therefor shall be liable to any affected employee for his unpaid wages. In addition, such Contractor and Subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic employed in violation of the clause set forth in subparagraph (1), in the sum of \$10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of forty hours without payment of the overtime wages required by the clause set forth in subparagraph (1).
- (c) Withholding for unpaid wages and liquidated damages. The City of New Britain may withhold or cause to be withheld, from any monies payable on account of work performed by the Contractor or Subcontractor, such sums as may administratively be determined to be necessary to satisfy any liabilities of such Contractor or Subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (2).
- (d) Subcontracts. The Contractor shall insert in any subcontracts and clauses set forth in subparagraphs (a), (b), and (c) of this paragraph and also a clause requiring the Subcontractors to include these clauses in any lower tier subcontracts which they may enter into, together with a clause requiring this insertion in any further subcontracts that may in turn be made.

## **52. Signs**

The General Contractor shall erect a project sign at the project site identifying the project in accordance with the sign details shown on the plans. The project sign shall be substantially in accordance with instructions provided by the City of New Britain, made from 3/4-inch plywood, place in a prominent location, and maintained in good condition until completion of the project. Project sign shall be paid under Item #1220027 – Construction Signs.

## **53. Employment Practices**

The Contractor (1) shall, to the greatest extent practicable, follow hiring and employment practices for work on the project which will provide new job opportunities for the unemployed and underemployed, and (2) shall insert or cause to be inserted the same provision in each construction subcontract.

## **54. Termination for Convenience of the Owner**

- (a) The Owner may terminate performance of work under this contract in whole, or from time to time, in part if the Owner determines that termination is in its best interest. The Owner shall terminate by delivering to the Contractor a Notice of Termination specifying the extent of termination and the effective date.

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- (b) After receipt of a Notice of Termination, and except as directed by the Owner, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due under this clause:
- (1) Stop work as specified in the notice.
  - (2) Place no further subcontracts or orders (referred to as subcontracts in this clause) for materials, services, or facilities, except as necessary to complete the continued portion of the contract.
  - (3) Terminate all subcontracts to the extent they relate to the work terminated.
  - (4) Assign to the Owner, as directed by the Owner, all right, title, and interest of the Contractor under the subcontracts terminated, in which case the Owner shall have the right to settle or pay any termination settlement proposal arising out of those terminations.
  - (5) With approval or ratification to the extent required by the Owner, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts; the approval or ratification will be final for the purposes of this clause.
  - (6) As directed by the Owner, transfer title and deliver to the Owner:
    - (i) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced or acquired for the work terminated, and;
    - (ii) the completed or partially completed plans, drawings, information, and other property that, if the contract had been completed, would be required to be furnished to the Owner.
  - (7) Complete performance of the work not terminated.
  - (8) Take any action that may be necessary, or that the Owner may direct, for the protection and preservation of the property related to this contract that is in the possession of the Contractor and in which the Owner has or may acquire an interest.
  - (9) Use its best efforts to sell, as directed or authorized by the Owner, any property of the types referred to in subparagraph (6) above; provided, however, that the Contractor:
    - (i) is not required to extend credit to any purchaser, and;
    - (ii) may acquire the property under the conditions prescribed by, and at prices approved by, the Owner. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the Owner under this contract, credited to the price or cost of the work, or paid in any other manner as directed by the Owner.
- (c) After expiration of the plant clearance period as defined in Subpart 45.6 of the Federal Acquisition Regulation, the Contractor may submit to the Owner a list, certified as to quantity and quality, of termination inventory not previously disposed of, excluding items authorized for disposition by the Owner. The Contractor may request the Owner to remove those items or enter into an

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agreement for their storage. Within fifteen days, the Owner will accept title to those items and remove them or enter into a storage agreement. The Owner may verify the list upon removal of the items, or if stored, within 45 days of the submission of the list, and shall correct the list, as necessary, before final settlement.

- (d) After termination, the Contractor shall submit a final termination settlement proposal to the Owner in the form and with the certification prescribed by the Owner. The Contractor shall submit the proposal promptly, but no later than 1 year from the effective date of termination, unless extended in writing by the Owner upon written request of the Contractor within this 1-year period. However, if the Owner determines that the facts justify it, a termination settlement proposal may be received and acted upon after 1 year or any extension. If the Contractor fails to submit the proposal within the time allowed, the Owner may determine, on the basis of information available, the amount, if any, due the Contractor because of the termination and shall pay the amount determined.
- (e) Subject to paragraph (d) above, the Contractor and the Owner may agree upon the whole or any part of the amount to be paid because of the termination. The amount may include a reasonable allowance for profit on work done. However, the agreed amount, whether under this paragraph (e) or (f) below, exclusive of costs shown in subparagraph (f)(3), may not exceed the total contract price as reduced by (1) the amount of payments previously made and (2) the contract price of work not terminated. The contract shall be amended and the Contractor paid the agreed amount. Paragraph (f) below shall not limit, restrict, or affect the amount that may be agreed upon to be paid under this paragraph.
- (f) If the Contractor and the Owner fail to agree on the whole amount to be paid because of the termination of work, the Owner shall pay the Contractor the amounts determined by the Owner as follows, but without duplication of any amounts agreed on under paragraph (e) above:
  - (1) The contract price for completed supplies or services accepted by the Owner (or sold or acquired under subparagraph (b)(9) above) not previously paid for, adjusted for any saving of freight and other charges.
  - (2) The total of-
    - (i) The costs incurred in the performance of the work terminated, including initial cost and preparatory expense allocable thereto, but excluding any costs attributable to supplies or services paid or to be paid under subparagraph (f)(1) above;
    - (ii) The cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the terminated portion of the contract if not included in subdivision (i) above; and
    - (iii) A sum, as profit on subdivision (i) above, determined by the Owner under 49.202 of the Federal Acquisition Regulation, in effect on the date of this contract, to be fair and reasonable; however, if it appears that the Contractor would have sustained a loss on the entire contract



## GENERAL CONDITIONS

had it been completed, the Owner shall allow no profit under this subdivision (iii) and shall reduce the settlement to reflect the indicated rate of loss.

- (3) The reasonable costs of settlement of the work terminated, including-
  - (i) Accounting, legal, clerical, and other expenses reasonably necessary for the preparation of the termination settlement proposals and supporting data;
  - (ii) The termination and settlement of subcontracts (excluding the amounts of such settlements); and
  - (iii) Storage transportation and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.
- (g) Except for normal spoilage, and except to the extent that the Owner expressly assumed the risk of loss, the Owner shall exclude from the amounts payable to the Contractor under paragraph (f) above, the fair value, as determined by the Owner, of property that is destroyed, lost, stolen, or damaged so as to become undeliverable to the Owner or to a buyer.
- (h) The cost principles and procedures of Part 31 of the Federal Acquisition Regulation, in effect on the date of the contract, shall govern all costs claimed or agreed to under this clause.
- (i) The Contractor shall have the right of appeal, under the Disputes clause, for any determination made by the Owner under paragraph (d), (f), or (k), except that if the Contractor failed to submit the termination settlement proposal within the time provided in paragraph (d) or (k), and failed to request a time extension, there is no right of appeal. If the Owner has made a determination of the amount due under paragraph (d), (f), or (k), the Owner shall pay the Contractor (1) the amount determined by the Owner if there is no right of appeal or if no timely appeal has been taken, or (2) the amount finally determined on an appeal.
- (j) In arriving at the amount due the Contractor under this clause, there shall be deducted-
  - (1) All unliquidated advanced or other payments to The Contractor under the terminated portion of this contract;
  - (2) Any claim which the Owner has against the Contractor under this contract; and
  - (3) The agreed price for, or the proceeds of sale of, materials, supplies or other things acquired by the Contractor or sold under the provisions of this clause and not recovered by or credited to the Owner.
- (k) If the termination is partial, the Contractor may file a proposal with the Owner for an equitable adjustment of the price(s) of the continued portion of the contract. The Owner shall make any equitable adjustment agreed upon. any proposal by the Contractor for an equitable adjustment under this clause shall be requested within

90 days from the effective date of termination unless extended in writing by the Owner.

- (l)
  - (1) The Owner may, under the terms and conditions it prescribes, make partial payments and payments against incurred by the Contractor for terminated portions of the contract, if the Owner believes the total of these payments will not exceed the amount to which the Contractor will be entitled.
  - (2) If the total payments exceed the amount finally determined to be due, the Contractor shall repay the excess to the Owner upon demand, computed with interest at the rate established by the Secretary of the Treasury under 50 U.S.C. App. 1215(b)(2). Interest shall be computed for the period from the date the excess payment is received by the Contractor to the date the excess is repaid. Interest shall not be charged on any excess payment due to a reduction in the Contractor's termination proposal because of a retention or other disposition of termination inventory until 10 days after the date of retention or disposition, or a later date determined by the Owner because of the circumstances.
- (m) Unless otherwise provided for in this contract or by statute, the Contractor shall maintain all records and documents relating to the terminated portion of this Contract three years after final settlement. This includes all books and other evidence bearing on the Contractor's costs and expenses under this contract. The Contractor shall make these records and documents available to the Owner, at the Contractor's office, at all reasonable times, without any direct charge. If approved by the Owner, photographs, microphotographs, or other authentic reproductions may be maintained instead of original records and documents.

## **55. Ordinance Compliance**

Submission of a bid in response to this solicitation indicates that the Contractor understands and agrees to the terms of this section. Contractor shall comply with City of New Britain Code of Ordinances, Section 2-580, provisions following:

- (1) The contractor shall hire residents of the city to perform the necessary labor where possible.
- (2) In the event the contractor is restricted by labor contracts, or the required specific skills are not available in the city, the contractor may hire tradesmen and laborers who reside outside the city.
- (3) In contracts for new construction of any public works project where the total cost of all work to be performed by all contractors and subcontractors exceeds four hundred thousand dollars (\$400,000) and in contracts for remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public works project where the total of all work to be performed by all contractors and subcontractors exceeds one hundred thousand dollars (\$100,000), all tradesmen and laborers hired to perform under the contract shall be paid at the prevailing rates for the same work in the same trade in the city and shall receive the fringe benefits normally offered at that time

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for the particular trade. "Prevailing rates" as used herein shall mean the latest rates published by the state labor department unless otherwise required to qualify for a federal grant pertaining to the contract.

As used herein, the term "contractor" shall include the general or prime contractor and shall include subcontractors performing work under the contract.

- (4) All workers furnishing the goods and services in connection with the construction shall be properly classified as employees rather than independent contractors, causing them to be treated accordingly for the purposes of pay, benefits, workers' compensation insurance coverage, social security taxes and income tax withholding.
- (5) In contracts where the total cost of all work to be performed exceeds one hundred thousand dollars (\$100,000) and in all cases wherein one or more apprentices are employed, the employer shall be affiliated with a state-certified apprenticeship program.
- (6) If a contractor signing a contract required under this subsection is found to have violated the provisions of this contract, it shall, if already paid by the City, reimburse to the City one percent of the payment that would have otherwise been owed by the City for every count of violation found. If a contractor signing a contract required under this subsection is found to have violated the provisions the contract and it has not already been paid by the City, the City shall withhold from payment one percent of the payment that would have otherwise been owed by the City for every count of violation found. For these purposes, each day of violation and each worker affected shall be deemed a separate count. Each construction contract entered into by the city shall recite that the contractor understands and agrees to the terms of this section.
- (7) As used herein, the term "contractor" shall include the general or prime contractor and shall include subcontractors performing work under the contract.

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23. SNOW REMOVAL

24. INCLEMENT AND FREEZING WEATHER CONDITIONS

25. FINAL INSPECTION AND CERTIFICATE OF COMPLETION

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27. FINAL PAYMENT AND LIENS

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29. ARBITRATION AND LITIGATION

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37. SHEETING, SHORING AND BRACING

38. COMPLIANCE WITH LAW

39. TERMINATION FOR CONVENIENCE OF THE CITY

□

## **1. Selected Definitions**

The following lists of selected definitions are included to supplement and amend those established in Section 1.01 of the reference specification "Form 816"; and said Section 1.01 is hereby made a part of this Article by Reference (including the abbreviations included therein).

Throughout these Contract Documents, the intent and meaning of the use of the following terms, or pronouns in place of them, shall be interpreted as follows (Note: the use of gender-specific pronouns or titles throughout the Contract Documents is for the sake of brevity, and are intended to refer to persons of either sex):

**Bid** - The offer or proposal of a Bidder submitted on the prescribed form, and in accordance with the provisions of the Bid Documents, setting forth the prices for the Project work.

**Bid Documents** - The documents, as issued by the Owner, enumerated in Article 3 of the Instructions to Bidders, from which, and in accordance therewith, the prospective Bidders are to base their respective Bids. All uses of the term "Contract Documents" shall be interpreted to mean the Bid Documents prior to Contract execution.

**Bid item** - An item of work specifically described in the Bid for which a price, either unit or lump sum, is provided.

**Bidder** - Any legal entity submitting a bid for the Project work.

**Contract** - The written agreement between the Owner and the Contractor regarding the prosecution of the Project work.

**Contract Documents** - The set of documents which form the written agreement between the Owner and the Contractor. The Contract Documents consist of the documents enumerated in Article 3 of the Contract together with any documents issued subsequent to the execution of the Contract which become a part of the Contract Documents in accordance with the provisions of said enumerated documents. All uses of the term "Bid Documents" shall be interpreted to intend and mean the Contract Documents following execution of the Contract.

**Contract Drawings** - The official drawings of any and every kind, or reproductions thereof, having been provided and/or approved by the Engineer, which show the location, character, dimensions, or details of the Project Work. Use of the term "**Drawings**" within these Contract Documents, or otherwise related to the Contract, shall refer to and mean the Contract Drawings.

**Contract Price** - As defined in Article 2 of the Contract. Use of the term "**Contract Amount**" within these Contract Documents, or otherwise related to the Contract, shall refer to and mean the Contract Price.

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**Contract Time** - The number of calendar days allowed for completion of the Project as set forth by the Contract, plus any authorized time extensions. In case of a calendar date of completion being specified in the Contract in lieu of a number of calendar days, the Contract Time shall mean the period of time between the issuance of the Notice to Proceed and said calendar date; and the Project shall be completed by said calendar date. Use of the term "**Time of Completion**" within these Contract Documents or otherwise related to the Contract shall refer to and mean the Contract Time.

**Contractor** - The legal entity so designated in the Contract, and who shall undertake the prosecution of the Project work in accordance with the terms of the Contract Documents, acting directly or through a duly authorized representative. The Contractor shall have control over the Project Work and the prosecution thereof, subject to the applicable provisions of the Contract Documents.

**Engineer** - The Director of Engineering of the City of New Britain, also known as the "City Engineer", or the person duly acting in that capacity, acting directly or through his designated representative(s) to the extents defined by the Contract Documents.

**Extra Work** - Any Project Work not included in or contemplated by the Contract Drawings or Specifications, or any other Contract Documents, but found essential to the satisfactory completion of the Project within its intended scope. By this definition, extra work involves a change to the Project Work, and therefore is covered by Article 17 of the General Conditions. Extra work for which a Change Order is not established in accordance with the provisions of said Article 17 shall be considered as unauthorized work.

**Form 817** - The State of Connecticut Department of Transportation "Standard Specifications for Roads, Bridges and Incidental Construction, Form 817" together with the most recent "Supplemental Specifications" thereto.

**Improvement Plans** - The set of Contract Drawings, as designated in Article 2 of the Special Provisions, which have been prepared by or for the Engineer, and approved thereby, to show work and facilities specific to the Project; and which have been included in the Bid Documents. The Improvement Plans are issued as a set, and are included in the Bid Documents and/or Contract Documents as such. Use of the terms "**Plans**" or "**Improvement Drawings**" within these Contract Documents, or otherwise related to the Contract, shall refer to and mean the Improvement Plans.

**Owner** - The City of New Britain, acting through the City Purchasing Agent, and represented by the Director of the City department for which the Project is being performed, or his authorized representative.

**Project** - All activities and work contemplated and/or completed in association with the construction, modifications, repairs, and removal of facilities and/or features designated within and intended by the Contract Documents.

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**Project Site** - The physical location of the facilities and/or features to be constructed, modified, repaired, or removed under the Project, and the area surrounding the same that is reasonably necessary for such construction, modifications, repairs, or removal. The construction limit line as designated on the Improvement Plans, if so designated, define the limits of the Project Site.

**Project Work** - The furnishing of all labor, materials, equipment, and incidentals necessary or convenient to the successful completion of the Project and the fulfillment of the duties and obligations imposed upon the Contractor by the Contract Documents.

**Specifications** - The minute descriptions of the details of the construction of various aspects of the Project Work which serve to complement the Contract Drawings. Such descriptions include, but are not limited to, the type, quality, and quantity of materials to be used, the methods and manner of performance of the work to be used, and the methods of measurement and payment to be used for the Project Work.

The Specifications consist of the **Special Technical Specifications**, a set of specifications created and/or compiled specifically for this Project; the **Reference Specifications**, as designated in Article 29 of the Instructions to Bidders; and any other document, or appropriate portion thereof, issued to the Contractor by the Engineer which serves the function of a specification as defined in the preceding paragraph.

**Standard Specifications** - The most recent edition of the "City of New Britain Standard Specifications for Municipal Construction"

**Supervision** - Where used to indicate supervision by the Engineer, supervision shall mean, and be limited to, the performance of obligations imposed upon and the exercise of rights granted to the Engineer by the Contract Documents, specifically including, but not limited to, those set forth in Articles 4 and 5 of these Supplemental General Conditions.

Where used to indicate the supervision by the Contractor, supervision shall mean the Contractor exercising his control over and proper superintendence of the Project Work and performing his obligations and responsibilities as set forth by the Contract Documents with respect to the Project Work and the prosecution thereof.

**Unauthorized Work** - Any work performed by the Contractor in association with the Project which qualifies as, is considered as, or is designated as unauthorized in accordance with the provisions of the Contract Documents. The Owner reserves the right to accept, make payment for, reject, and/or to order the Contractor to remove, repair, and/or replace all such work at his sole option. The Contractor shall be liable for any and all expenses associated with the inspection, removal, repair, and/or replacement of unauthorized work.



## **2. Insurance Requirements**

The Contractor shall not commence work under this contract until he has obtained all necessary insurance and has filed certificates of insurance with the City. Each insurance policy shall contain a clause providing that the City must be notified sixty (60) days in advance in the event of any restrictive amendment, cancellation, or non-renewal.

The form number CON-32 entitle "CERTIFICATE OF INSURANCE" provide by the State of Connecticut; Department of Transportation shall be the only acceptable form as evidence of insurance and shall state that at a minimum, with respect to the contract, the bidder carries insurance in accordance with the requirements and stipulations listed below.

Insurance must be in effect for the whole duration of the contract and for two (2) years following acceptance of the work by the City.

Failure to provide the required insurance and certificates may, at the option of the City, be held to be a willful and substantial breach of this contract.

The contractor agrees to maintain insurance in force at all times during which services are to be performed, as well as to provide original, completed certificate(s) of insurance to the Purchasing Agent evidencing the following coverages from an insurance company(ies) licensed by the State of Connecticut which have at least an "A-VIII" policyholders rating according to BEST Publications' latest edition of their Key Rating Guide:

|  |  |             |
|--|--|-------------|
| Commercial General Liability:            |  |             |
| General Aggregate                        |  | \$2,000,000 |
| Prod./Compl. Operations Aggregate        |  | \$2,000,000 |
| Occ. Aggregate                           |  | \$1,000,000 |
| Automobile Liability:                    |  |             |
| Liability Limit                          |  | \$2,000,000 |
| Professional Liability                   |  |             |
| Each Claim or Occurrence                 |  | \$1,000,000 |
| Aggregate                                |  | \$1,000,000 |
| Umbrella Excess Liability:               |  |             |
| Each Occurrence                          |  | \$1,000,000 |
| Aggregate                                |  | \$1,000,000 |
| Worker's Comp. and Employer's Liability: |  |             |
| \$500,000 each accident                  |  |             |
| \$500,000 disease policy                 |  |             |
| \$500,000 disease accident limit         |  |             |

## SUPPLEMENTAL GENERAL CONDITIONS

The "City of New Britain", the "Consolidated School District", and the "State of Connecticut" must be named as "Additional Insured". Original, completed Certificates of Insurance must be presented to the Purchasing Agent prior to purchase order/contract issuance. The Contractor agrees to provide replacement/renewal certificates at least 60 days prior to the expiration of the policy. Should any of the above described policies be cancelled before the expiration date, written notice must be made to the City 30 days prior to cancellation.

If any policy is written on a "Claims Made" basis, the policy must be continually renewed for a minimum of two (2) years from the completion date of this contract. If the policy is replaced and/or the retroactive date is changed, then the expiring policy must be endorsed to extend the reporting period for claims for the policy in effect during the contract for two (2) years from the completion date.

These certificates must be presented to the Purchasing Agent prior to execution of the contract or issuance of the purchase order.

Failure to provide the required insurance and certificates may, at the option of the City, be held to be a willful and substantial breach of this contract.

### **3. Minimum Wage Requirements**

The Contractor shall pay all tradesmen and laborers hired to perform work under the Contract not less than the prevailing Federal (if applicable) and State of Connecticut wage rates, including benefits, as set forth in the Bid Requirements and Conditions Document.

### **4. Engineer - Authorities and Duties**

All work performed under this Contract is subject to the supervision of the Engineer on behalf of the Owner. The Engineer has the authority to enforce compliance with the Contract Drawings, Specifications, and all other Contract Documents, in all respects.

The Engineer shall decide all questions and disputes regarding the interpretation of the Drawings, Specifications, and other Contract Documents; as well as those regarding the quality and acceptability of materials furnished, work performed, manner of performance, rates of progress, and compliance with and acceptable fulfillment of all terms of the Contract, including compensation due thereunder. The Engineer shall also have the authority to, at his discretion; determine the points and times at which the Contractor may begin various aspects of the work and the order in which the work shall be prosecuted when the specific determination of the same is deemed to be in the best interest of the Owner.

## SUPPLEMENTAL GENERAL CONDITIONS

The Engineer shall determine the amount and quality of work successfully completed by the Contractor at any time. His estimate of such completed work shall be basis for all payments by the Owner to the Contractor as compensation for Project Work completed.

All estimates and decisions of the Engineer shall be conclusive and final, except as otherwise expressly provided in the Contract Documents. In the case of the dispute of any estimate and/or decision of the Engineer by the Contractor, and proper assertion of the same in accordance with Articles 29 and 30 of these Supplemental General Conditions, such estimates and decisions of the Engineer shall not be final, but shall control until the subject dispute is properly and finally resolved. All directions of the Engineer shall be promptly and diligently carried out by the Contractor.

The Engineer shall also have all other authorities and duties as stated in the Contract Documents.

For certain projects, the Director of Engineering may designate, in writing to the Contractor, a Project Engineer, who shall be a supervisory staff person of the Bureau of Engineering. The Project Engineer shall have the authority to act as and for the Director of Engineering in all matters governed by the Contract Documents, with the exception of the Acceptance and Award of Contract and the issuance of the Certificate of Completion.

For all projects, the Director of Engineering shall designate a Project Inspector. The authorities and duties of the Project Inspector shall be as stated in Article 5 of these Supplemental General Conditions. The Engineer shall also enjoy all powers and authorities granted to the Project Inspector by said Article 5, and otherwise granted by the Contract Documents.

### **5. Inspection**

All materials furnished, equipment, facilities, and methods used, and work performed by the Contractor under this Contract, including any sampling and testing deemed necessary by the Engineer, is subject to inspection by the Project Inspector, and to the approval of the Engineer. The Contractor shall cooperate in all respects and provide any assistance and/or facilities as requested in the Project Inspector's efforts to perform such inspections. The Project Inspector is performing his duties under the direction of the Engineer and solely at the behest of and on behalf of the Owner; and solely for the purpose of protecting the Owner's interest in having the Project work performed in accordance with the Contract Documents.

The presence of the Project Inspector, or lack thereof, at the project site, or the inspection, or lack thereof, by the Project Inspector of any Project work performed by the Contractor, does not in any way release the Contractor from, or in any way alter, his responsibility for strict compliance with all requirements of the Drawings, Specifications, and other Contract Documents. In case of any dispute arising between the Contractor and the Project Inspector regarding the materials furnished, the manner of performing

## SUPPLEMENTAL GENERAL CONDITIONS

the work, or any other matter relating to the Contractor's compliance with the Contract Documents which may adversely affect work in progress, the Project Inspector has the authority to reject the material or stop the work until the question at issue can be referred to, and decided by, the Engineer. The Project Inspector is not authorized to revoke, alter, enlarge, relax or release any requirements of the Contract Documents nor to approve or accept any portion of the work, nor to issue instructions contrary to the Contract Documents. The Project Inspector shall in no case act as foreman or perform other duties for the Contractor. Any advice which the Inspector may give to the Contractor shall not be construed as binding the Engineer nor the Owner in any way, nor as in any way releasing the Contractor from fulfillment of the terms of the Contract Documents.

The Contractor shall keep the Project Inspector properly notified, to the satisfaction of the Project Inspector, of the time and place that he intends to perform any aspect of the work. Prior to commencing the Project Work, or any subject portion thereof, the Contractor shall obtain from the Engineer either directly or through the Project Inspector pertinent information and requirements regarding the level, methods, and frequency of inspection anticipated for any aspect of the work. The Contractor shall fully comply with the same and shall make adjustments to his scheduling and methods for the work accordingly. The Engineer may change said level, methods, and frequency of inspection required for any aspect of the work at any time as deemed fit to adjust for actual levels and variations in the material conditions, working conditions, or workmanship; and the Contractor shall comply with any such changes.

The Engineer may not deem it necessary for the Project Inspector to be present at the project site at all times when project-related activities are taking place. The Contractor is reminded; however, that all work performed is subject to inspection and of his obligation to comply with the inspection requirements set forth in the previous paragraph. Any work performed in the absence of the Project Inspector is done at the Contractor's own risk, and shall be considered unauthorized. The Contractor is especially cautioned regarding the performance of unauthorized work which may not be readily inspected at a later time, including, but not limited to, underground utility installations, placement of base, fill and backfill, and concrete reinforcing and form work; and regarding the performance of subsequent work which may render previously performed unauthorized work difficult to inspect, or which may have to be removed and replaced in order to correct previously performed unauthorized work which may be found unacceptable by the Engineer.

The Contractor shall deliver, or have delivered, promptly to the Project Inspector copies of all written correspondence relating to the project from the Contractor. All oral correspondence between the Contractor and the Engineer regarding the project shall be directed through the Project Inspector, be conducted in the presence of the Project Inspector, or specific arrangements must be made between the Contractor and the Engineer to inform the Project Inspector of the proceedings of the correspondence.

**6. Superintendence by Contractor**

The Contractor shall, at all times during the occurrence of project activities, have present at the project site, as the Contractor's agent, a competent representative thoroughly experienced in the type of work being performed, who shall be termed the "Project Superintendent".

The Project Superintendent shall have full authority to act for the Contractor in supervision of the Project Work as well as in all other matters relating to the Project Work, to receive directions and orders from the Engineer, to promptly execute and carry out said directions and orders within the terms of the Contract Documents, and to supply all materials, equipment, tools, labor, and incidentals as may be required to appropriately perform the Project work. If the Contractor chooses, an alternate representative to act in place of the Project Superintendent in his absence may be designated. Said alternate shall have similar qualifications and equal authority to act as the Contractor's agent as does the Project Superintendent and all references to the Project Superintendent herein apply likewise to the alternate when acting in such capacity.

The Project Superintendent and alternate are subject to the review of the Engineer. The name and qualifications of the proposed Project Superintendent and alternate shall be submitted to the Engineer prior to the commencement of work under the Contract by the Contractor. The Project Superintendent and alternate shall have the appropriate training and knowledge to be considered a "competent person" under the OSHA standards, regulations, instructions, and/or other guidelines applicable for, as a minimum, excavations and confined spaces.

The Project Superintendent shall remain in that capacity for the entirety of the Contract, or until his termination of employment with the Contractor or until his removal from such capacity is agreed to, in writing, by the Engineer. Should the Project Superintendent leave the employment of the Contractor, or otherwise be relieved of his duties as Project Superintendent, during the Contract, the alternate, if designated, shall become the Project Superintendent. If no alternate has been designated, the Contractor shall propose a new Project Superintendent to the Engineer for review through the proper submittal.

In the event that the Project Superintendent is absent from the project site, or cannot be rendered present at the location of certain subject work in a reasonable time, the Project Inspector has the authority to halt for reason of lack of superintendence, and until such time as proper superintendence is again provided, any work for which he may question the materials, workmanship, or other factor which may result in a final product not meeting the requirements of the Contract Documents. Any work performed while the Project Superintendent is absent from the project site shall be considered unauthorized due to lack of superintendence; and, therefore, the Contractor will be due no additional compensation for any additional work, down time, or delays as a result

thereof, including any additional work, delays, or down time which may be a result of the Project Inspector halting work in accordance with this Article.

If, in the opinion of the Engineer, a communication problem develops between the Project Superintendent and the Project Inspector due to a language barrier, the Contractor shall take all steps deemed necessary by the Project Inspector, including providing a qualified interpreter, to resolve the problem to the satisfaction of the Project Inspector.

## **7. Character of Workers, Methods, and Equipment**

The Contractor shall at all times employ sufficient labor and equipment for prosecuting the several classes of work to full completion in the manner and time required by the Contract Documents.

All workers shall have sufficient skill and experience to perform properly the work assigned to them, including the operation of equipment and other specialty or skilled tasks. Any person employed by the Contractor who, in the opinion of the Engineer, does not perform his work in a proper and skillful manner, or who is intemperate, disorderly, or non-courteous toward the public, or who in any way endangers person or property by performing his duties with less than appropriate care, shall, at the direction of the Engineer, be removed from the job forthwith by the Contractor, and shall not be employed again on any portion of the work without the written approval of the Engineer. Upon request, the Engineer shall confirm in writing any such oral direction.

The Contractor shall neither permit nor allow the introduction or use of intoxicating liquors or drugs upon or about the project site by any persons under their control or responsibility during performance of project work; nor shall they permit or allow any person under their control or responsibility to perform any project work while under the influence of any intoxicating liquor or drug.

All equipment used on the work shall be in safe operating condition and shall be capable of performing its intended uses safely. The Contractor is solely responsible for the safety of all equipment used on Contract work and the manner in which it is used.

All equipment which is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet the requirements of the work and to produce a satisfactory quality of work in a timely manner. Equipment used on any portion of the project shall be such that its use or transportation will not cause any damage or injury to roadways or property; and shall be in accordance with all applicable laws, regulations, and restrictions. The Contractor shall remove no plant, materials, equipment, or other facilities from the project site without the Engineer's permission.

When the methods or equipment to be used by the Contractor in accomplishing the various aspects of the construction are not specified in the Contract Documents, the Contractor is free to utilize any methods or equipment that will accomplish the Project

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work in conformity with the requirements of the Contract Documents. When the methods or equipment anticipated or proposed for use by the Contractor are other than may be specified in the Contract Documents or are other than is standard practice in Connecticut, or when the Engineer may inquire as to the methods or equipment anticipated for use, the Contractor shall demonstrate to the satisfaction of the Engineer that the subject methods or equipment will accomplish the Project work in conformity with the Contract Documents by means including, but not limited to, providing references, documentation, and demonstrations. Should the Engineer deem that any method or equipment in use by the Contractor is not satisfactory, i.e. that it does not, or will not, result in work conforming with the Contract Documents, the Contractor shall cease using the subject method or equipment and shall propose an alternative to the Engineer's satisfaction.

Should the Contractor continue to use any method or equipment subsequent to being notified of the Engineer's deeming the same not satisfactory, any work resulting or affected thereby shall be considered unauthorized subject to all restrictions and limitations accorded unauthorized work by the Contract Documents.

In the event the Contractor fails to remove from the Project site any person or unsafe equipment as required by the Engineer, or fails to furnish suitable and/or sufficient personnel for the proper prosecution of the work, the Engineer may suspend the work by written notice until such orders are complied with.

### **8. Subcontracting**

- (a) In all matters relating to the Contract and enforcement of the provisions of the Contract Documents, with the exception of subarticles (c), (d), and (e) below, any subcontractors utilized to perform Contract work shall be considered employees of the Contractor; and their work shall be subject to the provisions of the Contract Documents as such. Any use of the term "subcontractor", or reference to subcontractors or subcontracting contained in the Contract Documents is strictly for convenience of the Owner and Contractor in distinguishing between regular employees of the Contractor and legal entities subcontracted by the Contractor to specifically perform work on this Project.
- (b) In accordance with the preceding paragraph, the Contractor shall be responsible for the performance, finished products, acts and omissions of his subcontractors, and of persons either directly or indirectly employed thereby, in all respects in matters relating to the Contract and applicable provisions of the Contract Documents.
- (c) Prior to execution of the Contract, the Contractor shall furnish the Engineer with a list of all subcontractors proposed to perform work on the Project, together with the extents of the work to be performed thereby. Accompanying the list, the Contractor shall include a statement of qualifications, including related experience and listing projects involving similar work successfully completed, for

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those subcontractors proposed to perform major categories of the Project Work. The Contractor shall furnish all necessary City and State paperwork associated with the hiring of Subcontractors including but not limited to CLA-12's, Form 6 from Municipal Manual, etc.

- (d) The Engineer has the authority to reject, for reason of insufficient experience, unsatisfactory past performance, or any other legitimate reason which may bring into question the proposed subcontractor's successful performance of the subject work, the use of any specific subcontractor to perform Project work; and the Contractor shall abide by the same. The Contractor shall provide the Engineer with any additional information requested to assist in the evaluation of the proposed subcontractors.
- (e) The Contractor shall maintain said list of subcontractors up-to-date throughout the Project; and shall provide the Engineer with an updated copy in every instance that said list is revised. Any proposed changes to the list, following Contract execution, shall be submitted to and approved by the Engineer prior to any subcontractor not listed on the current active list held by the Engineer performing any Project work. The Engineer may require information as set forth in subarticles (c) and (d) above to assist in his evaluation of any additional subcontractors or duties proposed to be added to the list, and the Contractor shall supply the same.
- (f) Nothing contained within the Contract Documents shall create, is intended to create, or should be construed to create a contractual relationship of any kind between the Owner and any subcontractor.

### **9. Construction Surveying / Layout**

Unless otherwise designated in the Special Provisions, the Contractor is responsible for all construction surveying, staking, and layout as is necessary and/or is typically required for the prosecution of the work in accordance with the Contract drawings and specifications. The Engineer shall establish bench marks and reference points as deemed necessary by the Engineer for the Contractor to meet this responsibility. The Contractor is liable for the protection of said bench marks and reference points, as well as for any existing property corner markers located within the project site; and the Project Surveyor shall reset or replace, at the Contractor's expense, any of the same that are removed, lost, destroyed, or in any way damaged or disturbed during the prosecution of the Project Work. The Contractor assumes full responsibility for the accuracy, relative to the provided bench marks and reference points, for all dimensions and elevations measured and/or derived from the same; and it is the Contractor's responsibility to verify all such dimensions and elevations.

If so called for in the Special Provisions, the Contractor shall designate a Project Surveyor. The designation thereof, and the associated functions, duties, and



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responsibilities thereof, shall be in accordance with the provisions of the subject Article of the Special Provisions.

Except where separate bid items are included for all or portions of such work, all construction surveying and layout work shall be considered as included in, and incidental to, the prices bid for the various bid items in the Contract Documents.

### **10. Permits and Regulations**

The Contractor shall procure and pay for all permits and licenses necessary for the execution of his work and the use of such work when completed.

The Contractor shall comply with all laws, ordinances, rules and regulations relating to the performance of the work, the protection of the adjacent property and the maintenance of passageways, guard fences or other protective facilities.

The Contractor shall, at his own expense, secure and pay to the appropriate departments (Board of Public Works, New Britain Water Department, Building Department) of the City of New Britain or State of Connecticut, the fees or charges for all permits for street excavations, pavements, sidewalks, curbs, sealing of house connection drains, pavement cuts, building, electrical, plumbing, water, subway (underground electric and telephone) and sanitary and storm water sewer permits required by the regulatory body of any of its agencies. The Contractor's attention is called to the fact that the City Engineer's office has a list of all State maintained streets which is readily available to the Contractor for inspection.

The Contractor shall comply with the applicable local laws and ordinances governing the disposal of surplus excavation, materials, debris and rubbish on or off the Project Area and commit no trespass on any public or private property in any operation due to or connected with the improvements embraced in this Contract.

### **11. Access Considerations**

The Contractor shall conduct his work at all times and use all practical means available to minimize the interference to traffic, both vehicular and pedestrian, and the inconvenience and discomfort of adjacent residents and property owners and the general public. Except as otherwise provided for in the Special Provisions, vehicular access, as may be restricted by the prosecution of the Project work, will be maintained at all times to all adjacent or abutting properties, except when necessary construction precludes such access for reasonable periods of time. Pedestrian access shall be maintained to all adjacent or abutting properties at all times. Emergency access to all structures and emergency facilities shall be maintained at all times. In the event that Construction activities cause vehicular access to any property to be interrupted for more than, in the opinion of the Engineer, a reasonable time, the Contractor shall construct, or make other arrangements for, reasonably equivalent access to such property to the satisfaction of the Engineer.

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In the maintenance and protection of traffic, the Contractor shall abide by, in order of preference and subject to all applicable laws, 1) the rules, regulations, and directions of the New Britain Police Department, 2) the applicable provisions of the most recent edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways", (MUTCD) and any supplements thereto, as published by the Federal Highway Administration of the U.S. Dept. of Transportation, 3) any directives of the Engineer, and 4) the applicable provisions of the Contract Documents.

The Contractor shall supply, maintain, and incorporate into the Project such barricades, warning lights, and directional, informational, warning, construction, and other signage, as well as any other safety precautions, as may be required, necessary, or prudent for the protection and safety of person, property, Project work and workers; and as may be required, necessary, or prudent to the maintenance of traffic flows and access in clear and convenient means (as is practical). The Contractor is referred to said MUTCD regarding the proper selection, placement, and usage of many such devices and precautions.

The Contractor is hereby notified that the New Britain Police Department may require the presence of police officers for the purpose of safety and traffic control at any location where construction activities affect a public street and the flow of traffic thereon. The Contractor is responsible for 1) contacting the traffic division of the Police Department at 826-3000 to properly notify them of the pending construction to determine what level of police presence may be required and arranging for the same, and 2) paying all costs to the Police Department for the same. Unless the necessity for police presence was not contemplated in the Project at the time of Contract execution, or by any Change Order thereafter, and is the result of the Contractor's actions or inactions, the Contractor shall be appropriately reimbursed for all such costs by the Owner.

The Contractor shall cooperate with the various parties involved in the delivery of mail, school transportation, and the collection and removal of trash and recyclables to maintain existing schedules for these services.

If a bid item for "Maintenance and Protection of Traffic" and/or other related bid items are included in the Contract, all work required or performed, and the associated expenses incurred, in accordance with the provisions of this Article are considered to be included as a part of such bid items. If there are no such bid items, or if the project is bid lump sum, all work required or performed, and the associated expenses incurred, in accordance with the provisions of this Article are considered to be part of the project work as bid, and therefore are considered as included in the price bid for the various Bid items. The Contractor shall be due no additional compensation as a result of any work performed or expenses incurred in accordance with this Article.

## **12. Protection of Person and Property**

The Contractor is responsible and liable for the protection and care of persons and property from harm or injury within the Project Site and otherwise related to his prosecution of the Project Work. The Contractor shall exercise proper precaution at all times for said protection and care of persons and property from harm or injury as a result of the Contractor's actions, or inactions, both on and off the Project site.

The Contractor shall at all times comply with the provisions of all applicable Federal, State, and local safety and health laws, codes, and regulations; and shall take such additional safety and health measures he may determine to be necessary for said protection and care, as well as any such measures that the Engineer may deem to be reasonably necessary.

At all times, as required by any applicable OSHA standards, regulations, instructions, and/ or other guidelines, the Contractor shall have at the site of any excavation, confined space, or any other aspect of the Project work regulated thereby, an employee or other authorized representative having the appropriate training, knowledge, and authority to be considered a "competent person" regarding such work under said OSHA standards, regulations, instructions, and/or other guidelines.

The Contractor shall install and maintain such barricades, fences, and other protective and warning facilities and measures, and shall employ such methods and means, as may be appropriate, required, and/or directed, to protect person and property from excavations, equipment, stored materials, slopes, ditches, flowing water or sewage, exposed utilities, and/or other aspects of the work which may pose a hazard.

All applicable aspects of the Project shall be in accordance with the safety provisions of the "Manual of Accident Prevention in Construction" as published by the Associated General Contractors of America, to the extent said provisions are not in conflict with applicable laws or regulations. Said safety provisions are hereby made a part of this Article by reference.

To the extent possible, the Contractor shall plan the work in such a manner as to avoid the use of explosives in the close proximity structures or utilities. When the use of explosives is necessary for the prosecution of the work, the Contractor shall use the utmost care not to endanger person or property, and shall comply with the requirements of all applicable laws, codes, and regulations. The Contractor is responsible to notify all nearby property owners, the owners of nearby utilities, and all others who may be affected, of the Contractor's intention to use explosives on the project; and such notice shall be given sufficiently in advance of the use of the explosives as to allow the noticees and the Contractor to take any actions deemed necessary for protection of person and property. Such notice shall not relieve the Contractor from responsibility for any damage and/or claims resulting from blasting operations.

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The Contractor shall be held responsible for, and required to make restitution at his own expense for, any and all damage to person or property resulting from any act, omission, carelessness, or neglect on the part of the Contractor, or the agent or employees thereof, during the prosecution of the work, or lack thereof, and until its final acceptance.

The Contractor shall maintain an accurate record of all cases of death, occupational disease, and/or injury requiring medical attention or causing loss of time from work, and/or all cases of property damage, occurring as a result of or in the course of the prosecution of work under this Contract. The Contractor shall promptly furnish the Engineer with reports concerning these matters.

The Contractor and his actions shall also be subject to the provisions of Section 1.07.09 of the Reference Specification "Form 816"; and said Section 1.07.09 is hereby made a part of this Article by reference.

All work performed or required, and the associated expenses incurred, in accordance with the provisions of this Article are considered part of the project work as bid, and therefore are considered as included in the price bid for the various Bid items. The Contractor shall be due no additional compensation as a result of such work performed or expenses incurred.

### **13. Subsurface Conditions**

The Contractor is responsible for performing whatever research and/or investigations deemed appropriate for determining the existing soil, groundwater, or other subsurface conditions which may have bearing on the Project work prior to submitting a bid on the Project (reference Article 10 of the Instructions to Bidders). Any information regarding borings, test pits, or other soils or subsurface conditions included in the Contract Documents is provided solely as a courtesy to be used as seen fit by the Contractor; and does not in any way relieve the Contractor of any responsibilities stated in the Contract Documents. The Contractor will not be granted any additional compensation, or any other extra, for any additional work or costs associated with subsurface conditions which could have been reasonably expected to exist and/or to interfere with, or otherwise affect, the Project work in any way.

### **14. Existing Conditions Found Different**

In addition to showing the construction proposed under this Project, the drawings show certain information obtained by the Owner regarding conditions and features which exist at the site of the work, both at and below the surface of the ground.

The Owner and the Engineer expressly disclaim any responsibility for the accuracy or completeness of the information given on the drawings with regard to the existing conditions and features and the Contractor will not be entitled any extra compensation on account of inaccuracy or incompleteness of such information except as provided

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herein. It is specifically called to the Contractor's attention that all services, laterals, etc., are not shown on the Contract Drawings and it shall be his responsibility to locate and protect the same. The information which is shown is only for the convenience of the Contractor, who must verify this information to his own satisfaction.

The giving of this information upon the Contract Drawings will not relieve the Contractor of his obligations to support and protect all existing utilities, structures and fixtures, which may be encountered during the construction of the work and to repair any and all damages done to such existing utilities.

The Contractor shall immediately notify the Engineer of any existing or latent conditions encountered during the prosecution of Project work which are significantly different from those shown or described in the Contract Documents or from those expected by the Contractor, and/or which may affect or alter the Project work in any way contrary to the Plans and Specifications; and shall, upon such encounter, immediately suspend all work relating to, or affected or altered by, said different conditions.

The Engineer shall thereupon promptly investigate said conditions and, if the conditions are found to be substantially different, shall give such advice and/or instructions, and shall make such adjustments and/or alterations to the Drawings, Specifications, proposed work, quantities, and/or compensation due to the Contractor, as deemed appropriate and/or necessary, and in a manner consistent with the applicable provisions of the Contract Documents. The Contractor shall not resume the performance of any work suspended in accordance with the provisions of this Article until being instructed to do so by the Engineer.

Any work associated with existing conditions found different which is performed by the Contractor and which is, in the opinion of the Engineer, in non-compliance with the provisions of this Article shall be considered unauthorized. Any such unauthorized work shall not be considered to be extra work nor shall any additional compensation be due the Contractor therefor, except as otherwise determined by, and at the sole discretion of, the Engineer.

### **15. Existing Underground Utilities - Protection and Responsibilities**

The Contractor must notify Call Before You Dig (Tel. 1-800-922-4455) in accordance with Public Act No. 81-146 & 77-350 at least forty-eight (48) hours prior to start of construction, and shall keep such notification properly updated as the prosecution of the Project work proceeds.

The Contractor should inquire of the City of New Britain Board of Water Commissioners, Southern New England Telephone Company, Northeast Utilities (Helco & C.L.&P), Connecticut Natural Gas Corporation, Comcast and the City Public Works Department and any other public utility companies as to the locations of their facilities, particularly house service pipes, in the vicinity of his trenches and mark or cause to have marked on the site the locations of such pipes, etc. For the guidance of his

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employees and so that damage to such pipes may be avoided. The Contractor shall protect water pipes from freezing at all times during cold weather.

The Contractor prior to opening an excavation shall make every effort to determine whether underground installation, i.e., sewer, water, fuel, electric lines, etc., will be encountered and if so, where such underground installations are located. When the excavation approaches the estimated location of such an installation, the exact location shall be determined by careful probing or hand digging, and when it is uncovered, proper supports shall be provided for the existing installation. The Contractor shall, without expense to the City, do everything necessary to provide proper support, protect and maintain from direct or indirect injury all utilities, pipes, bridges, conduits, sewers, drains, wires, poles, or fixtures of all kinds lawfully in the line of excavation or adjacent thereto, and all fences, walls, buildings or other structures and property in the vicinity which may be damaged by the work herein contemplated. He shall give at least 24 hours notice, before breaking ground, to the owners of the structures, pipes or wire conduit that may be affected by his operations and shall not cause any hindrance to or interference with any such owners or their agents in protecting or repairing their property should they wish to do so, but will suffer them to take all such measures as they may deem necessary for said purpose.

The Contractor shall be responsible for the repair of or the replacement of any underground utilities, laterals or mains broken or damaged and any costs for maintenance service while line is out of service along the course of construction. Omissions or improperly located utility lines on the contract drawings will not be cause to hold the Owner liable.

The Engineer may require the Contractor to take proper steps to protect the main lines of public utilities in the immediate vicinity of the work when endangered by the operation of the Contractor, and, if the Contractor fails to take adequate provisions to protect such lines or structures the Engineer may employ others to perform protective work, as may be reasonably needed, at the Contractor's expense.

Guard rails, posts, guard cables, signs, poles, markers, mail boxes, fences, wall and stone walls, etc., which are temporarily removed to facilitate construction, shall be replaced and restored in their original condition to the satisfaction of the Owner or Engineer.

### **16. Sanitary Provisions**

The Contractor shall provide an approved field toilet to maintain a neat and sanitary condition on the job site. The Contractor shall commit no public nuisance. These facilities shall be cleaned regularly and in all ways comply with the State and City Health Regulations. The Contractor shall provide a safe drinking water supply for use of all working personnel on the work site including the construction inspector.

**17. Night Work and Sundays**

Night work or work on Saturdays, Sundays or legal holidays requiring the presence of an inspector will be permissible upon the approval of the Engineer except in emergencies. Should night work be permitted, required or desired to operate continuous night work or for emergency night work, the lighting, safety and other facilities which are deemed necessary for performing such night work shall be provided by the Contractor and comply with the applicable safety codes. Night work, work on Saturdays, Sundays or legal holidays, if performed, the Contractor shall receive no extra payment, but compensation shall be considered as having been included in the prices stipulated for the appropriate items of work as listed in the bid.

**18. Record Drawings**

Unless otherwise designated in the Special Provisions, the Contractor shall be responsible for preparing various record drawings for the City's files. These drawings shall be executed in the manner specified in the edition of the "City of New Britain, Bureau of Engineering, Requirements for As-Built Maps" current at the time this Contract was entered into. Typical maps and copies of the current standards are available for review and purchase at the Bureau of Engineering.

**19. Sewage and Water Flows Encountered**

The Contractor shall furnish all equipment and take all precautions and steps necessary and appropriate for conveying and perpetuating, in their entirety, all sanitary sewage, storm, groundwater, surface water, and flood water flows encountered in the prosecution of the Project Work in a safe, sanitary, and non-degrading manner. Such work includes, if necessary and appropriate, but is not limited to, furnishing, installing, and operating pumps and conduits, constructing coffer dams, diversion channels, and sumps, the blocking of conduits, and other means and methods used for such purposes.

Sanitary sewage flows shall be conveyed in a closed conduit and shall only be discharged into the City's sanitary sewer system. Under no circumstances shall the contractor willfully allow sewage flows to discharge to the storm drainage system, surface drainways, or any surface water.

Water discharged to the storm drainage system, any surface drainway, or any surface water shall be in accordance with the regulations and standards of the Connecticut Department of Environmental Protection and/or any other regulating authority. In addition, the discharge of water onto private property is only allowed with the prior written permission of the subject property owner and the Engineer.

All aspects of handling sewage and water encountered during prosecution of the Project work is subject to the supervision and approval of the Engineer. Any approval or intervention of the Engineer in such matters in no way relieves the Contractor of any

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of his responsibilities to comply with any and all applicable laws, regulations, permits, orders, and/or directives established or given by a regulating authority, and/or the safe perpetuation of any such flows.

The Contractor is responsible for knowledge of and compliance with all aspects of any laws, regulations, permits, orders, and/or directives established or given by a regulating authority relating to the handling of sewage and water flows associated with the Project. The Contractor is responsible for obtaining all approvals, and for performing all sampling, testing, and/or analyses, which may be required by the same.

The Contractor is also responsible for any damages to any facilities or properties as a result of his efforts to handle sewage and water encountered, and for the complete restoration of the same upon the completion of any measures which affected the facility or property.

Except where a separate bid item (or items) is included in the Contract Documents for such work, all work and other aspects of handling water and sewage flows shall be considered as included in, and incidental to, the prices bid for the various bid items in the Contract Documents. The Contractor will not be granted any additional compensation, or any other extra, for any work or other aspect of handling water and sewage flows which could have been reasonably expected to be required or necessary in the prosecution of the Contract Work, or which is a result of the Contractor's actions, lack of action, negligence, or failure to comply with any aspect of this Article, or any other provision of the Contract Documents.

### **20. Pollution Control**

The Contractor shall conduct his operations in conformity with all applicable permits, regulations, and standards of the Connecticut Department of Environmental Protection, and any other Federal, State, or local agency or authority having jurisdiction thereover, concerning water, air, and noise pollution and the handling and disposal of toxic or hazardous materials.

Pollution control measures shall apply to all contractor activities including, but not limited to, the construction site, waste and disposal areas, borrow sites and gravel banks, storage areas, haul roads, access roads, and detours.

In case of the failure on the part of the Contractor to perform pollution control work in a timely manner, the Engineer may, upon 48 hours' written notice, arrange for the performance of the subject work by approved forces, and the cost thereof will be deducted from any monies due, or which may become due, the Contractor under the Contract. In the case of an emergency the Engineer may take such actions immediately upon what he considers to be failure of the Contractor to perform pollution control work in a timely fashion.



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(a) Water Pollution Control Measures - The Contractor shall exercise every reasonable precaution throughout the life of the contract to prevent, control and abate siltation, sedimentation and pollution of all surface waters, underground water systems and inland wetlands. The City of New Britain will obtain all permits which may be required concerning inland wetlands and watercourses for work appearing on the plans. The Contractor shall obtain any permits and pay any fees required for work not included on the plans in the fulfillment of his contract concerning the removal of material, depositing of material in, obstruction of, construction within, altering or polluting of any inland wetland, tidal wetland, coastal or navigable water, streams, ponds, lakes, water supplies or other water bodies.

Construction operations in water areas shall be held to a practicable minimum and shall be restricted to those areas which must be entered for the planned construction and for temporary operations pursuant thereto. The frequent fording of live streams shall be avoided during the construction and the use of temporary bridges or culverts is preferred. Mechanized equipment shall not be operated promiscuously in live streams. Roiling of waters shall be cause for the construction of diversion dikes or settling basins to avoid sediment problems.

The banks and beds of waterways and impoundments shall be properly cleared of all debris, falsework and obstructions placed therein or caused by the construction operations, but which are not a part of the planned improvement.

The dumping of oil or other deleterious materials on the ground is expressly forbidden. The Contractor shall provide a means of catching and retaining drained oil, removed oil filters, or other deleterious materials and of properly disposing of same, subject to the approval of the Engineer.

(b) Air Pollution Control Measures - The Contractor shall exercise every reasonable precaution throughout the life of the contract to safeguard the air resources of the State by Controlling or abating air pollution as set forth by the Department of Environmental Protection's regulations. These measures shall include the control and abatement of dust, fumes, mist, smoke, vapor, gas, aerosol, other particulate matter, odorous substances or any combination thereof arising from the construction operations, hauling, storage or manufacture of materials. All trucks carrying materials susceptible to having pollutants enter the ambient air are to be covered during transit.

(c.) Noise Pollution Control Measures - The Contractor shall take measures to control the noise intensity to comply with the prescribed ratings as set forth by the regulations of the Department of Environmental Protection, the Occupational Safety and Health Administration and any other agency of the State or Federal government.

(d) Erosion and Sedimentation Control Measures - All watercourses shall be protected from sedimentation, both during and after construction. This provision applies particularly to dewatering activities, storage of excavated or stockpiled material, trench excavation, and placement of compacted berms and embankments. The Contractor

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shall control erosion and sedimentation in accordance with the publication entitled "2002 Connecticut Guidelines for Soil Erosion and Sediment Control" issued by the Connecticut Council on Soil and Water Conservation, effective May 2002, or as otherwise approved by the Engineer. Provisions shall include, but not be limited to, haybale check dams across any outlet channels and at the toe of all embankments under construction, and temporary culverts at all stream crossings, such that water which flows downstream does not contain additional sediments due to the Project work. The Contractor shall submit details of his erosion and sediment controls to the Engineer for review.

(e) Cleaning of Adjacent Streets - The Contractor shall sweep, and use other methods as necessary, to keep adjacent streets clean of mud, dirt, and debris caused by Project activities. Such sweeping or other methods shall be used on a daily basis when mud, dirt, or debris has been deposited on a street.

The Contractor is responsible for knowledge of and compliance with all aspects of any laws, regulations, permits, orders, and/or directives established or given by a regulating authority relating to pollution control associated with the Project. The Contractor is responsible for obtaining all approvals, and for performing all sampling, testing, and/or analyses, which may be required by the same.

Except where a separate bid item (or items) is included in the Contract Documents for such work, all work and other aspects of pollution control shall be considered as included in, and incidental to, the prices bid for the various bid items in the Contract Documents. The Contractor will not be granted any additional compensation, or any other extra, for any work or other aspect of handling water and sewage flows which could have been reasonably expected to be required or necessary in the prosecution of the Contract Work, or which is a result of the Contractor's actions, lack of action, negligence, or failure to comply with any aspect of this Article, or any other provision of the Contract Documents.

### **21. Contaminated or Hazardous Material**

In the event the Contractor, during the prosecution of Contract Work, encounters any material that is believed to be contaminated, toxic, or hazardous to person or the environment, provided that the occurrence of, handling of, and protection of and from the subject material was not contemplated at the time of Contract execution, the Contractor shall immediately cease work in the immediate area and notify the Engineer. If the nature of the material or the situation under which it is encountered is such that immediate notification of the Connecticut Dept. of Environmental Protection or other regulating agency is required, such notification is the responsibility of the Contractor.

Upon said notification of the Engineer by the Contractor, the Engineer shall take the steps deemed necessary for making investigations and determinations regarding the handling of, protection of and from, and/or the disposal of the subject material. The Engineer shall delineate, or have delineated, a "no-work" area in the vicinity of the

subject material within which all project work shall remain suspended until written permission to the contrary is given by the Engineer. The Contractor shall follow all directions and recommendations of the Department of Environmental Protection, or any other regulating authority having jurisdiction, and shall comply with all applicable laws and regulations, regarding the handling of, protection of and from, and/or disposal of the subject material. The Contractor shall also cooperate fully with any special personnel whom the Owner may retain the services of for the same.

## **22. Connection to Existing Work**

The Contractor shall remove such existing masonry, concrete, equipment and piping as is necessary, in order to make the proper connections to the existing work at the locations shown. Also, he shall make the necessary pipe line, roadway and other connections required, in order that on completion of the Contract, water, sewage, or storm water, or as the case may be, will flow through the pipe lines and structures. No extra payment will be made for this work, but the entire cost shall be included in the unit or lump sum prices bid for the various items of the work to be done under this Contract.

## **23. Snow Removal**

If the Contractor's operations or occupancy of any public street or highway, or the rough surfaces over any trench or area being maintained by the Contractor, shall interfere with the removal or plowing of snow or ice by the public authorities or property owners, or sanding of icy surfaces, in the ordinary manner with regular highway equipment, then the Contractor shall perform such services for the public authority or property owner without charge; or failing to do so, shall reimburse the said authority, owners or the City for any additional cost they incur for doing such work occasioned by the conditions arising from the Contractor's operations, occupancy or trench surfaces, together with the damage to the equipment of said parties by those conditions, or claims of any party for damage or injury or loss by reason of failure to remove snow or ice, or to sand the icy spots under those conditions.

## **24. Inclement and Freezing Weather Conditions**

In the event of temporary suspension of work, or during inclement weather, or whenever the Engineer shall direct, the Contractor will, and will cause the Subcontractor to protect carefully his and their work and materials against damage or injury from the weather. If, in the opinion of the Engineer, any work or materials have been damaged by the failure of the Contractor or Subcontractors to protect the work, such work or materials shall be removed and replaced at the expense of the Contractor.

Unless written permission is given, work liable to be affected by frost or freezing shall be suspended during freezing weather when work proceeds under freezing conditions the Contractor shall provide approved facilities for heating the materials and for protecting the finished work.

**25. Final Inspection and Certificate of Completion**

Upon the completion of all work whatsoever required, the Contractor must submit a written request to the City Engineer for a final inspection. The Engineer and/or his representative, representatives of the governing authority of the completed project (re: Public Works, Water Dept., etc.) and the Contractor shall hold a semi-final inspection of all work to ascertain that the work is acceptable to the governing authority.

Unacceptable work shall be corrected at no additional costs. After approval, the Engineer shall file a written certificate with the Owner and with the Contractor as to the entire amount of work performed and compensation earned by the Contractor including extra work and compensation thereof.

**26. Payment to Contractor**

The Owner agrees to pay the Contractor monthly or as nearly once a month as possible, ninety-five (95%) percent of the whole amount due the Contractor for the amount of work which the Engineer shall estimate as done up to the last day of that particular month. Payment of the estimated bill shall follow within thirty days after the receipt and approval of the estimate. It shall also be required in this Contract that the weekly payrolls and basic records (reference General Conditions paragraph 53) be submitted at the same time with the estimated monthly bill.

**27. Final Payment and Liens**

Thirty (30) days after the filing of such certificate of completion, the Owner shall pay to the Contractor 95 percent of the amount therein stated, less all prior payments and advances whatsoever to or for the account of the Contractor. All prior estimates and payments, including those relating to extra work shall be subject to correction by this payment which is throughout this Contract called Final Payment. The final 5% of the total amount will be paid at the end of one year (12 months) maintenance period, provided the whole of the work is at that time in conformity with the requirements of the Contract; if not, then as soon thereafter as the work shall be made to conform thereto. Said maintenance period for all parts of the work shall not commence prior to filing of the certificate of completion. After final acceptance of the work, the Contractor may request the filing a maintenance bond covering the maintenance period for the total amount of the retained 5% percent. If the City approves the maintenance bond option, the retained 5% percent shall then be paid to the Contractor.

Neither the final Contract payment nor any part of the retainage thereto shall become due to the Contractor until he has, if required, delivered to the Owner either a complete release of all liens arising out of the Contract or receipts in full in lieu thereof. In addition, if required, the Contractor shall furnish the Owner an affidavit that states that so far as he has knowledge or information, the releases and receipts described above include all labor, material and equipment for which a lien could be filed. In the event a subcontractor or materials provider is unwilling or unable to furnish a release or receipt

in full, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against any liens. If any liens remain unsatisfied after all payments are made, the Contractor shall refund to the Owner all monies that the latter may be compelled to pay in discharging such a lien, including all costs and a reasonable attorney fee.

## **28. Disputes**

- a) All disputes arising under this contract or its interpretation, whether involving law or fact or both, or extra work, and all claims for alleged breach of contract shall within ten (10) days of commencement of the dispute be presented by the Contractor to the Owner for decision. All papers pertaining to the claims shall be filed in quadruplicate. Such notice need not detail the amount of the claim, but shall state the facts surrounding the claim in sufficient detail to identify the claim, together with its character and scope. In the meantime the Contractor shall proceed with the work as directed. Any claim not presented within the time limit specified within this paragraph shall be deemed to have been waived, except that if the claim is of a continuing character and notice of the claim is not given within ten days of its commencement, the claim will be considered only for a period commencing ten days prior to the receipt of the Owner of notice thereof.
- b) The Contractor shall submit in detail his claim and proof thereof. Each decision by the Owner will be in writing and will be mailed to the Contractor by registered mail, return receipt requested.
- c) If the Contractor does not agree with any decision of the Owner, he shall in no case allow the dispute to delay the work but shall notify the Owner promptly that he is proceeding with the work under protest and he may then except the matter in question from the final release.

## **29. Arbitration and Litigation**

Any controversy or claim arising out of or relating to this contract, or the breach thereof, shall, at the option of the Owner, be settled by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association and judgment upon the award rendered by the Arbitrator(s) may be entered in any court having jurisdiction thereof. The Owner shall exercise its option to arbitrate concurrent with the rendering of its final decision on the claim. Should it fail to render a final decision within the prescribed time or fail to exercise its option, the claim will be determined in accordance with the Rules of the American Arbitration Association as hereinbefore stated.

## **30. Purchase Assignment**

The contractor or subcontractor offers and agrees to assign to the public purchasing body all right, title and interest in and to all causes of action it may have under Section 4 of the Clayton Act, 15 U.S.C. Section 15, or under Chapter 624 of the General

Statutes of Connecticut, arising out of the purchase of services, property or intangibles of any kind pursuant to a public purchase contract or subcontract. This assignment shall be made and become effective at the time the public purchasing body awards or accepts such contract, without further acknowledgment by the parties.

**31. Quality of Materials**

All work done and materials furnished shall be new and of the best quality customarily used in or furnished for installation of the character of that proposed. Many features of the proposed work are described in detail herein, but the failure to describe any part of the proposed work or any detail or appurtenance thereof shall not be an exception to the above rule. The absence of requirements in the contract or specifications covering details usually included in first-class installation of this type shall not excuse the Contractor for their omission in this work.

**32. Defective Materials**

The Engineer may reject any or all defective or damaged material or any material not, in his opinion, in conformity with the specifications. Material which may at any time be rejected shall be promptly removed from the site. If the Contractor does not remove defective material promptly after written notice, the Engineer may cause such removal by such means as he shall select and at the Contractor's expense. No defective or damaged materials shall be used in the work. All defective material shall be conspicuously marked.

**33. Uncovering and Corrective Work**

If any portion of the work should be covered contrary to the request of the Engineer or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Engineer, be uncovered for his observation, and the Contractor shall bear the costs of uncovering and recovering and shall be responsible for resulting delays, even if the uncovered work is found to be in accordance with the Contract Documents.

The Contractor shall promptly correct all work rejected by the Engineer as defective or as failing to conform to the requirements of the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Contractor shall bear all cost of correcting such rejected work, including compensation for the Engineer's additional services made necessary thereby.

If the Contractor fails to correct any such defective or nonconforming work to the satisfaction of the Engineer within a reasonable time after notification of the same, the Owner may, upon written notification to the Contractor of his intent to do so, separately arrange for the work to be corrected as he deems fit; and deduct any costs associated with the arrangements for and performance of the corrective work from any monies due, or to become due, the Contractor. Should such costs exceed the monies due, or

to become due, the Contractor, than the Contractor shall be liable to the Owner for all amounts exceeding those due, or to become due, the Contractor.

**34. Protection of the Work**

The Contractor shall protect all work done under this contract and all work done by other contractors within the limits of this contract during the progress of the work and until completion and acceptance, from injury by reason of any work under this contract or by reason of any negligence on his part, or by reason of weather conditions.

**35. Clean-up**

Upon suspension or completion of the work or of any section thereof, the Contractor shall remove all materials, equipment and rubbish and shall leave the premises in a neat and orderly condition. The premises shall, during the progress of the work, be kept clean, presentable and satisfactory to the Engineer, and shall be left so at the completion of the contract.

**36. Work Stoppages**

Should the City be prevented or enjoined from proceeding with work either before or after the start of construction by reason of any litigation or other reason beyond the control of the City, the Contractor shall not be entitled to or assert claim for damage by reason of said delay. However, time for completion of the work will be extended to such reasonable time as the City may determine by means of a written Change Order.

**37. Sheeting, Shoring and Bracing**

Where necessary, the sides of trenches and excavations shall be supported by adequate sheeting, shoring, and bracing. The Contractor shall be held accountable and responsible for the sufficiency of all sheeting, shoring, and bracing used and for all damage to persons, property, streets or utilities resulting from the improper quality, strength, placing, maintaining, or removing of the same. Where sheeting is removed, care shall be taken not to disturb the new work or existing utilities and structures.

No sheeting is to be left in place unless expressly permitted by the Engineer. No direct payment will be made for sheeting, shoring, and bracing, and compensation for such work and all expenses incidental thereto shall be considered as included in the unit prices bid for the various items of this contract.

**38. Compliance with Law**

- a) In the administration and execution of the Project, the Applicant shall comply with all pertinent provisions of local, State and Federal law, and failure to do so shall constitute a default by the Applicant under this Agreement.

## SUPPLEMENTAL GENERAL CONDITIONS

- b) The contract is subject to the provisions of Section 4-114a(a)-(e) of the Connecticut General Statutes which state: "The contractor agrees and warrants that in the performance of this contract he will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, retardation or physical disability, including, but not limited to, blindness, unless it is shown by such contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the State of Connecticut. If the contract is for a public works project, the contractor agrees and warrants that he will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such project. The contractor further agrees to provide the Commission on Human Rights and Opportunities with such information requested by the commission concerning the employment practices and procedures of the contractor as relate to the provisions of this section and Section 46a-56."
  
- c) This contract is subject to the provisions of Executive Order No. Three of Governor Thomas J. Meskill promulgated June 16, 1971 and, as such, this contract may be canceled, terminated or suspended by the State Labor Commissioner for violation or of noncompliance with said Executive Order No. Three, or any State or Federal Law concerning nondiscrimination, notwithstanding that the Labor Commissioner is not a party to this contract. The parties to this contract, as part of the consideration hereof, agree that said Executive Order No. Three is incorporated herein by reference and made a part hereof. The parties agree to abide by said Executive Order and agree that the State Labor Commissioner shall have continuing jurisdiction in respect to contract performance in regard to nondiscrimination, until the contract is completed or terminated prior to completion. The contractor agrees as part consideration hereof, that this contract is subject to the guidelines and rules issued by the State Labor Commissioner to implement Executive Order No. Three and that he will not discriminate in his employment practices or policies, will file all reports as required, and will fully cooperate with the State of Connecticut and the State Labor Commissioner.
  
- d) This contract is subject to the provisions of Executive Order No. Seventeen of Governor Thomas J. Meskill promulgated February 15, 1973, and as such, this contract may be canceled, terminated or suspended by the Contracting agency or the State Labor Commissioner for violation of or noncompliance with said Executive Order No. Seventeen, notwithstanding that the Labor Commissioner may not be a part to this contract. The parties to this contract, as part of the consideration hereof, agree that the Executive Order No. Seventeen is incorporated herein by reference and made a part hereof. The parties agree to abide by said Executive Order and agree that the contracting agency and the State Labor Commissioner shall have joint and several continuing jurisdiction in respect to contract performance in regard to listing all employment openings with the Connecticut Employment Service.



**39. Termination for Convenience of the City**

- a) The City may terminate performance of work under this contract in whole, or, from time to time, in part, if the City determines that termination is in its best interest. The City shall terminate by delivering to the Contractor a Notice of Termination specifying the extent of termination and the effective date.
- b) After receipt of a Notice of Termination, and except as otherwise directed by the City, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due under his clause:
  - 1) Stop work as specified in the notice.
  - 2) Place no further subcontracts or orders for materials, services, or facilities related to the terminated work.
  - 3) Terminate all subcontracts to the extent they relate to the work terminated.
  - 4) Assign to the City, as directed by the City, all right, title, and interest of the Contractor under the subcontracts terminated, in which case the City shall have the right to settle or pay any termination settlement proposal arising out of those terminations.
  - 5) With approval or ratification to the extent required by the City, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts; the approval or ratification will be final for the purposes of this clause.
  - 6) As directed by the City, transfer title and deliver to the City (i) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced or acquired for the work terminated, and (ii) the completed or partially completed plans, drawings, information, and other property that, if the contract had been completed, would be required to be furnished to the City.
  - 7) Complete performance of the work not terminated.
  - 8) Take any action that may be necessary, or that the City may direct, for the protection and preservation of the property related to this contract that is in the possession of the Contractor and in which the City has or may acquire an interest.
  - 9) Use its best efforts to sell, as directed or authorized by the City, any property of the types referred to in subparagraph (6) above; provided, however, that the Contractor (i) is not required to extend credit to any purchaser and (ii) may acquire the property under the conditions prescribed by, and at prices approved by, the City. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the City under this contract, credited to the price or cost of the work, or paid in any other manner as directed by the City.

## SUPPLEMENTAL GENERAL CONDITIONS

- c) After expiration of the plant clearance period as defined in Subpart 45.6 of the Federal Acquisition Regulation, the Contractor may submit to the City a list, certified as to quantity and quality, of termination inventory not previously disposed of, excluding items authorized for disposition by the City. The Contractor may request the City to remove those items or enter into an agreement for their storage. Within fifteen days, the City will accept title to those items and remove them or enter into a storage agreement. The City may verify the list upon removal of the items, or if stored, within 45 days of the submission of the list, and shall correct the list, as necessary, before final settlement.
- d) After termination, the Contractor shall submit a final termination settlement proposal to the City in the form and with the certification prescribed by the City. The Contractor shall submit the proposal promptly, but no later than 1 year from the effective date of termination, unless extended in writing by the City upon written request of the Contractor within this 1 year period. However, if the City determines that the facts justify it, a termination settlement proposal may be received and acted upon after 1 year or any extension. If the Contractor fails to submit the proposal within the time allowed, the City may determine, based on the information available, the amount, if any, due the Contractor because of the termination and shall pay the amount determined.
- e) Subject to paragraph (d) above, the Contractor and the City may agree upon the whole or any part of the amount to be paid because of the termination. The amount may include a reasonable allowance for profit on work done. However, the agreed amount, whether under this paragraph (e) or (f) below, exclusive of costs shown in subparagraph (f)(3), may not exceed the total contract price as reduced by (1) the amount of payments previously made and (2) the contract price of work not terminated. The contract shall be amended and the Contractor paid the agreed amount. Paragraph (f) below shall not limit, restrict, or affect the amount that may be agreed upon to be paid under this paragraph.
- f) If the Contractor and the City fail to agree on the whole amount to be paid because of the termination of work, the City shall pay the Contractor the amounts determined by the City as follows, but without duplication of any amounts agreed on under paragraph (e) above:
  - 1) The contract price for completed supplies or services accepted by the City (or sold or acquired under subparagraph (b)(9) above) not previously paid for, adjusted for any saving of freight and other charges.
  - 2) The total of-
    - i. The costs incurred in the performance of the work terminated, including initial cost and preparatory expense allocable thereto, but excluding any costs attributable to supplies or services paid or to be paid under subparagraph (f)(1) above;
    - ii. The cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the

## SUPPLEMENTAL GENERAL CONDITIONS

- terminated portion of the contract if not included in subdivision (I) above; and
- iii. A sum, as profit on subdivision (I) above, determined by the City under 49.202 of the Federal Acquisition Regulation, in effect on the date of this contract, to be fair and reasonable; however, if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, the City shall allow no profit under this subdivision (iii) and shall reduce the settlement to reflect the indicated rate of loss.
- 3) The reasonable costs of settlement of the work terminated, including-
- i. Accounting, legal, clerical, and other expenses reasonably necessary for the preparation of the termination settlement proposals and supporting data;
  - ii. The termination and settlement of subcontracts (excluding the amounts of such settlements); and
  - iii. Storage transportation and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.
- g) Except for normal spoilage, and except to the extent that the City expressly assumed the risk of loss, the City shall exclude from the amounts payable to the Contractor under paragraph (f) above, the fair value, as determined by the City, of property that is destroyed, lost, stolen, or damaged so as to become undeliverable to the City or to a buyer.
- h) The cost principles and procedures of Part 31 of the Federal Acquisition Regulation, in effect on the date of the contract, shall govern all costs claimed or agreed to under this clause.
- i) the Contractor shall have the right of appeal, under the Disputes clause, for any determination made by the City under paragraph (d), (f), or (k), except that if the Contractor failed to submit the termination settlement proposal within the time provided in paragraph (d) or (k), and failed to request a time extension, there is no right of appeal. If the City has made a determination of the amount due under paragraph (d), (f), or (k), the City shall pay the Contractor (1) the amount determined by the City if there is no right of appeal or if no timely appeal has been taken, or (2) the amount finally determined on an appeal.
- j) In arriving at the amount due the Contractor hereby , there shall be deducted:
- 1) All unliquidated advanced or other payments to The Contractor under the terminated portion of this contract;
  - 2) Any claim which the City has against the Contractor under this contract; and

## SUPPLEMENTAL GENERAL CONDITIONS

- 3) The agreed price for, or the proceeds of sale of, materials, supplies or other things acquired by the Contractor or sold under the provisions of this clause and not recovered by or credited to the City.
- k) If the termination is partial, the Contractor may file a proposal with the City for an equitable adjustment of the price(s) of the continued portion of the contract. The City shall make any equitable adjustment agreed upon. Any proposal by the Contractor for an equitable adjustment under this clause shall be requested within 90 days from the effective date of termination unless extended in writing by the City.
- l)
  - 1) The City may, under the terms and conditions it prescribes, make partial payments and payments against incurred by the Contractor for terminated portions of the contract, if the City believes the total of these payments will not exceed the amount to which the Contractor will be entitled.
  - 2) If the total payments exceed the amount finally determined to be due, the Contractor shall repay the excess to the City upon demand, computed with interest at the rate established by the Secretary of the Treasury under 50 U.S.C. App. 1215(b)(2). Interest shall be computed for the period from the date the excess payment is received by the Contractor to the date the excess is repaid. Interest shall not be charged on any excess payment due to a reduction in the Contractor's termination proposal because of a retention or other disposition of termination inventory until 10 days after the date of retention or disposition, or a later date determined by the City because of the circumstances.
- m) Unless otherwise provided for in this contract or by statute, the Contractor shall maintain all records and documents relating to the terminated portion of this Contractor three years after final settlement. This includes all books and other evidence bearing on the Contractor's costs and expenses under this contract. The Contractor shall make these records and documents available to the City, at the Contractor's office, at all reasonable times, without any direct charge. If approved by the City, photographs, microphotographs, or other authentic reproductions may be maintained instead of original records and documents.

## **Construction Contracts - Required Contract Provisions (State Funded Only Contracts)**

### **Index**

1. Title VI of the Civil Rights Act of 1964 / Nondiscrimination Requirements
2. Contractor Work Force Utilization / Specific Equal Employment Opportunity
3. Contract Wage Rates
4. Americans with Disabilities Act of 1990, as Amended
5. Connecticut Statutory Labor Requirements
  - a. Construction, Alteration or Repair of Public Works Projects; Wage Rates
  - b. Debarment List - Limitation on Awarding Contracts
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  - d. Awarding of Contracts to Occupational Safety and Health Law Violators Prohibited
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6. Tax Liability - Contractor's Exempt Purchase Certificate (CERT – 141)
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- 18. Tangible Personal Property
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**Index of Exhibits**

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- EXHIBIT B – Contractor Work Force Utilization / Equal Employment Opportunity (page 14)
- EXHIBIT C – Health Insurance Portability and Accountability Act of 1996 (HIPAA) (page 17)
- EXHIBIT D - Campaign Contribution Restriction (page 25)
- EXHIBIT E - State Wage Rates (Attached at the end)

## **1. Title VI of the Civil Rights Act of 1964 / Nondiscrimination Requirements**

The Contractor shall comply with Title VI of the Civil Rights Act of 1964 as amended (42 U.S.C. 2000 et seq.), all requirements imposed by the regulations of the United States Department of Transportation (49 CFR Part 21) issued in implementation thereof, and the Title VI Contractor Assurances attached hereto at Exhibit A, all of which are hereby made a part of this Contract.

## **2. Contractor Work Force Utilization / Equal Employment Opportunity**

- (a) The Contractor shall comply with the Contractor Work Force Utilization / Equal Employment Opportunity requirements attached at Exhibit B and hereby made part of this Contract, whenever a contractor or subcontractor at any tier performs construction work in excess of \$10,000. These goals shall be included in each contract and subcontract. Goal achievement is calculated for each trade using the hours worked under each trade.
- (b) Companies with contracts, agreements or purchase orders valued at \$10,000 or more will develop and implement an Affirmative Action Plan utilizing the ConnDOT Affirmative Action Plan Guideline. This Plan shall be designed to further the provision of equal employment opportunity to all persons without regard to their race, color, religion, sex or national origin, and to promote the full realization of equal employment opportunity through a positive continuation program. Plans shall be updated as required by ConnDOT.

## **3. Contract Wage Rates**

The Contractor shall comply with:

The State wage rate requirements indicated in Exhibit E hereof are hereby made part of this Contract.

Prevailing Wages for Work on State Highways; Annual Adjustments. With respect to contracts for work on state highways and bridges on state highways, the Contractor shall comply with the provisions of Section 31-54 and 31-55a of the Connecticut General Statutes, as revised.

As required by section 1.05.12 (Payrolls) of the State of Connecticut, Department of Transportation's Standard Specification for Roads, Bridges and Incidental Construction (FORM 816), as may be revised, every Contractor or subcontractor performing project work on a federal aid project is required to post the relevant prevailing wage rates as determined by the United States Secretary of Labor. The wage rate determinations shall be posted in prominent and easily accessible places at the work site.

## **4. Americans with Disabilities Act of 1990, as Amended**

This provision applies to those Contractors who are or will be responsible for compliance with the terms of the Americans with Disabilities Act of 1990, as amended (42 U.S.C. 12101 et seq.), (Act), during the term of the Contract. The Contractor represents that it is familiar with the terms of this Act and that it is in compliance with the Act. Failure of the Contractor to satisfy this standard as the same applies to performance under this Contract, either now or during the term of the Contract as it may be amended, will render the Contract voidable at the option of the State upon notice to the contractor. The Contractor warrants that it will hold the State harmless and indemnify the State from any liability which may be imposed upon the State as a result of any failure of the Contractor to be in compliance with this Act, as the same applies to performance under this Contract.

## 5. Connecticut Statutory Labor Requirements

**(a) Construction, Alteration or Repair of Public Works Projects; Wage Rates.** The Contractor shall comply with Section 31-53 of the Connecticut General Statutes, as revised. The wages paid on an hourly basis to any person performing the work of any mechanic, laborer or worker on the work herein contracted to be done and the amount of payment or contribution paid or payable on behalf of each such person to any employee welfare fund, as defined in subsection (i) of section 31-53 of the Connecticut General Statutes, shall be at a rate equal to the rate customary or prevailing for the same work in the same trade or occupation in the town in which such public works project is being constructed. Any contractor who is not obligated by agreement to make payment or contribution on behalf of such persons to any such employee welfare fund shall pay to each mechanic, laborer or worker as part of such person's wages the amount of payment or contribution for such person's classification on each pay day.

**(b) Debarment List. Limitation on Awarding Contracts.** The Contractor shall comply with Section 31-53a of the Connecticut General Statutes, as revised.

**(c) Construction Safety and Health Course.** The Contractor shall comply with section 31-53b of the Connecticut General Statutes, as revised. The contractor shall furnish proof to the Labor Commissioner with the weekly certified payroll form for the first week each employee begins work on such project that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53 of the Connecticut General Statutes, as revised, on such public works project, pursuant to such contract, has completed a course of at least ten hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 48 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268.

Any employee required to complete a construction safety and health course as required that has not completed the course, shall have a maximum of fourteen (14) days to complete the course. If the employee has not been brought into compliance, they shall be removed from the project until such time as they have completed the required training.

Any costs associated with this notice shall be included in the general cost of the contract. In addition, there shall be no time granted to the contractor for compliance with this notice. The contractor's compliance with this notice and any associated regulations shall not be grounds for claims as outlined in Section 1.11 – "Claims".

**(d) Awarding of Contracts to Occupational Safety and Health Law Violators Prohibited.** The Contract is subject to Section 31-57b of the Connecticut General Statutes, as revised.

**(e) Residents Preference in Work on Other Public Facilities. NOT APPLICABLE TO FEDERAL AID CONTRACTS.** Pursuant to Section 31-52a of the Connecticut General Statutes, as revised, in the employment of mechanics, laborers or workmen to perform the work specified herein, preference shall be given to residents of the state who are, and continuously for at least six months prior to the date hereof have been, residents of this state, and if no such person is available, then to residents of other states



## 6. Tax Liability - Contractor's Exempt Purchase Certificate (CERT – 141)

The Contractor shall comply with Chapter 219 of the Connecticut General Statutes pertaining to tangible personal property or services rendered that is/are subject to sales tax. The Contractor is responsible for determining its tax liability. If the Contractor purchases materials or supplies pursuant to the Connecticut Department of Revenue Services' "Contractor's Exempt Purchase Certificate (CERT-141)," as may be revised, the Contractor acknowledges and agrees that title to such materials and supplies installed or placed in the project will vest in the State simultaneously with passage of title from the retailers or vendors thereof, and the Contractor will have no property rights in the materials and supplies purchased.

Forms and instructions are available anytime by:

Internet: Visit the DRS website at [www.ct.gov/DRS](http://www.ct.gov/DRS) to download and print Connecticut tax forms; or Telephone: Call 1-800-382-9463 (Connecticut calls outside the Greater Hartford calling area only) and select Option 2 or call 860-297-4753 (from anywhere).

## 7. Executive Orders

This contract is subject to the provisions of Executive Order No. Three of Governor Thomas J. Meskill, promulgated June 16, 1971, concerning labor employment practices, Executive Order No. Seventeen of Governor Thomas J. Meskill, promulgated February 15, 1973, concerning the listing of employment openings and Executive Order No. Sixteen of Governor John G. Rowland promulgated August 4, 1999, concerning violence in the workplace, all of which are incorporated into and are made a part of the contract as if they had been fully set forth in it. The contract may also be subject to Executive Order No. 14 of Governor M. Jodi Rell, promulgated April 17, 2006, concerning procurement of cleaning products and services and to Executive Order No. 49 of Governor Dannel P. Malloy, promulgated May 22, 2015, mandating disclosure of certain gifts to public employees and contributions to certain candidates for office. If Executive Order No. 14 and/or Executive Order No. 49 are applicable, they are deemed to be incorporated into and are made a part of the contract as if they had been fully set forth in it. At the Contractor's request, the Department shall provide a copy of these orders to the Contractor.

**8. Non Discrimination Requirement (pursuant to section 4a-60 and 4a-60a of the Connecticut General Statutes, as revised): References to "minority business enterprises" in this Section are not applicable to Federal-aid projects/contracts. Federal-aid projects/contracts are instead subject to the Federal Disadvantaged Business Enterprise Program.**

(a) For purposes of this Section, the following terms are defined as follows:

- (1) "Commission" means the Commission on Human Rights and Opportunities;
- (2) "Contract" and "contract" include any extension or modification of the Contract or contract;
- (3) "Contractor" and "contractor" include any successors or assigns of the Contractor or contractor;
- (4) "Gender identity or expression" means a person's gender-related identity, appearance or behavior, whether or not that gender-related identity, appearance or behavior is different from that traditionally associated with the person's physiology or assigned sex at birth, which gender-related identity can be shown by providing evidence including, but not limited to, medical history, care or treatment of the gender-related identity, consistent and uniform assertion of the gender-related identity or any other evidence that the gender-related identity is sincerely held, part of a person's core identity or not being asserted for an improper purpose.
- (5) "good faith" means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations;

- (6) "good faith efforts" shall include, but not be limited to, those reasonable initial efforts necessary to comply with statutory or regulatory requirements and additional or substituted efforts when it is determined that such initial efforts will not be sufficient to comply with such requirements;
- (7) "marital status" means being single, married as recognized by the state of Connecticut, widowed, separated or divorced;
- (8) "mental disability" means one or more mental disorders, as defined in the most recent edition of the American Psychiatric Association's "Diagnostic and Statistical Manual of Mental Disorders", or a record of or regarding a person as having one or more such disorders;
- (9) "minority business enterprise" means any small contractor or supplier of materials fifty-one percent or more of the capital stock, if any, or assets of which is owned by a person or persons: (1) who are active in the daily affairs of the enterprise, (2) who have the power to direct the management and policies of the enterprise, and (3) who are members of a minority, as such term is defined in subsection (a) of Connecticut General Statutes § 32-9n; and
- (10) "public works contract" means any agreement between any individual, firm or corporation and the State or any political subdivision of the State other than a municipality for construction, rehabilitation, conversion, extension, demolition or repair of a public building, highway or other changes or improvements in real property, or which is financed in whole or in part by the State, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees.

For purposes of this Section, the terms "Contract" and "contract" do not include a contract where each contractor is (1) a political subdivision of the State of Connecticut, including, but not limited to municipalities, unless the contract is a municipal public works contract or quasi-public agency project contract, (2) any other state of the United States, including but not limited to, the District of Columbia, Puerto Rico, U.S. territories and possessions, and federally recognized Indian tribal governments, as defined in Connecticut General Statutes § 1-267, (3) the federal government, (4) a foreign government, or (5) an agency of a subdivision, state or government described in subdivision (1), (2), (3), or (4) of this subsection.

- (b) (1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, status as a veteran, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the State of Connecticut; and the Contractor further agrees to take affirmative action to insure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, status as a veteran, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by the Contractor that such disability prevents performance of the work involved; (2) the Contractor agrees, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, to state that it is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the Commission; (3) the Contractor agrees to provide each labor union or representative of workers with which the Contractor has a collective bargaining agreement or other contract or understanding and each vendor with which the Contractor has a contract or understanding, a notice to be provided by the Commission, advising the labor union or workers' representative of the Contractor's commitments under this section and to post copies of the notice in conspicuous places available to employees and applicants for employment; (4) the Contractor

agrees to comply with each provision of this Section and Connecticut General Statutes §§ 46a-68e and 46a-68f and with each regulation or relevant order issued by said Commission pursuant to Connecticut General Statutes §§ 46a-56, 46a-68e and 46a-68f; and (5) the Contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the Commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor as relate to the provisions of this Section and Connecticut General Statutes § 46a-56. If the contract is a public works contract, the Contractor agrees and warrants that he will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works projects.

- (c) Determination of the Contractor's good faith efforts shall include, but shall not be limited to, the following factors: The Contractor's employment and subcontracting policies, patterns and practices; affirmative advertising, recruitment and training; technical assistance activities and such other reasonable activities or efforts as the Commission may prescribe that are designed to ensure the participation of minority business enterprises in public works projects.
- (d) The Contractor shall develop and maintain adequate documentation, in a manner prescribed by the Commission, of its good faith efforts.
- (e) The Contractor shall include the provisions of subsection (b) of this Section in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the Commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with Connecticut General Statutes §46a-56; provided if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission, the Contractor may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.
- (f) The Contractor agrees to comply with the regulations referred to in this Section as they exist on the date of this Contract and as they may be adopted or amended from time to time during the term of this Contract and any amendments thereto.
- (g) (1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of sexual orientation, in any manner prohibited by the laws of the United States or the State of Connecticut, and that employees are treated when employed without regard to their sexual orientation; (2) the Contractor agrees to provide each labor union or representative of workers with which such Contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such Contractor has a contract or understanding, a notice to be provided by the Commission on Human Rights and Opportunities advising the labor union or workers' representative of the Contractor's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (3) the Contractor agrees to comply with each provision of this section and with each regulation or relevant order issued by said Commission pursuant to Connecticut General Statutes § 46a-56; and (4) the Contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the Commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor which relate to the provisions of this Section and Connecticut General Statutes § 46a-56.
- (h) The Contractor shall include the provisions of the foregoing paragraph in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the Commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such

provisions including sanctions for noncompliance in accordance with Connecticut General Statutes § 46a-56; provided, if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission, the Contractor may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.

Please be aware the Nondiscrimination Certifications can be found at the Office of Policy and Management website:

<https://portal.ct.gov/OPM/Fin-PSA/Forms/Nondiscrimination-Certification>

## 9. Whistleblower Provision

The following clause is applicable if the Contract has a value of Five Million Dollars (\$5,000,000) or more.

**Whistleblowing.** This Contract may be subject to the provisions of Section 4-61dd of the Connecticut General Statutes. In accordance with this statute, if an officer, employee or appointing authority of the Contractor takes or threatens to take any personnel action against any employee of the Contractor in retaliation for such employee's disclosure of information to any employee of the contracting state or quasi-public agency or the Auditors of Public Accounts or the Attorney General under the provisions of subsection (a) of such statute, the Contractor shall be liable for a civil penalty of not more than five thousand dollars for each offense, up to a maximum of twenty per cent of the value of this Contract. Each violation shall be a separate and distinct offense and in the case of a continuing violation, each calendar day's continuance of the violation shall be deemed to be a separate and distinct offense. The State may request that the Attorney General bring a civil action in the Superior Court for the Judicial District of Hartford to seek imposition and recovery of such civil penalty. In accordance with subsection (f) of such statute, each large state contractor, as defined in the statute, shall post a notice of the provisions of the statute relating to large state contractors in a conspicuous place which is readily available for viewing by the employees of the Contractor.

## 10. Connecticut Freedom of Information Act

- (a) **Disclosure of Records.** This Contract may be subject to the provisions of section 1-218 of the Connecticut General Statutes. In accordance with this statute, each contract in excess of two million five hundred thousand dollars between a public agency and a person for the performance of a governmental function shall (a) provide that the public agency is entitled to receive a copy of records and files related to the performance of the governmental function, and (b) indicate that such records and files are subject to FOIA and may be disclosed by the public agency pursuant to FOIA. No request to inspect or copy such records or files shall be valid unless the request is made to the public agency in accordance with FOIA. Any complaint by a person who is denied the right to inspect or copy such records or files shall be brought to the Freedom of Information Commission in accordance with the provisions of sections 1-205 and 1-206 of the Connecticut General Statutes.
- (b) **Confidential Information.** The State will afford due regard to the Contractor's request for the protection of proprietary or confidential information which the State receives from the Contractor. However, all materials associated with the Contract are subject to the terms of the FOIA and all corresponding rules, regulations and interpretations. In making such a request, the Contractor may not merely state generally that the materials are proprietary or confidential in nature and not, therefore, subject to release to third parties. Those particular sentences, paragraphs, pages or sections that the Contractor believes are exempt from disclosure under the FOIA must be specifically identified as such. Convincing explanation and rationale sufficient to justify each exemption consistent with the FOIA must

accompany the request. The rationale and explanation must be stated in terms of the prospective harm to the competitive position of the Contractor that would result if the identified material were to be released and the reasons why the materials are legally exempt from release pursuant to the FOIA. To the extent that any other provision or part of the Contract conflicts or is in any way inconsistent with this section, this section controls and shall apply and the conflicting provision or part shall not be given effect. If the Contractor indicates that certain documentation is submitted in confidence, by specifically and clearly marking the documentation as "CONFIDENTIAL," DOT will first review the Contractor's claim for consistency with the FOIA (that is, review that the documentation is actually a trade secret or commercial or financial information and not required by statute), and if determined to be consistent, will endeavor to keep such information confidential to the extent permitted by law. See, *e.g.*, Conn. Gen. Stat. §1-210(b)(5)(A-B). The State, however, has no obligation to initiate, prosecute or defend any legal proceeding or to seek a protective order or other similar relief to prevent disclosure of any information that is sought pursuant to a FOIA request. Should the State withhold such documentation from a Freedom of Information requester and a complaint be brought to the Freedom of Information Commission, the Contractor shall have the burden of cooperating with DOT in defense of that action and in terms of establishing the availability of any FOIA exemption in any proceeding where it is an issue. In no event shall the State have any liability for the disclosure of any documents or information in its possession which the State believes are required to be disclosed pursuant to the FOIA or other law.

## **11. Service of Process**

The Contractor, if not a resident of the State of Connecticut, or, in the case of a partnership, the partners, if not residents, hereby appoints the Secretary of State of the State of Connecticut, and his successors in office, as agent for service of process for any action arising out of or as a result of this Contract; such appointment to be in effect throughout the life of this Contract and six (6) years thereafter.

## **12. Substitution of Securities for Retainages on State Contracts and Subcontracts**

This Contract is subject to the provisions of Section 3-112a of the General Statutes of the State of Connecticut, as revised.

## **13. Health Insurance Portability and Accountability Act of 1996 (HIPAA)**

The Contractor shall comply, if applicable, with the Health Insurance Portability and Accountability Act of 1996 and, pursuant thereto, the provisions attached at Exhibit C, and hereby made part of this Contract.

## **14. Forum and Choice of Law**

Forum and Choice of Law. The parties deem the Contract to have been made in the City of Hartford, State of Connecticut. Both parties agree that it is fair and reasonable for the validity and construction of the Contract to be, and it shall be, governed by the laws and court decisions of the State of Connecticut, without giving effect to its principles of conflicts of laws. To the extent that any immunities provided by Federal law or the laws of the State of Connecticut do not bar an action against the State, and to the extent that these courts are courts of competent jurisdiction, for the purpose of venue, the complaint shall be made returnable to the Judicial District of Hartford only or shall be brought in the United States District Court for the District of Connecticut only, and shall not be

transferred to any other court, provided, however, that nothing here constitutes a waiver or compromise of the sovereign immunity of the State of Connecticut. The Contractor waives any objection which it may now have or will have to the laying of venue of any Claims in any forum and further irrevocably submits to such jurisdiction in any suit, action or proceeding.

## **15. Summary of State Ethics Laws**

Pursuant to the requirements of section 1-101qq of the Connecticut General Statutes, the summary of State ethics laws developed by the State Ethics Commission pursuant to section 1-81b of the Connecticut General Statutes is incorporated by reference into and made a part of the Contract as if the summary had been fully set forth in the Contract.

## **16. Audit and Inspection of Plants, Places of Business and Records**

- (a) The State and its agents, including, but not limited to, the Connecticut Auditors of Public Accounts, Attorney General and State's Attorney and their respective agents, may, at reasonable hours, inspect and examine all of the parts of the Contractor's and Contractor Parties' plants and places of business which, in any way, are related to, or involved in, the performance of this Contract. For the purposes of this Section, "Contractor Parties" means the Contractor's members, directors, officers, shareholders, partners, managers, principal officers, representatives, agents, servants, consultants, employees or any one of them or any other person or entity with whom the Contractor is in privity of oral or written contract and the Contractor intends for such other person or entity to Perform under the Contract in any capacity.
- (b) The Contractor shall maintain, and shall require each of the Contractor Parties to maintain, accurate and complete Records. The Contractor shall make all of its and the Contractor Parties' Records available at all reasonable hours for audit and inspection by the State and its agents.
- (c) The State shall make all requests for any audit or inspection in writing and shall provide the Contractor with at least twenty-four (24) hours' notice prior to the requested audit and inspection date. If the State suspects fraud or other abuse, or in the event of an emergency, the State is not obligated to provide any prior notice.
- (d) The Contractor shall keep and preserve or cause to be kept and preserved all of its and Contractor Parties' Records until three (3) years after the latter of (i) final payment under this Agreement, or (ii) the expiration or earlier termination of this Agreement, as the same may be modified for any reason. The State may request an audit or inspection at any time during this period. If any Claim or audit is started before the expiration of this period, the Contractor shall retain or cause to be retained all Records until all Claims or audit findings have been resolved.
- (e) The Contractor shall cooperate fully with the State and its agents in connection with an audit or inspection. Following any audit or inspection, the State may conduct and the Contractor shall cooperate with an exit conference.
- (f) The Contractor shall incorporate this entire Section verbatim into any contract or other agreement that it enters into with any Contractor Party.

## **17. Campaign Contribution Restriction**

For all State contracts, defined in Conn. Gen. Stat. §9-612(f)(1) as having a value in a calendar year of \$50,000 or more, or a combination or series of such agreements or contracts having a value of \$100,000 or more, the authorized signatory to this contract expressly acknowledges receipt of the State Elections Enforcement Commission's notice advising state contractors of state campaign contribution and solicitation prohibitions, and will inform its principals of the contents of the notice, as set forth in "Notice to Executive Branch State Contractors and Prospective State Contractors of Campaign Contribution and Solicitation Limitations," a copy of which is attached hereto and hereby made a part of this contract, attached as Exhibit D.

## **18. Tangible Personal Property**

- (a) The Contractor on its behalf and on behalf of its Affiliates, as defined below, shall comply with the provisions of Conn. Gen. Stat. §12-411b, as follows:
- (1) For the term of the Contract, the Contractor and its Affiliates shall collect and remit to the State of Connecticut, Department of Revenue Services, any Connecticut use tax due under the provisions of Chapter 219 of the Connecticut General Statutes for items of tangible personal property sold by the Contractor or by any of its Affiliates in the same manner as if the Contractor and such Affiliates were engaged in the business of selling tangible personal property for use in Connecticut and had sufficient nexus under the provisions of Chapter 219 to be required to collect Connecticut use tax;
  - (2) A customer's payment of a use tax to the Contractor or its Affiliates relieves the customer of liability for the use tax;
  - (3) The Contractor and its Affiliates shall remit all use taxes they collect from customers on or before the due date specified in the Contract, which may not be later than the last day of the month next succeeding the end of a calendar quarter or other tax collection period during which the tax was collected;
  - (4) The Contractor and its Affiliates are not liable for use tax billed by them but not paid to them by a customer; and
  - (5) Any Contractor or Affiliate who fails to remit use taxes collected on behalf of its customers by the due date specified in the Contract shall be subject to the interest and penalties provided for persons required to collect sales tax under chapter 219 of the general statutes.
- (b) For purposes of this section of the Contract, the word "Affiliate" means any person, as defined in section 12-1 of the general statutes, that controls, is controlled by, or is under common control with another person. A person controls another person if the person owns, directly or indirectly, more than ten per cent of the voting securities of the other person. The word "voting security" means a security that confers upon the holder the right to vote for the election of members of the board of directors or similar governing body of the business, or that is convertible into, or entitles the holder to receive, upon its exercise, a security that confers such a right to vote. "Voting security" includes a general partnership interest.
- (c) The Contractor represents and warrants that each of its Affiliates has vested in the Contractor plenary authority to so bind the Affiliates in any agreement with the State of Connecticut. The Contractor on its own behalf and on behalf of its Affiliates shall also provide, no later than 30 days after receiving a request by the State's contracting authority, such information as the State may require to ensure, in the State's sole determination, compliance with the provisions of Chapter 219 of the Connecticut General Statutes, including, but not limited to, §12-411b.

## **19. Bid Rigging and/or Fraud – Notice to Contractor**

The Connecticut Department of Transportation is cooperating with the U.S. Department of Transportation and the Justice Department in their investigation into highway construction contract bid rigging and/or fraud.

A toll-free "HOT LINE" telephone number 800-424-9071 has been established to receive information from contractors, subcontractors, manufacturers, suppliers or anyone with knowledge of bid rigging and/or fraud, either past or current. The "HOT LINE" telephone number will be available during normal working hours ( 8:00 am – 5:00 pm EST). Information will be treated confidentially and anonymity respected.

## **20. Consulting Agreement Affidavit**

The Contractor shall comply with Connecticut General Statutes Section 4a-81(a) and 4a-81(b), as revised. Pursuant to Public Act 11-229, after the initial submission of the form, if there is a change in

the information contained in the form, a contractor shall submit the updated form, as applicable, either (i) not later than thirty (30) days after the effective date of such change or (ii) prior to execution of any new contract, whichever is earlier.

The Affidavit/Form may be submitted in written format or electronic format through the Department of Administrative Services (DAS) website.



**EXHIBIT A****TITLE VI CONTRACTOR ASSURANCES**

During the performance of this Contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "Contractor") agrees as follows:

1. **Compliance with Regulations:** The Contractor shall comply with the regulations relative to nondiscrimination in federally assisted programs of the United States Department of Transportation (hereinafter, "USDOT"), Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the "Regulations"), which are herein incorporated by reference and made a part of this contract.

2. **Nondiscrimination:** The Contractor, with regard to the work performed by it during the Contract, shall not discriminate on the grounds of race, color, national origin, sex, age, or disability in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor shall not participate either directly or indirectly in the discrimination prohibited by Subsection 5 of the Regulations, including employment practices when the Contract covers a program set forth in Appendix B of the Regulations.

3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:**

In all solicitations either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the Contractor of the Contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, national origin, sex, age, or disability.

4. **Information and Reports:** The Contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Connecticut Department of Transportation (ConnDOT) or the Funding Agency (FHWA, FTA and FAA) to be pertinent to ascertain compliance with such Regulations, orders, and instructions. Where any information required of a Contractor is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to ConnDOT or the Funding Agency, as appropriate, and shall set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance:** In the event of the Contractor's noncompliance with the nondiscrimination provisions of this Contract, the ConnDOT shall impose such sanctions as it or the Funding Agency may determine to be appropriate, including, but not limited to:

- A. Withholding contract payments until the Contractor is in-compliance; and/or
- B. Cancellation, termination, or suspension of the Contract, in whole or in part.

6. **Incorporation of Provisions:** The Contractor shall include the provisions of paragraphs 1 through 5 in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The Contractor shall take such action with respect to any subcontract or procurement as the ConnDOT or the Funding Agency may -direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Contractor may request the ConnDOT to enter into such litigation to protect the interests of the Funding Agency, and, in addition, the Contractor may request the United States to enter into such litigation to protect the interests of the United States

**EXHIBIT B****CONTRACTOR WORKFORCE UTILIZATION / EQUAL EMPLOYMENT OPPORTUNITY****1. Project Workforce Utilization Goals:**

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or Federally assisted or funded) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for the geographical area where the work is actually performed.

Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications which contain the applicable goals for minority and female participation.

The goals for minority and female utilization are expressed in percentage terms for the contractor's aggregate work-force in each trade on all construction work in the covered area, are referenced in the Appendix A below.

**STATE FUNDED PROJECTS (only)****APPENDIX A****(Labor Market Goals)****LABOR MARKET AREA GOAL****Minority****Female**

|                   |               |             |             |              |
|-------------------|---------------|-------------|-------------|--------------|
| <b>Bridgeport</b> |               |             |             | <b>22.7%</b> |
| <b>1.4%</b>       |               |             |             |              |
| Ansonia           | Beacon Falls  | Bridgeport  | Derby       |              |
| Easton            | Fairfield     | Milford     | Monroe      |              |
| Oxford            | Seymour       | Shelton     | Stratford   |              |
| Trumbull          |               |             |             |              |
| <b>Danbury</b>    |               |             |             | <b>10.7%</b> |
| <b>3.8%</b>       |               |             |             |              |
| Bethel            | Bridgewater   | Brookfield  | Danbury     |              |
| Kent              | New Fairfield | New Milford | Newtown     |              |
| Redding           | Ridgefield    | Roxbury     | Sherman     |              |
| Washington        |               |             |             |              |
| <b>Danielson</b>  |               |             |             | <b>4.3%</b>  |
| <b>1.8%</b>       |               |             |             |              |
| Brooklyn          | Eastford      | Hampton     | Killingly   |              |
| Pomfret           | Putnam        | Scotland    | Sterling    |              |
| Thompson          | Voluntown     | Union       | Woodstock   |              |
| <b>Hartford</b>   |               |             |             | <b>13.7%</b> |
| <b>2.1%</b>       |               |             |             |              |
| Andover           | Ashford       | Avon        | Barkhamsted |              |

|              |               |              |               |
|--------------|---------------|--------------|---------------|
| Belin        | Bloomfield    | Bolton       | Bristol       |
| Burlington   | Canton        | Chaplin      | Colchester    |
| Columbia     | Coventry      | Cromwell     | Durham        |
| East Granby  | East Haddam   | East Hampton | East Hartford |
| East Windsor | Ellington     | Enfield      | Farmington    |
| Glastonbury  | Granby        | Haddam       | Hartford      |
| Harwinton    | Hebron        | Lebanon      | Manchester    |
| Mansfield    | Marlborough   | Middlefield  | Middletown    |
| Newington    | Plainville    | Plymouth     | Portland      |
| Rocky Hill   | Simsbury      | Somers       | South Windsor |
| Southington  | Stafford      | Suffield     | Tolland       |
| Vernon       | West Hartford | Wethersfield | Willington    |
| Winchester   | Windham       | Windsor      | Windsor Locks |

|                    |             |
|--------------------|-------------|
| <b>Lower River</b> | <b>4.3%</b> |
| <b>1.8%</b>        |             |

|           |            |       |          |
|-----------|------------|-------|----------|
| Chester   | Deep River | Essex | Old Lyme |
| Westbrook |            |       |          |

**LABOR MARKET AREA GOAL****Minority****Female**

|                  |              |
|------------------|--------------|
| <b>New Haven</b> | <b>17.9%</b> |
| <b>3.1%</b>      |              |

|             |          |             |                |
|-------------|----------|-------------|----------------|
| Bethany     | Branford | Cheshire    | Clinton        |
| East Haven  | Guilford | Hamden      | Killingworth   |
| Madison     | Meriden  | New Haven   | North Branford |
| North Haven | Orange   | Wallingford | West Haven     |
| Woodbridge  |          |             |                |

|                   |             |
|-------------------|-------------|
| <b>New London</b> | <b>7.4%</b> |
| <b>3.1%</b>       |             |

|           |                            |                  |           |
|-----------|----------------------------|------------------|-----------|
| Bozrah    | Canterbury                 | East Lyme        | Franklin  |
| Griswold  | Groton                     | Ledyard          | Lisbon    |
| Montville | New London                 | North Stonington | Norwich   |
| Old Lyme  | Old Saybrook               | Plainfield       | Preston   |
| Salem     | Sprague                    | Stonington       | Waterford |
| Hopkinton | RI – Westerly Rhode Island |                  |           |

|                 |              |
|-----------------|--------------|
| <b>Stamford</b> | <b>33.2%</b> |
| <b>2.1%</b>     |              |

|          |           |            |         |
|----------|-----------|------------|---------|
| Darien   | Greenwich | New Canaan | Norwalk |
| Stamford | Weston    | Westport   | Wilton  |

|                   |             |
|-------------------|-------------|
| <b>Torrington</b> | <b>4.3%</b> |
| <b>1.8%</b>       |             |

|          |              |            |        |
|----------|--------------|------------|--------|
| Canaan   | Colebrook    | Cornwall   | Goshen |
| Hartland | Kent         | Litchfield | Morris |
| Norfolk  | North Canaan | Salisbury  | Sharon |

Torrington

Warren

|                  |            |           |           |              |
|------------------|------------|-----------|-----------|--------------|
| <b>Waterbury</b> |            |           |           | <b>12.4%</b> |
| <b>1.6%</b>      |            |           |           |              |
| Bethlehem        | Middlebury | Naugatuck | Prospect  |              |
| Southbury        | Thomaston  | Waterbury | Watertown |              |
| Wolcott          | Woodbury   |           |           |              |

Rev. 4/24/2019

**EXHIBIT C**

**Health Insurance Portability and Accountability Act of 1996 (“HIPAA”).**

- (a) If the Contactor is a Business Associate under the requirements of the Health Insurance Portability and Accountability Act of 1996 (“HIPAA”), the Contractor must comply with all terms and conditions of this Section of the Contract. If the Contractor is not a Business Associate under HIPAA, this Section of the Contract does not apply to the Contractor for this Contract.
- (b) The Contractor is required to safeguard the use, publication and disclosure of information on all applicants for, and all clients who receive, services under the Contract in accordance with all applicable federal and state law regarding confidentiality, which includes but is not limited to HIPAA, more specifically with the Privacy and Security Rules at 45 C.F.R. Part 160 and Part 164, subparts A, C, and E; and
- (c) The State of Connecticut Agency named on page 1 of this Contract (hereinafter the “Department”) is a “covered entity” as that term is defined in 45 C.F.R. § 160.103; and
- (d) The Contractor, on behalf of the Department, performs functions that involve the use or disclosure of “individually identifiable health information,” as that term is defined in 45 C.F.R. § 160.103; and
- (e) The Contractor is a “business associate” of the Department, as that term is defined in 45 C.F.R. § 160.103; and
- (f) The Contractor and the Department agree to the following in order to secure compliance with the HIPAA, the requirements of Subtitle D of the Health Information Technology for Economic and Clinical Health Act (hereinafter the HITECH Act), (Pub. L. 111-5, sections 13400 to 13423), and more specifically with the Privacy and Security Rules at 45 C.F.R. Part 160 and Part 164, subparts A, C, and E.
- (g) Definitions
  - (1) “Breach shall have the same meaning as the term is defined in section 13400 of the HITECH Act (42 U.S.C. §17921(1))
  - (2) “Business Associate” shall mean the Contractor.
  - (3) “Covered Entity” shall mean the Department of the State of Connecticut named on page 1 of this Contract.
  - (4) “Designated Record Set” shall have the same meaning as the term “designated record set” in 45 C.F.R. § 164.501.
  - (5) “Electronic Health Record” shall have the same meaning as the term is defined in section 13400 of the HITECH Act (42 U.S.C. §17921(5))

- (6) "Individual" shall have the same meaning as the term "individual" in 45 C.F.R. § 160.103 and shall include a person who qualifies as a personal representative as defined in 45 C.F.R. § 164.502(g).
  - (7) "Privacy Rule" shall mean the Standards for Privacy of Individually Identifiable Health Information at 45 C.F.R. part 160 and parts 164, subparts A and E.
  - (8) "Protected Health Information" or "PHI" shall have the same meaning as the term "protected health information" in 45 C.F.R. § 160.103, limited to information created or received by the Business Associate from or on behalf of the Covered Entity.
  - (9) "Required by Law" shall have the same meaning as the term "required by law" in 45 C.F.R. § 164.103.
  - (10) "Secretary" shall mean the Secretary of the Department of Health and Human Services or his designee.
  - (11) "More stringent" shall have the same meaning as the term "more stringent" in 45 C.F.R. § 160.202.
  - (12) "This Section of the Contract" refers to the HIPAA Provisions stated herein, in their entirety.
  - (13) "Security Incident" shall have the same meaning as the term "security incident" in 45 C.F.R. § 164.304.
  - (14) "Security Rule" shall mean the Security Standards for the Protection of Electronic Protected Health Information at 45 C.F.R. part 160 and parts 164, subpart A and C.
  - (15) "Unsecured protected health information" shall have the same meaning as the term as defined in section 13402(h)(1)(A) of HITECH. Act. (42 U.S.C. § 17932(h)(1)(A)).
- (h) Obligations and Activities of Business Associates.
- (1) Business Associate agrees not to use or disclose PHI other than as permitted or required by this Section of the Contract or as Required by Law.
  - (2) Business Associate agrees to use appropriate safeguards to prevent use or disclosure of PHI other than as provided for in this Section of the Contract.
  - (3) Business Associate agrees to use administrative, physical and technical safeguards that reasonably and appropriately protect the confidentiality, integrity, and availability of electronic protected health information that it creates, receives, maintains, or transmits on behalf of the Covered Entity.
  - (4) Business Associate agrees to mitigate, to the extent practicable, any harmful effect that is known to the Business Associate of a use or disclosure of PHI by Business Associate in violation of this Section of the Contract.

- (5) Business Associate agrees to report to Covered Entity any use or disclosure of PHI not provided for by this Section of the Contract or any security incident of which it becomes aware.
- (6) Business Associate agrees to insure that any agent, including a subcontractor, to whom it provides PHI received from, or created or received by Business Associate, on behalf of the Covered Entity, agrees to the same restrictions and conditions that apply through this Section of the Contract to Business Associate with respect to such information.
- (7) Business Associate agrees to provide access, at the request of the Covered Entity, and in the time and manner agreed to by the parties, to PHI in a Designated Record Set, to Covered Entity or, as directed by Covered Entity, to an Individual in order to meet the requirements under 45 C.F.R. § 164.524.
- (8) Business Associate agrees to make any amendments to PHI in a Designated Record Set that the Covered Entity directs or agrees to pursuant to 45 C.F.R. § 164.526 at the request of the Covered Entity, and in the time and manner agreed to by the parties.
- (9) Business Associate agrees to make internal practices, books, and records, including policies and procedures and PHI, relating to the use and disclosure of PHI received from, or created or received by, Business Associate on behalf of Covered Entity, available to Covered Entity or to the Secretary in a time and manner agreed to by the parties or designated by the Secretary, for purposes of the Secretary determining Covered Entity's compliance with the Privacy Rule.
- (10) Business Associate agrees to document such disclosures of PHI and information related to such disclosures as would be required for Covered Entity to respond to a request by an Individual for an accounting of disclosures of PHI in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder.
- (11) Business Associate agrees to provide to Covered Entity, in a time and manner agreed to by the parties, information collected in accordance with clause h. (10) of this Section of the Contract, to permit Covered Entity to respond to a request by an Individual for an accounting of disclosures of PHI in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder. Business Associate agrees at the Covered Entity's direction to provide an accounting of disclosures of PHI directly to an individual in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder.
- (12) Business Associate agrees to comply with any state or federal law that is more stringent than the Privacy Rule.
- (13) Business Associate agrees to comply with the requirements of the HITECH Act relating to privacy and security that are applicable to the Covered Entity and with the requirements of 45 C.F.R. sections 164.504(e), 164.308, 164.310, 164.312, and 164.316.

- (14) In the event that an individual requests that the Business Associate (a) restrict disclosures of PHI; (b) provide an accounting of disclosures of the individual's PHI; or (c) provide a copy of the individual's PHI in an electronic health record, the Business Associate agrees to notify the covered entity, in writing, within two business days of the request.
- (15) Business Associate agrees that it shall not, directly or indirectly, receive any remuneration in exchange for PHI of an individual without (1) the written approval of the covered entity, unless receipt of remuneration in exchange for PHI is expressly authorized by this Contract and (2) the valid authorization of the individual, except for the purposes provided under section 13405(d)(2) of the HITECH Act,(42 U.S.C. § 17935(d)(2)) and in any accompanying regulations

(16) Obligations in the Event of a Breach

- A. The Business Associate agrees that, following the discovery of a breach of unsecured protected health information, it shall notify the Covered Entity of such breach in accordance with the requirements of section 13402 of HITECH (42 U.S.C. 17932(b) and the provisions of this Section of the Contract.
- B. Such notification shall be provided by the Business Associate to the Covered Entity without unreasonable delay, and in no case later than 30 days after the breach is discovered by the Business Associate, except as otherwise instructed in writing by a law enforcement official pursuant to section 13402 (g) of HITECH (42 U.S.C. 17932(g)) . A breach is considered discovered as of the first day on which it is, or reasonably should have been, known to the Business Associate. The notification shall include the identification and last known address, phone number and email address of each individual (or the next of kin of the individual if the individual is deceased) whose unsecured protected health information has been, or is reasonably believed by the Business Associate to have been, accessed, acquired, or disclosed during such breach.
- C. The Business Associate agrees to include in the notification to the Covered Entity at least the following information:
1. A brief description of what happened, including the date of the breach and the date of the discovery of the breach, if known.
  2. A description of the types of unsecured protected health information that were involved in the breach (such as full name, Social Security number, date of birth, home address, account number, or disability code).
  3. The steps the Business Associate recommends that individuals take to protect themselves from potential harm resulting from the breach.
  4. A detailed description of what the Business Associate is doing to investigate the breach, to mitigate losses, and to protect against any further breaches.
  5. Whether a law enforcement official has advised either verbally or in writing the Business Associate that he or she has determined that notification or notice to



individuals or the posting required under section 13402 of the HITECH Act would impede a criminal investigation or cause damage to national security and; if so, include contact information for said official.

- D. Business Associate agrees to provide appropriate staffing and have established procedures to ensure that individuals informed by the Covered Entity of a breach by the Business Associate have the opportunity to ask questions and contact the Business Associate for additional information regarding the breach. Such procedures shall include a toll-free telephone number, an e-mail address, a posting on its Web site and a postal address. Business Associate agrees to include in the notification of a breach by the Business Associate to the Covered Entity, a written description of the procedures that have been established to meet these requirements. Costs of such contact procedures will be borne by the Contractor.
  - E. Business Associate agrees that, in the event of a breach, it has the burden to demonstrate that it has complied with all notifications requirements set forth above, including evidence demonstrating the necessity of a delay in notification to the Covered Entity.
- (i) Permitted Uses and Disclosure by Business Associate.
- (1) General Use and Disclosure Provisions Except as otherwise limited in this Section of the Contract, Business Associate may use or disclose PHI to perform functions, activities, or services for, or on behalf of, Covered Entity as specified in this Contract, provided that such use or disclosure would not violate the Privacy Rule if done by Covered Entity or the minimum necessary policies and procedures of the Covered Entity.
  - (2) Specific Use and Disclosure Provisions
    - (A) Except as otherwise limited in this Section of the Contract, Business Associate may use PHI for the proper management and administration of Business Associate or to carry out the legal responsibilities of Business Associate.
    - (B) Except as otherwise limited in this Section of the Contract, Business Associate may disclose PHI for the proper management and administration of Business Associate, provided that disclosures are Required by Law, or Business Associate obtains reasonable assurances from the person to whom the information is disclosed that it will remain confidential and used or further disclosed only as Required by Law or for the purpose for which it was disclosed to the person, and the person notifies Business Associate of any instances of which it is aware in which the confidentiality of the information has been breached.
    - (C) Except as otherwise limited in this Section of the Contract, Business Associate may use PHI to provide Data Aggregation services to Covered Entity as permitted by 45 C.F.R. § 164.504(e)(2)(i)(B).
- (j) Obligations of Covered Entity.

- (1) Covered Entity shall notify Business Associate of any limitations in its notice of privacy practices of Covered Entity, in accordance with 45 C.F.R. § 164.520, or to the extent that such limitation may affect Business Associate's use or disclosure of PHI.
  - (2) Covered Entity shall notify Business Associate of any changes in, or revocation of, permission by Individual to use or disclose PHI, to the extent that such changes may affect Business Associate's use or disclosure of PHI.
  - (3) Covered Entity shall notify Business Associate of any restriction to the use or disclosure of PHI that Covered Entity has agreed to in accordance with 45 C.F.R. § 164.522, to the extent that such restriction may affect Business Associate's use or disclosure of PHI.
- (k) Permissible Requests by Covered Entity. Covered Entity shall not request Business Associate to use or disclose PHI in any manner that would not be permissible under the Privacy Rule if done by the Covered Entity, except that Business Associate may use and disclose PHI for data aggregation, and management and administrative activities of Business Associate, as permitted under this Section of the Contract.
- (l) Term and Termination.
- (1) Term. The Term of this Section of the Contract shall be effective as of the date the Contract is effective and shall terminate when the information collected in accordance with clause h. (10) of this Section of the Contract is provided to the Covered Entity and all of the PHI provided by Covered Entity to Business Associate, or created or received by Business Associate on behalf of Covered Entity, is destroyed or returned to Covered Entity, or, if it is infeasible to return or destroy PHI, protections are extended to such information, in accordance with the termination provisions in this Section.
  - (2) Termination for Cause Upon Covered Entity's knowledge of a material breach by Business Associate, Covered Entity shall either:
    - (A) Provide an opportunity for Business Associate to cure the breach or end the violation and terminate the Contract if Business Associate does not cure the breach or end the violation within the time specified by the Covered Entity; or
    - (B) Immediately terminate the Contract if Business Associate has breached a material term of this Section of the Contract and cure is not possible; or
    - (C) If neither termination nor cure is feasible, Covered Entity shall report the violation to the Secretary.
  - (3) Effect of Termination
    - (A) Except as provided in (l)(2) of this Section of the Contract, upon termination of this Contract, for any reason, Business Associate shall return or destroy all PHI received from Covered Entity, or created or received by Business Associate on behalf of Covered Entity. Business Associate shall also provide the information collected in accordance with clause h. (10) of this Section of the Contract to the Covered Entity

within ten business days of the notice of termination. This provision shall apply to PHI that is in the possession of subcontractors or agents of Business Associate. Business Associate shall retain no copies of the PHI.

(B) In the event that Business Associate determines that returning or destroying the PHI is infeasible, Business Associate shall provide to Covered Entity notification of the conditions that make return or destruction infeasible. Upon documentation by Business Associate that return or destruction of PHI is infeasible, Business Associate shall extend the protections of this Section of the Contract to such PHI and limit further uses and disclosures of PHI to those purposes that make return or destruction infeasible, for as long as Business Associate maintains such PHI. Infeasibility of the return or destruction of PHI includes, but is not limited to, requirements under state or federal law that the Business Associate maintains or preserves the PHI or copies thereof.

(m) Miscellaneous Provisions.

- (1) Regulatory References. A reference in this Section of the Contract to a section in the Privacy Rule means the section as in effect or as amended.
- (2) Amendment. The Parties agree to take such action as is necessary to amend this Section of the Contract from time to time as is necessary for Covered Entity to comply with requirements of the Privacy Rule and the Health Insurance Portability and Accountability Act of 1996, Pub. L. No. 104-191.
- (3) Survival. The respective rights and obligations of Business Associate shall survive the termination of this Contract.
- (4) Effect on Contract. Except as specifically required to implement the purposes of this Section of the Contract, all other terms of the Contract shall remain in force and effect.
- (5) Construction. This Section of the Contract shall be construed as broadly as necessary to implement and comply with the Privacy Standard. Any ambiguity in this Section of the Contract shall be resolved in favor of a meaning that complies, and is consistent with, the Privacy Standard.
- (6) Disclaimer. Covered Entity makes no warranty or representation that compliance with this Section of the Contract will be adequate or satisfactory for Business Associate's own purposes. Covered Entity shall not be liable to Business Associate for any claim, civil or criminal penalty, loss or damage related to or arising from the unauthorized use or disclosure of PHI by Business Associate or any of its officers, directors, employees, contractors or agents, or any third party to whom Business Associate has disclosed PHI contrary to the provisions of this Contract or applicable law. Business Associate is solely responsible for all decisions made, and actions taken, by Business Associate regarding the safeguarding, use and disclosure of PHI within its possession, custody or control.

(7) Indemnification. The Business Associate shall indemnify and hold the Covered Entity harmless from and against any and all claims, liabilities, judgments, fines, assessments, penalties, awards and any statutory damages that may be imposed or assessed pursuant to HIPAA, as amended or the

HITECH Act, including, without limitation, attorney's fees, expert witness fees, costs of investigation, litigation or dispute resolution, and costs awarded thereunder, relating to or arising out of any violation by the Business Associate and its agents, including subcontractors, of any obligation of Business Associate and its agents, including subcontractors, under this section of the contract, under HIPAA, the HITECH Act, the Privacy Rule and the Security Rule.

## Notice to Executive Branch State Contractors and Prospective State Contractors of Campaign Contribution and Solicitation Limitations

This notice is provided under the authority of Connecticut General Statutes §9-612(g)(2), as amended by P.A. 10-1, and is for the purpose of informing state contractors and prospective state contractors of the following law (*italicized words are defined on the reverse side of this page*).

### CAMPAIGN CONTRIBUTION AND SOLICITATION LIMITATIONS

No *state contractor, prospective state contractor, principal of a state contractor or principal of a prospective state contractor*, with regard to a *state contract or state contract solicitation* with or from a state agency in the executive branch or a quasi-public agency or a holder, or principal of a holder of a valid prequalification certificate, shall make a contribution to (i) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of Governor, Lieutenant Governor, Attorney General, State Comptroller, Secretary of the State or State Treasurer, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee (which includes town committees).

In addition, no holder or principal of a holder of a valid prequalification certificate, shall make a contribution to (i) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of State senator or State representative, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee.

On and after January 1, 2011, no state contractor, prospective state contractor, principal of a state contractor or principal of a prospective state contractor, with regard to a state contract or state contract solicitation with or from a state agency in the executive branch or a quasi-public agency or a holder, or principal of a holder of a valid prequalification certificate, shall **knowingly solicit** contributions from the state contractor's or prospective state contractor's employees or from a *subcontractor or principals of the subcontractor* on behalf of (i) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of Governor, Lieutenant Governor, Attorney General, State Comptroller, Secretary of the State or State Treasurer, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee.

### DUTY TO INFORM

State contractors and prospective state contractors are required to inform their principals of the above prohibitions, as applicable, and the possible penalties and other consequences of any violation thereof.

### PENALTIES FOR VIOLATIONS

Contributions or solicitations of contributions made in violation of the above prohibitions may result in the following civil and criminal penalties:

**Civil penalties**—Up to \$2,000 or twice the amount of the prohibited contribution, whichever is greater, against a principal or a contractor. Any state contractor or prospective state contractor which fails to make reasonable efforts to comply with the provisions requiring notice to its principals of these prohibitions and the possible consequences of their violations may also be subject to civil penalties of up to \$2,000 or twice the amount of the prohibited contributions made by their principals.

**Criminal penalties**—Any knowing and willful violation of the prohibition is a Class D felony, which may subject the violator to imprisonment of not more than 5 years, or not more than \$5,000 in fines, or both.

### CONTRACT CONSEQUENCES

In the case of a state contractor, contributions made or solicited in violation of the above prohibitions may result in the contract being voided.

In the case of a prospective state contractor, contributions made or solicited in violation of the above prohibitions shall result in the contract described in the state contract solicitation not being awarded to the prospective state contractor, unless the State Elections Enforcement Commission determines that mitigating circumstances exist concerning such violation.

The State shall not award any other state contract to anyone found in violation of the above prohibitions for a period of one year after the election for which such contribution is made or solicited, unless the State Elections Enforcement Commission determines that mitigating circumstances exist concerning such violation.

Additional information may be found on the website of the State Elections Enforcement Commission, [www.ct.gov/seec](http://www.ct.gov/seec). Click on the link to "Lobbyist/Contractor Limitations."

## DEFINITIONS

“State contractor” means a person, business entity or nonprofit organization that enters into a state contract. Such person, business entity or nonprofit organization shall be deemed to be a state contractor until December thirty-first of the year in which such contract terminates. “State contractor” does not include a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or an employee in the executive or legislative branch of state government or a quasi-public agency, whether in the classified or unclassified service and full or part-time, and only in such person’s capacity as a state or quasi-public agency employee.

“Prospective state contractor” means a person, business entity or nonprofit organization that (i) submits a response to a state contract solicitation by the state, a state agency or a quasi-public agency, or a proposal in response to a request for proposals by the state, a state agency or a quasi-public agency, until the contract has been entered into, or (ii) holds a valid prequalification certificate issued by the Commissioner of Administrative Services under section 4a-100. “Prospective state contractor” does not include a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or an employee in the executive or legislative branch of state government or a quasi-public agency, whether in the classified or unclassified service and full or part-time, and only in such person’s capacity as a state or quasi-public agency employee.

“Principal of a state contractor or prospective state contractor” means (i) any individual who is a member of the board of directors of, or has an ownership interest of five per cent or more in, a state contractor or prospective state contractor, which is a business entity, except for an individual who is a member of the board of directors of a nonprofit organization, (ii) an individual who is employed by a state contractor or prospective state contractor, which is a business entity, as president, treasurer or executive vice president, (iii) an individual who is the chief executive officer of a state contractor or prospective state contractor, which is not a business entity, or if a state contractor or prospective state contractor has no such officer, then the officer who duly possesses comparable powers and duties, (iv) an officer or an employee of any state contractor or prospective state contractor who has *managerial or discretionary responsibilities with respect to a state contract*, (v) the spouse or a *dependent child* who is eighteen years of age or older of an individual described in this subparagraph, or (vi) a political committee established or controlled by an individual described in this subparagraph or the business entity or nonprofit organization that is the state contractor or prospective state contractor.

“State contract” means an agreement or contract with the state or any state agency or any quasi-public agency, let through a procurement process or otherwise, having a value of fifty thousand dollars or more, or a combination or series of such agreements or contracts having a value of one hundred thousand dollars or more in a calendar year, for (i) the rendition of services, (ii) the furnishing of any goods, material, supplies, equipment or any items of any kind, (iii) the construction, alteration or repair of any public building or public work, (iv) the acquisition, sale or lease of any land or building, (v) a licensing arrangement, or (vi) a grant, loan or loan guarantee. “State contract” does not include any agreement or contract with the state, any state agency or any quasi-public agency that is exclusively federally funded, an education loan, a loan to an individual for other than commercial purposes or any agreement or contract between the state or any state agency and the United States Department of the Navy or the United States Department of Defense.

“State contract solicitation” means a request by a state agency or quasi-public agency, in whatever form issued, including, but not limited to, an invitation to bid, request for proposals, request for information or request for quotes, inviting bids, quotes or other types of submittals, through a competitive procurement process or another process authorized by law waiving competitive procurement.

“Managerial or discretionary responsibilities with respect to a state contract” means having direct, extensive and substantive responsibilities with respect to the negotiation of the state contract and not peripheral, clerical or ministerial responsibilities.

“Dependent child” means a child residing in an individual’s household who may legally be claimed as a dependent on the federal income tax of such individual.

“Solicit” means (A) requesting that a contribution be made, (B) participating in any fund-raising activities for a candidate committee, exploratory committee, political committee or party committee, including, but not limited to, forwarding tickets to potential contributors, receiving contributions for transmission to any such committee or bundling contributions, (C) serving as chairperson, treasurer or deputy treasurer of any such committee, or (D) establishing a political committee for the sole purpose of soliciting or receiving contributions for any committee. Solicit does not include: (i) making a contribution that is otherwise permitted by Chapter 155 of the Connecticut General Statutes; (ii) informing any person of a position taken by a candidate for public office or a public official, (iii) notifying the person of any activities of, or contact information for, any candidate for public office; or (iv) serving as a member in any party committee or as an officer of such committee that is not otherwise prohibited in this section.

“Subcontractor” means any person, business entity or nonprofit organization that contracts to perform part or all of the obligations of a state contractor’s state contract. Such person, business entity or nonprofit organization shall be deemed to be a subcontractor until December thirty first of the year in which the subcontract terminates. “Subcontractor” does not include (i) a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or (ii) an employee in the executive or legislative branch of state government or a quasi-public agency, whether in the classified or unclassified service and full or part-time, and only in such person’s capacity as a state or quasi-public agency employee.

“Principal of a subcontractor” means (i) any individual who is a member of the board of directors of, or has an ownership interest of five per cent or more in, a subcontractor, which is a business entity, except for an individual who is a member of the board of directors of a nonprofit organization, (ii) an individual who is employed by a subcontractor, which is a business entity, as president, treasurer or executive vice president, (iii) an individual who is the chief executive officer of a subcontractor, which is not a business entity, or if a subcontractor has no such officer, then the officer who duly possesses comparable powers and duties, (iv) an officer or an employee of any subcontractor who has managerial or discretionary responsibilities with respect to a subcontract with a state contractor, (v) the spouse or a dependent child who is eighteen years of age or older of an individual described in this subparagraph, or (vi) a political committee established or controlled by an individual described in this subparagraph or the business entity or nonprofit organization that is the subcontractor.

**EXHIBIT E**

(state wages will be inserted here)

**Minimum Rates and Classifications for  
Heavy/Highway Construction**

ID# 20-10128

**Connecticut Department of Labor  
Wage and Workplace Standards**

By virtue of the authority vested in the Labor Commissioner under provisions of Section 31-53 of the General Statutes of Connecticut, as amended, the following are declared to be the prevailing rates and welfare payments and will apply only where the contract is advertised for bid within 20 days of the date on which the rates are established. Any contractor or subcontractor not obligated by agreement to pay

Project Number: Bid #3951

Project Town: New Britain

State#: Bid #3951

FAP#: Bid #3951

Project: Columbus/Chestnut Phase VII

| <b>CLASSIFICATION</b>   | <b>Hourly</b> | <b>Benefits</b> |
|---|---------------|-----------------|
| 1) Boilermaker  | 33.79         | 34% + 8.96      |
| 1a) Bricklayer, Cement Masons, Cement Finishers, Plasterers, Stone Masons             | 35.72         | 33.16           |
| 2) Carpenters, Piledrivermen  | 33.53         | 25.66           |
| 2a) Diver Tenders   | 33.53         | 25.66           |
| 3) Divers   | 41.99         | 25.66           |
| 03a) Millwrights  | 34.94         | 26.19           |
| 4) Painters: (Bridge Construction) Brush, Roller, Blasting (Sand, Water, etc.), Spray | 51.0          | 21.80           |
| 4a) Painters: Brush and Roller  | 34.62         | 21.80           |
| 4b) Painters: Spray Only  | 36.62         | 21.80           |
| 4c) Painters: Steel Only  | 35.62         | 21.80           |
| 4d) Painters: Blast and Spray   | 37.62         | 21.80           |
| 4e) Painters: Tanks, Tower and Swing  | 36.62         | 21.80           |



|  |       |                        |
|--|-------|------------------------|
| 5) Electrician (Trade License required: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)   | 38.5  | 28.61+3% of gross wage |
| 6) Ironworkers: Ornamental, Reinforcing, Structural, and Precast Concrete Erection   | 36.67 | 35.77 + a              |
| 7) Plumbers (Trade License required: (P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2) and Pipefitters (Including HVAC Work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4 G-1, G-2, G-8, G-9)   | 43.62 | 32.06                  |
| ----LABORERS-----  |       |                        |
| 8) Group 1: Laborer (Unskilled), Common or General, acetylene burner, concrete specialist  | 30.75 | 20.84                  |
| 9) Group 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators, powdermen  | 31.0  | 20.84                  |
| 10) Group 3: Pipelayers  | 31.25 | 20.84                  |
| 11) Group 4: Jackhammer/Pavement breaker (handheld); mason tenders (cement/concrete), catch basin builders, asphalt rakers, air track operators, block paver, curb setter and forklift operators | 31.25 | 20.84                  |
| 12) Group 5: Toxic waste removal (non-mechanical systems)  | 32.75 | 20.84                  |
| 13) Group 6: Blasters  | 32.5  | 20.84                  |
| Group 7: Asbestos/lead removal, non-mechanical systems (does not include leaded joint pipe)  | 31.75 | 20.84                  |
| Group 8: Traffic control signalmen   | 18.0  | 20.84                  |
| Group 9: Hydraulic Drills  | 29.3  | 18.90                  |
| ----LABORERS (TUNNEL CONSTRUCTION, FREE AIR). Shield Drive and Liner Plate Tunnels in Free Air.----  |       |                        |
| 13a) Miners, Motormen, Mucking Machine Operators, Nozzle Men, Grout Men, Shaft & Tunnel Steel & Rodmen, Shield & Erector, Arm Operator, Cable Tenders  | 32.98 | 20.84 + a              |
| 13b) Brakemen, Trackmen  | 32.01 | 20.84 + a              |
| ----CLEANING, CONCRETE AND CAULKING TUNNEL----   |       |                        |

|  |       |           |
|--|-------|-----------|
| 14) Concrete Workers, Form Movers, and Strippers                               | 32.01 | 20.84 + a |
| 15) Form Erectors  | 32.34 | 20.84 + a |
| ----ROCK SHAFT LINING, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:----    |       |           |
| 16) Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers                        | 32.01 | 20.84 + a |
| 17) Laborers Topside, Cage Tenders, Bellman                                    | 31.9  | 20.84 + a |
| 18) Miners   | 32.98 | 20.84 + a |
| ----TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR: ----                 |       |           |
| 18a) Blaster   | 39.47 | 20.84 + a |
| 19) Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders | 39.27 | 20.84 + a |
| 20) Change House Attendants, Powder Watchmen, Top on Iron Bolts                | 37.29 | 20.84 + a |
| 21) Mucking Machine Operator   | 40.06 | 20.84 + a |
| ----TRUCK DRIVERS----(*see note below)   |       |           |
| Two axle trucks  | 29.51 | 24.52 + a |
| Three axle trucks; two axle ready mix  | 29.62 | 24.52 + a |
| Three axle ready mix   | 29.67 | 24.52 + a |
| Four axle trucks, heavy duty trailer (up to 40 tons)                           | 29.72 | 24.52 + a |
| Four axle ready-mix  | 29.77 | 24.52 + a |
| Heavy duty trailer (40 tons and over)  | 29.98 | 24.52 + a |

|   |       |           |
|---|-------|-----------|
| Specialized earth moving equipment other than conventional type on-the road trucks and semi-trailer (including Euclids) | 29.77 | 24.52 + a |
|---|-------|-----------|

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----POWER EQUIPMENT OPERATORS----

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|   |       |           |
|---|-------|-----------|
| Group 1: Crane handling or erecting structural steel or stone, hoisting engineer (2 drums or over), front end loader (7 cubic yards or over), Work Boat 26 ft. & Over, Tunnel Boring Machines. (Trade License Required)   | 40.97 | 24.80 + a |
| Group 2: Cranes (100 ton rate capacity and over); Excavator over 2 cubic yards; Piledriver (\$3.00 premium when operator controls hammer); Bauer Drill/Caisson. (Trade License Required)  | 40.64 | 24.80 + a |
| Group 3: Excavator/Backhoe under 2 cubic yards; Cranes (under 100 ton rated capacity), Gradall; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber Tire Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Fine Grade (slopes, shaping, laser or GPS, etc.). (Trade License Required) | 39.88 | 24.80 + a |
| Group 4: Trenching Machines; Lighter Derrick; Concrete Finishing Machine; CMI Machine or Similar; Koehring Loader (Skooper)   | 39.48 | 24.80 + a |
| Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt Spreader; Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24   | 38.87 | 24.80 + a |
| Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller.  | 38.87 | 24.80 + a |
| Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).   | 38.55 | 24.80 + a |
| Group 7: Asphalt Roller; Concrete Saws and Cutters (ride on types); Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24  | 38.2  | 24.80 + a |
| Group 8: Mechanic, Grease Truck Operator, Hydroblaster, Barrier Mover, Power Stone Spreader; Welder; Work Boat under 26 ft.; Transfer Machine.  | 37.79 | 24.80 + a |
| Group 9: Front End Loader (under 3 cubic yards), Skid Steer Loader regardless of attachments (Bobcat or Similar); Fork Lift, Power Chipper; Landscape Equipment (including hydroseeder).  | 37.34 | 24.80 + a |
| Group 10: Vibratory Hammer, Ice Machine, Diesel and Air Hammer, etc.  | 35.24 | 24.80 + a |
| Group 11: Conveyor, Earth Roller; Power Pavement Breaker (whiphammer), Robot Demolition Equipment.  | 35.24 | 24.80 + a |

|   |       |           |
|---|-------|-----------|
| Group 12: Wellpoint Operator.   | 35.18 | 24.80 + a |
| Group 13: Compressor Battery Operator.  | 34.58 | 24.80 + a |
| Group 14: Elevator Operator; Tow Motor Operator (Solid Tire No Rough Terrain).                                | 33.41 | 24.80 + a |
| Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.  | 32.99 | 24.80 + a |
| Group 16: Maintenance Engineer/Oiler  | 32.32 | 24.80 + a |
| Group 17: Portable asphalt plant operator; portable crusher plant operator; portable concrete plant operator. | 36.76 | 24.80 + a |
| Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (minimum for any job requiring CDL license).   | 34.26 | 24.80 + a |

**\*\*NOTE: SEE BELOW**

----LINE CONSTRUCTION----(Railroad Construction and Maintenance)---

-

|  |       |              |
|--|-------|--------------|
| 20) Lineman, Cable Splicer, Technician                       | 48.19 | 6.5% + 22.00 |
| 21) Heavy Equipment Operator                                 | 42.26 | 6.5% + 19.88 |
| 22) Equipment Operator, Tractor Trailer Driver, Material Men | 40.96 | 6.5% + 19.21 |
| 23) Driver Groundmen   | 26.5  | 6.5% + 9.00  |
| 23a) Truck Driver  | 40.96 | 6.5% + 17.76 |

----LINE CONSTRUCTION----

|                               |       |              |
|-------------------------------|-------|--------------|
| 24) Driver Groundmen          | 30.92 | 6.5% + 9.70  |
| 25) Groundmen                 | 22.67 | 6.5% + 6.20  |
| 26) Heavy Equipment Operators | 37.1  | 6.5% + 10.70 |

Project: Columbus/Chestnut Phase VII

|  |       |              |
|--|-------|--------------|
| 27) Linemen, Cable Splicers, Dynamite Men                      | 41.22 | 6.5% + 12.20 |
| <hr/>  |       |              |
| 28) Material Men, Tractor Trailer Drivers, Equipment Operators | 35.04 | 6.5% + 10.45 |
| <hr/>  |       |              |

Project: Columbus/Chestnut Phase VII

Welders: Rate for craft to which welding is incidental.

\*Note: Hazardous waste removal work receives additional \$1.25 per hour for truck drivers.

**ALL Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra \$4.00 premium in addition to the hourly wage rate and benefit contributions:**

- 1) Crane handling or erecting structural steel or stone; hoisting engineer (2 drums or over)**
- 2) Cranes (100 ton rate capacity and over) Bauer Drill/Caisson**

Crane with 150 ft. boom (including jib) - \$1.50 extra

Crane with 200 ft. boom (including jib) - \$2.50 extra

Crane with 250 ft. boom (including jib) - \$5.00 extra

Crane with 300 ft. boom (including jib) - \$7.00 extra

Crane with 400 ft. boom (including jib) - \$10.00 extra

All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".

Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work

--Connecticut General Statute Section 31-55a: Annual Adjustments to wage rates by contractors doing

*The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.*

*Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.*

*It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.*

*The annual adjustments will be posted on the Department of Labor's Web page: [www.ct.gov/dol](http://www.ct.gov/dol). For those without internet access, please contact the division listed below.*

*The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.*

*All subsequent annual adjustments will be posted on our Web Site for contractor access.*

*Contracting Agencies are under no obligation pursuant to State labor law to pay any increase due to the annual adjustment provision.*

**Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage**

All Person who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.

All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)

Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

**As of:** February 18, 2020

Project: Columbus/Chestnut Phase VII

**~~Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).**

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

**As of:** February 18, 2020

# CONTRACTOR'S PROPOSED PROGRESS CHART—HIGHWAY CONSTRUCTION BAR CHART

Project Number(s): \_\_\_\_\_

Town(s) of: \_\_\_\_\_

Date Submitted: \_\_\_\_\_

Description: \_\_\_\_\_

| Operation               | Quantity | Duration |
|-------------------------|----------|----------|
| Organization            |          |          |
| Clearing & Grubbing     |          |          |
| Earth Excavation        |          |          |
| Rock Excavation         |          |          |
| Channel Excavation      |          |          |
| Borrow                  |          |          |
| Drainage (Trench, Pipe) |          |          |
| Pile Driving            |          |          |
| Footing                 |          |          |
| Abutments & Wings       |          |          |
| Steel Erection          |          |          |
| Floor Slabs             |          |          |
| Concrete Pavement       |          |          |
| Bit. Conc. Pavement     |          |          |
| Bridge Railing          |          |          |
| Curbing                 |          |          |
| Sidewalk                |          |          |
| Fencing                 |          |          |
| Electrical Work         |          |          |
| Traffic Items           |          |          |
| Misc. & Clean up        |          |          |

Calendar Days

Equipment to expect to use:

Total Calendar Days: \_\_\_\_\_

Signed By: \_\_\_\_\_



# ANTICIPATED SOURCE OF MATERIAL

REV. 8/98  
PRINTED ON RECYCLED PAPER

## STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION P.O. BOX 317546 NEWINGTON, CT 06111-7546

PROJECT NUMBER

TOWN

| MATERIALS                         | SOURCE OF SUPPLY AND MAILING ADDRESS |
|-----------------------------------|--------------------------------------|
| AGGREGATES:                       |                                      |
| Coarse                            |                                      |
| Fine                              |                                      |
| BITUMINOUS CONCRETE               |                                      |
| BITUMEN:                          |                                      |
| Asphalt Cement                    |                                      |
| Asphalt Cutbacks                  |                                      |
| Emulsion                          |                                      |
| Tar                               |                                      |
| BRICK                             |                                      |
| CEMENT - PORTLAND                 |                                      |
| Type I                            |                                      |
| Type II                           |                                      |
| Type 1A                           |                                      |
| Type IIA                          |                                      |
| TYPE OF DELIVERY:                 |                                      |
| Truck                             |                                      |
| R.R. Car                          |                                      |
| CONCRETE BLOCKS                   |                                      |
| CONCRETE, PORTLAND CEMENT         |                                      |
| CURING MATERIAL:                  |                                      |
| Mats                              |                                      |
| Paper                             |                                      |
| Compound                          |                                      |
| Other                             |                                      |
| DAMPPOOFING and/or WATERPROOFING: |                                      |
| Primer                            |                                      |
| Seal                              |                                      |
| Fabric                            |                                      |
| FENCE:                            |                                      |
| Property or Wire                  |                                      |
| Posts: Steel                      |                                      |
| Wood                              |                                      |
| Chain Link                        |                                      |
| Fittings for Chain Link           |                                      |
| GRAVEL                            |                                      |
| GUIDE RAIL:                       |                                      |
| Wire Rope                         |                                      |
| Fittings                          |                                      |
| Posts:                            |                                      |
| Metal                             |                                      |
| Wood                              |                                      |
| JOINT FILLER                      |                                      |
| JOINT SEALER                      |                                      |
| LOAD TRANSFER UNIT                |                                      |
| METAL FLASHING                    |                                      |
| METAL BEAM TYPE RAIL (BRIDGE)     |                                      |
| METAL BEAM TYPE RAIL              |                                      |
| METAL BRIDGE RAIL                 |                                      |
| OVERHEAD SIGN SUPPORTS            |                                      |
| PAINT:                            |                                      |
| 2nd Prime Coat (Field)            |                                      |
| 1st Field Coat                    |                                      |

| MATERIALS                               | SOURCE OF SUPPLY AND MAILING ADDRESS PG. 2 of 2 |
|---|---|
| PILING:                                 |   |
| Sheets                                  |   |
| Bearing                                 |   |
| Pipe                                    |   |
| Wood (Pressure Treated)                 |   |
| Precast, Prestressed                    |   |
| PIPE:                                   |   |
| C.C.M.                                  |   |
| Cast Iron                               |   |
| Reinf. Concrete                         |   |
| Vitrified Clay                          |   |
| PRECAST, PRESTRESSED UNITS              |   |
| STEEL:                                  |   |
| Bar Mat Fabric and/or Wire Mesh         |   |
| Metal Cribbing                          |   |
| Reinforcement                           |   |
| Scuppers                                |   |
| SHEAR CONNECTORS:                       |   |
| Spiral                                  |   |
| Welded                                  |   |
| STRUCTURAL (BRIDGES)                    |   |
| STRUCTURAL (Side mounted sign supports) |   |
|   | CONTRACTOR                                      |
|   | SIGNED BY                                       |
|   | DATE  |

NOTE: Items not listed above shall be listed below.





## STATE OF CONNECTICUT

### GIFT AND CAMPAIGN CONTRIBUTION CERTIFICATION

*Certification to accompany a State contract with a value of \$50,000 or more in a calendar or fiscal year, pursuant to C.G.S. §§ 4-250 and 4-252(c); Governor M. Jodi Rell's Executive Orders No. 1, Para. 8, and No. 7C, Para. 10; and C.G.S. §9-612(g)(2), as amended by Public Act 07-1*

#### INSTRUCTIONS:

Complete all sections of the form. Attach additional pages, if necessary, to provide full disclosure about any lawful campaign contributions made to campaigns of candidates for statewide public office or the General Assembly, as described herein. Sign and date the form, under oath, in the presence of a Commissioner of the Superior Court or Notary Public. Submit the completed form to the awarding State agency at the time of initial contract execution (and on each anniversary date of a multi-year contract, if applicable).

**CHECK ONE:**    ☐ Initial Certification                      ☐ Annual Update (Multi-year contracts only.)

#### GIFT CERTIFICATION:

As used in this certification, the following terms have the meaning set forth below:

- 1) "Contract" means that contract between the State of Connecticut (and/or one or more of its agencies or instrumentalities) and the Contractor, attached hereto, or as otherwise described by the awarding State agency below;
- 2) If this is an Initial Certification, "Execution Date" means the date the Contract is fully executed by, and becomes effective between, the parties; if this is an Annual Update, "Execution Date" means the date this certification is signed by the Contractor;
- 3) "Contractor" means the person, firm or corporation named as the contractor below;
- 4) "Applicable Public Official or State Employee" means any public official or state employee described in C.G.S. §4-252(c)(1)(i) or (ii);
- 5) "Gift" has the same meaning given that term in C.G.S. § 4-250(1);
- 6) "Planning Start Date" is the date the State agency began planning the project, services, procurement, lease or licensing arrangement covered by this Contract, as indicated by the awarding State agency below; and
- 7) "Principals or Key Personnel" means and refers to those principals and key personnel of the Contractor, and its or their agents, as described in C.G.S. §§ 4-250(5) and 4-252(c)(1)(B) and (C).

I, the undersigned, am the official authorized to execute the Contract on behalf of the Contractor. I hereby certify that, between the Planning Start Date and Execution Date, neither the Contractor nor any Principals or Key Personnel has made, will make (or has promised, or offered, to, or otherwise indicated that he, she or it will, make) any **Gifts** to any Applicable Public Official or State Employee.

I further certify that no Principals or Key Personnel know of any action by the Contractor to circumvent (or which would result in the circumvention of) the above certification regarding **Gifts** by providing for any other principals, key personnel, officials, or employees of the Contractor, or its or their agents, to make a **Gift** to any Applicable Public Official or State Employee. I further certify that the Contractor made the bid or proposal for the Contract without fraud or collusion with any person.

#### CAMPAIGN CONTRIBUTION CERTIFICATION:

I further certify that, on or after December 31, 2006, neither the Contractor nor any of its principals, as defined in C.G.S. § 9-612(g)(1), has made any **campaign contributions** to, or solicited any contributions on behalf of, any exploratory committee, candidate committee, political committee, or party committee established by, or supporting or authorized to support, any candidate for statewide public office, in violation of C.G.S. § 9-612(g)(2)(A). I further certify that **all lawful campaign contributions** that have been made on or after December 31, 2006 by the Contractor or any of its principals, as defined in C.G.S. § 9-612(g)(1), to, or solicited on behalf of, any exploratory committee, candidate committee, political committee, or party committee established by, or supporting or authorized to support any candidates for statewide public office or the General Assembly, are listed below:



# STATE OF CONNECTICUT

## GIFT AND CAMPAIGN CONTRIBUTION CERTIFICATION

### Lawful Campaign Contributions to Candidates for Statewide Public Office:

| <u>Contribution Date</u> | <u>Name of Contributor</u> | <u>Recipient</u> | <u>Value</u> | <u>Description</u> |
|--------------------------|----------------------------|------------------|--------------|--------------------|
|                          |                            |                  |              |                    |
|                          |                            |                  |              |                    |
|                          |                            |                  |              |                    |
|                          |                            |                  |              |                    |
|                          |                            |                  |              |                    |
|                          |                            |                  |              |                    |
|                          |                            |                  |              |                    |
|                          |                            |                  |              |                    |

### Lawful Campaign Contributions to Candidates for the General Assembly:

| <u>Contribution Date</u> | <u>Name of Contributor</u> | <u>Recipient</u> | <u>Value</u> | <u>Description</u> |
|--------------------------|----------------------------|------------------|--------------|--------------------|
|                          |                            |                  |              |                    |
|                          |                            |                  |              |                    |
|                          |                            |                  |              |                    |
|                          |                            |                  |              |                    |
|                          |                            |                  |              |                    |
|                          |                            |                  |              |                    |
|                          |                            |                  |              |                    |
|                          |                            |                  |              |                    |

Sworn as true to the best of my knowledge and belief, subject to the penalties of false statement.

\_\_\_\_\_  
Printed Contractor Name

\_\_\_\_\_  
Signature of Authorized Official

Subscribed and acknowledged before me this \_\_\_\_\_ day of \_\_\_\_\_, 200\_\_.

\_\_\_\_\_  
Commissioner of the Superior Court (or Notary Public)

#### For State Agency Use Only

\_\_\_\_\_  
Awarding State Agency

\_\_\_\_\_  
Planning Start Date

\_\_\_\_\_  
Contract Number or Description

**AFFIRMATIVE ACTION PROGRAM CERTIFICATION**

City/Town of \_\_\_\_\_

Firm Name: \_\_\_\_\_

Address: \_\_\_\_\_

Project Description: \_\_\_\_\_

Bid Amount: \_\_\_\_\_

Date: \_\_\_\_\_

I \_\_\_\_\_ of \_\_\_\_\_  
(Name of Person) (Name of Firm)

intend to honor our Affirmative Action Program on file with the Connecticut Department of Transportation, Office of Contract Compliance. I further certify that our Affirmative Action Program is current and that the last approval was on (Date) \_\_\_\_\_, 20\_\_\_\_ and it expires on (Date) \_\_\_\_\_, 20\_\_\_\_.

Signed By: \_\_\_\_\_

Title: \_\_\_\_\_

EEO Officer: \_\_\_\_\_



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

|          |                               |                |        |
|----------|-------------------------------|----------------|--------|
| PRODUCER | CONTACT NAME:                 |                |        |
|          | PHONE (A/C, No, Ext):         | FAX (A/C, No): |        |
|          | E-MAIL ADDRESS:               |                |        |
|          | INSURER(S) AFFORDING COVERAGE |                | NAIC # |
|          | INSURER A :                   |                |        |
|          | INSURER B :                   |                |        |
| INSURED  | INSURER C :                   |                |        |
|          | INSURER D :                   |                |        |
|          | INSURER E :                   |                |        |
|          | INSURER F :                   |                |        |

**COVERAGES****CERTIFICATE NUMBER:****REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSR LTR | TYPE OF INSURANCE  | ADDL INSD   | SUBR WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS   |
|----------|--|---|----------|---------------|-------------------------|-------------------------|--|
|          | <b>COMMERCIAL GENERAL LIABILITY</b>  |   |          |               |                         |                         | EACH OCCURRENCE \$   |
|          | <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR                            |   |          |               |                         |                         | DAMAGE TO RENTED PREMISES (Ea occurrence) \$                         |
|          |  |   |          |               |                         |                         | MED EXP (Any one person) \$  |
|          |  |   |          |               |                         |                         | PERSONAL & ADV INJURY \$   |
|          | GEN'L AGGREGATE LIMIT APPLIES PER:   |   |          |               |                         |                         | GENERAL AGGREGATE \$   |
|          | <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC |   |          |               |                         |                         | PRODUCTS - COMP/OP AGG \$  |
|          | OTHER:   |   |          |               |                         |                         | \$   |
|          | <b>AUTOMOBILE LIABILITY</b>  |   |          |               |                         |                         | COMBINED SINGLE LIMIT (Ea accident) \$                               |
|          | <input type="checkbox"/> ANY AUTO  |   |          |               |                         |                         | BODILY INJURY (Per person) \$  |
|          | <input type="checkbox"/> ALL OWNED AUTOS   | <input type="checkbox"/> SCHEDULED AUTOS              |          |               |                         |                         | BODILY INJURY (Per accident) \$                                      |
|          | <input type="checkbox"/> HIRED AUTOS   | <input type="checkbox"/> NON-OWNED AUTOS              |          |               |                         |                         | PROPERTY DAMAGE (Per accident) \$                                    |
|          |  |   |          |               |                         |                         | \$   |
|          | <b>UMBRELLA LIAB</b>   |   |          |               |                         |                         | EACH OCCURRENCE \$   |
|          | <input type="checkbox"/> EXCESS LIAB   | <input type="checkbox"/> OCCUR                        |          |               |                         |                         | AGGREGATE \$   |
|          | <input type="checkbox"/> DED <input type="checkbox"/> RETENTION \$                             | <input type="checkbox"/> CLAIMS-MADE                  |          |               |                         |                         | \$   |
|          | <b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b>   |   |          |               |                         |                         | <input type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER |
|          | ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)                    | <input type="checkbox"/> Y <input type="checkbox"/> N | N/A      |               |                         |                         | E.L. EACH ACCIDENT \$  |
|          | If yes, describe under DESCRIPTION OF OPERATIONS below   |   |          |               |                         |                         | E.L. DISEASE - EA EMPLOYEE \$  |
|          |  |   |          |               |                         |                         | E.L. DISEASE - POLICY LIMIT \$                                       |

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

**CERTIFICATE HOLDER****CANCELLATION**

|  |  |
|--|--|
|  | SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. |
|  | AUTHORIZED REPRESENTATIVE  |

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**INDEX TO SPECIAL PROVISIONS  
COLUMBUS BOULEVARD & CHESTNUT STREET  
PHASE VII COMPLETE STREETS, BID 3951**

**SPECIAL PROVISIONS**

|                      |   |
|----------------------|---|
| NOTICE TO CONTRACTOR | - CITY OF NEW BRITAIN DISCLAIMER  |
| NOTICE TO CONTRACTOR | - SPECIAL PROVISIONS  |
| NOTICE TO CONTRACTOR | - TECHNICAL SPECIFICATIONS  |
| NOTICE TO CONTRACTOR | - CODE OF ETHICS  |
| NOTICE TO CONTRACTOR | - CONTRACTOR TRAINING REQUIREMENT FOR 10-HOUR OSHA<br>CONSTRUCTION SAFETY AND HEALTH COURSE |
| NOTICE TO CONTRACTOR | - PROCUREMENT OF MATERIALS  |
| NOTICE TO CONTRACTOR | - REQUIREMENTS OF TITLE 49, CODE OF FEDERAL REGULATIONS<br>PART 26                          |
| NOTICE TO CONTRACTOR | - VEHICLE EMISSIONS   |
| NOTICE TO CONTRACTOR | - FIRE DEPARTMENT, POLICE & EMERGENCY MEDICAL<br>SERVICES                                   |
| NOTICE TO CONTRACTOR | - SIGN INVENTORY  |
| NOTICE TO CONTRACTOR | - SAFEGUARDING OF RESIDENCES AND COMMERCIAL<br>PROPERTIES                                   |
| NOTICE TO CONTRACTOR | - NOISE POLLUTION   |
| NOTICE TO CONTRACTOR | - CITY PERMITS  |
| NOTICE TO CONTRACTOR | - PROTECTION OF UNDERGROUND UTILITIES   |
| NOTICE TO CONTRACTOR | - UTILITY COORDINATION  |
| NOTICE TO CONTRACTOR | - WATER USAGE FEE   |
| NOTICE TO CONTRACTOR | - LIST OF CONTACTS OF UTILITY PERSONNEL   |
| NOTICE TO CONTRACTOR | - WORK NEAR EVERSOURCE FACILITIES   |
| NOTICE TO CONTRACTOR | - SALVAGEABLE MATERIALS   |
| NOTICE TO CONTRACTOR | - UNANTICIPATED DISCOVERY OF CULTURAL RESOURCES   |
| NOTICE TO CONTRACTOR | - TRAFFIC SIGNALS   |
| NOTICE TO CONTRACTOR | - SIDEWALK FREE PATH  |
| NOTICE TO CONTRACTOR | - ELECTRIC SERVICE CONNECTION   |
| NOTICE TO CONTRACTOR | - UTILITY COMPANIES   |
| NOTICE TO CONTRACTOR | - ALL-INCLUSIVE DRAINAGE  |
| NOTICE TO CONTRACTOR | - CNG DEPARTMENTAL PROCEDURE 480.01   |
| NOTICE TO CONTRACTOR | - CNG DEPARTMENTAL PROCEDURE 482.01   |



# INDEX TO SPECIAL PROVISIONS COLUMBUS BOULEVARD & CHESTNUT STREET PHASE VII COMPLETE STREETS, BID 3951

## GENERAL

|               |  |
|---------------|--|
| SECTION 1.05  | CONTROL OF WORK  |
| SECTION 1.06  | CONTROL OF MATERIALS   |
| SECTION 1.07  | LEGAL RELATIONS AND RESPONSIBILITY                                   |
| SECTION 1.08  | PROSECUTION AND PROGRESS   |
| SECTION 2.86  | DRAINAGE TRENCH EXCAVATION, ROCK IN DRAINAGE TRENCH EXCAVATION       |
| SECTION 4.06  | BITUMINOUS CONCRETE  |
| SECTION 5.86  | CATCH BASINS, MANHOLES AND DROP INLETS                               |
| SECTION 6.86  | DRAINAGE PIPES, DRAINAGE PIPE ENDS                                   |
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| 0202451 | A | TEST PIT EXCAVATION                               |
| 0202503 | A | REMOVAL OF CONCRETE CURBING                       |
| 0202513 | A | REMOVAL OF CONCRETE SIDEWALK                      |
| 0202522 | A | REMOVAL OF BITUMINOUS CONCRETE PAVEMENT           |
| 0202575 | A | FURNISH AND INSTALL CONCRETE MONUMENT             |
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| 0406171 | A | HMA S0.5  |
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**NOTICE TO CONTRACTOR - CITY OF NEW BRITAIN DISCLAIMER**

City of New Britain bidding and other information and documents which are obtained through the Internet, World Wide Web Sites or other sources are not to be construed to be official information for the purposes of bidding or conducting other business with the City.

It is the responsibility of each bidder and all other interested parties to obtain all bidding related information and documents from official sources within the City.

Persons and/or entities which reproduce and/or make such information available by any means are not authorized by the City to do so and may be liable for claims resulting from the dissemination of unofficial, incomplete and/or inaccurate information.

## **NOTICE TO CONTRACTOR - SPECIAL PROVISIONS**

The following Special Provisions are hereby incorporated and made part of this contract. Should a conflict occur between the City of New Britain requirements and the State of Connecticut requirements, the requirements of the State shall apply in all cases. Bid Requirements and Conditions Document, Bid Proposal Submittal Document, Improvement Plans and Special Technical Specifications shall govern followed by the Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 817 and then by the City of New Britain Standard Specifications for Municipal Construction, Dated May 2008. The New Britain Standard Specifications for Municipal Construction are available on the web under the Documents link at [www.newbritainct.gov](http://www.newbritainct.gov).

### **1. Notification of Anticipated Start Date**

The Contractor shall notify the City of New Britain inspector assigned to the project, or if the Contractor is not aware of an inspector being assigned, the City Engineer, at (860) 826-3350, a minimum of five (5) working days prior to commencing work on the project.

### **2. City Requirements Not Waived**

Failure to include any specification requirement of the City of New Britain from the Contract Documents shall not be construed as reason to waive or eliminate the requirement from applying to work performed under this contract.

### **3. Record of Preconstruction Conditions**

The Contractor shall furnish to the Engineer photographs and videos of the Project Site and immediate surrounding areas as specified below, no separate payment shall be made for this work:

#### **A. PHOTOGRAPHS**

1. Prior to the start of construction, the Contractor, together with the City Inspector, shall digitally photograph the project to document existing conditions, special care items and critical areas. Special attention should be paid to areas where construction is anticipated on private property, areas along the entire Project Site boundary, and any features (e.g. walls, fences, structures, driveways, landscaping, trees, poles, architectural features, etc.) near or within the Project Site which will or may be affected by Project activities. The photographs should be taken from various locations and perspectives throughout the project area so as to provide a maximum coverage of the area.
2. After the completion of the project the Contractor, together with the City Inspector, shall digitally photograph the project to show completed work. The photographs should be taken from approximately the same locations and perspectives as those taken prior to construction.

## B. VIDEOS

1. A narrated digital video of the Project Site and its immediate surrounding areas shall be taken prior to construction, with the date, time and locations clearly defined in the film. This video shall also be taken in the presence of the City Inspector. Special attention should be paid to areas where construction is anticipated on private property, areas along the entire Project Site boundary, and any features (e.g. walls, fences, structures, driveways, landscaping, trees, poles, architectural features, etc.) near or within the Project Site which will or may be affected by Project activities.
2. A narrated digital video of the Project Site and its immediate surrounding areas taken after construction, with the date, time and locations clearly defined in the film. The videos content (locations, perspective, sequence, etc.) should essentially replicate that of the pre-construction video.

Pre-construction project photograph and video files on DVD shall be delivered to the Engineer prior to commencing any construction; and the post-construction project photograph and video files shall be delivered to the City with the final payment requisition. The photographer(s) should consult with the Project Inspector prior to shooting regarding any particular locations, perspectives, and/or features the Project Inspector may wish to have recorded.

### 4. Project Surveyor

Prior to commencement of any Project construction, the Contractor shall submit to the Engineer the name, place of professional employment, business address and phone number, and license number of a licensed land surveyor in the State of Connecticut whose services have been retained by the Contractor to serve as Project Surveyor. The duties and responsibilities of the Project Surveyor shall include construction layout (Article 9 of the Supplemental General Conditions [SGC]), locating and verifying all existing survey and property monuments and markers prior to commencement of construction, establishment or re-establishment of survey and property monuments and markers, and data gathering for and preparation of record drawings (e.g. As-built drawings).

The Project Surveyor shall perform or **directly** supervise the performance of all such duties and responsibilities; and the Engineer has the authority to verify such supervision and to halt construction for reason of lack of property supervision if the level of such supervision is not satisfactory.

Prior to Final Acceptance of any portion of the project, As-built drawings of that portion of the project, prepared at the Contractor's expense by the Project Surveyor in accordance with the latest revision of the City of New Britain Requirements for As-built Maps, must be submitted to, and approved by, the Engineer. As-built data is to be clearly and legibly recorded, under the supervision of the Project Surveyor, as the work progresses. As-built data for any, or all, completed work must be made available to the Engineer for review upon demand.

The designated Project Surveyor may not be changed without valid cause and written approval from the Engineer. In order to change the designated Project Surveyor, the Contractor must submit, in writing, to the Engineer, the reason for the desired change, along with all pertinent information required regarding the proposed replacement Project Surveyor. The Engineer retains the right to contact and obtain information from the Project Surveyor regarding his functioning in such capacity on the Project and the Contractor's proposal to relieve him of such duties.

## **NOTICE TO CONTRACTOR - TECHNICAL SPECIFICATIONS**

The material and construction methods for the work specified in this contract shall conform with the applicable provisions of the State of Connecticut, Department of Transportation specification entitled Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 817, Dated 2016, Last Revised July 2019 and the Special Provisions contained in the Contract Documents. Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 817 and all subsequent revisions, Supplemented Form 817, July 2019 are hereby made part of this contract. "Form 817" and Supplemental Forms may be viewed at the State of Connecticut, Department of Transportation's web site at

<https://portal.ct.gov/DOT/Publications/Form-817/Supp-Form-817-July-2019>

All references to Commissioner, Department, Engineer, and State anywhere with the Contract Documents and Form 817 shall be interpreted to mean the City of New Britain or a duly authorized agent of the City. Any questions or ambiguity regarding any definitions shall be brought to the immediate attention of the City.

## **NOTICE TO CONTRACTOR - CODE OF ETHICS**

The Contractor shall comply with the provisions contained in Section 1-86e of the Connecticut General Statutes, which provides as follows:

- (a) No person hired by the state as a Contractor or independent contractor shall:
  - (1) Use the authority provided to the person under the contract, or any confidential information acquired in the performance of the contract, to obtain financial gain for the person, an employee of the person or a member of the immediate family of any such person or employee;
  - (2) Accept another state contract which would impair the independent judgment of the person in the performance of the existing contract; or
  - (3) Accept anything of value based on an understanding that the actions of the person on behalf of the state would be influenced.
- (b) No person shall give anything of value to a person hired by the state as a Contractor or independent contractor based on an understanding that the actions of the Contractor or independent contractor on behalf of the state would be influenced.

*The following clause is applicable to those contracts with a value of five hundred thousand dollars (\$500,000) or more:*

The Contractor shall comply with the Code of Ethics for Public Officials, Conn. Gen. Stat. §§ 1-79 *et seq.*, and Code of Ethics for Lobbyists, Conn. Gen. Stat. §§1-91 *et seq.*, when and where applicable. Insofar as state contractors are concerned, a summary of the most relevant provisions of the Codes of Ethics is contained in the Summary of State Ethics Laws for Current and Potential State Contractors. The Contractor acknowledges receiving such Summary, which is incorporated herein by reference. The Summary may change from time to time and may be accessed via the Internet at [www.ethics.state.ct.us](http://www.ethics.state.ct.us).

The Contractor agrees that the above clause will also be incorporated in all of its contracts with its subcontractors and consultants.

The Contractor agrees that any instance of its violating the Code of Ethics or the Department of Transportation Ethics Policy will be sufficient cause for the Department to terminate any or all of the Contractor's pending contracts with the Department.

In addition, the Contractor hereby acknowledges and agrees to comply with the policies enumerated in "Connecticut Department of Transportation Policy Statement Policy No. F&A-10, Subject: Code of Ethics Policy", dated June 1, 2007, a copy of which is attached hereto and made a part hereof.



# CONNECTICUT DEPARTMENT OF TRANSPORTATION

# POLICY STATEMENT

POLICY NO. F&A-10  
June 1, 2007

**SUBJECT: Code of Ethics Policy**

The purpose of this policy is to establish and maintain high standards of honesty, integrity, and quality of performance for all employees of the Department of Transportation ("DOT" or "Department"). Individuals in government service have positions of significant trust and responsibility that require them to adhere to the highest ethical standards. Standards that might be acceptable in other public or private organizations are not necessarily acceptable for the DOT.

It is expected that all DOT employees will comply with this policy as well as the Code of Ethics for Public Officials, and strive to avoid even the appearance of impropriety in their relationships with members of the public, other agencies, private vendors, consultants, and contractors. This policy is, as is permitted by law, in some cases stricter than the Code of Ethics for Public Officials. Where that is true, employees are required to comply with the more stringent DOT policy.

The Code of Ethics for Public Officials is State law and governs the conduct of all State employees and public officials regardless of the agency in which they serve. The entire Code, as well as a summary of its provisions, may be found at the Office of State Ethics' web site: [www.ct.gov/ethics/site/default.asp](http://www.ct.gov/ethics/site/default.asp). For formal and informal interpretations of the Code of Ethics, DOT employees should contact the Office of State Ethics or the DOT's Ethics Compliance Officer or her designee.

All State agencies are required by law to have an ethics policy statement. Additionally, all State agencies are required by law to have an Ethics Liaison or Ethics Compliance Officer. The DOT, because of the size and scope of its procurement activities, has an Ethics Compliance Officer who is responsible for the Department's: development of ethics policies; coordination of ethics training programs; and monitoring of programs for agency compliance with its ethics policies and the Code of Ethics for Public Officials. At least annually, the Ethics Compliance Officer shall provide ethics training to agency personnel involved in contractor selection, evaluation, and supervision. A DOT employee who has a question or is unsure about the provisions of this policy, or who would like assistance contacting the Office of State Ethics, should contact the Ethics Compliance Officer or her designee.

**The DOT Ethics Compliance Officer is:**

Denise Rodosevich, Managing Attorney  
Office of Legal Services

**For questions, contact the Ethics Compliance Officer's Designee:**

Alice M. Sexton, Principal Attorney  
Office of Legal Services  
2800 Berlin Turnpike  
Newington, CT 06131-7546  
Tel. (860) 594-3045

**To contact the Office of State Ethics:**

Office of State Ethics  
20 Trinity Street, Suite 205  
Hartford, CT 06106  
Tel. (860) 566-4472  
Facs. (860) 566-3806  
Web: [www.ethics.state.ct.us](http://www.ethics.state.ct.us)



## **Enforcement**

The Department expects that all employees will comply with all laws and policies regarding ethical conduct. Violations of the law may subject an employee to sanctions from agencies or authorities outside the DOT. Whether or not another agency or authority imposes such sanctions, the Department retains the independent right to review and respond to any ethics violation or alleged ethics violation by its employees. Violations of this policy or ethics statutes, as construed by the DOT, may result in disciplinary action up to and including dismissal from State service.

## **Prohibited Activities**

1. ***Gifts:*** DOT employees (and in some cases their family members) are prohibited by the Code of Ethics and this Policy from accepting a gift from anyone who is: (1) doing business with, or seeking to do business with, the DOT; (2) directly regulated by the DOT; (3) prequalified as a contractor pursuant to Conn. Gen. Stat. §4a-100 by the Commissioner of the Department of Administrative Services (DAS); or (4) known to be a registered lobbyist or a lobbyist's representative. These four categories of people/entities are referred to as "restricted donors." A list of registered lobbyists can be found on the web site of the Office of State Ethics ([www.ct.gov/ethics/site/default.asp](http://www.ct.gov/ethics/site/default.asp)). A list of prequalified consultants and contractors, *i.e.*, those seeking to do business with the DOT, can be found on the DOT's Internet site under "Consultant Information" and "Doing Business with ConnDOT," respectively.

The term "gift" is defined in the Code of Ethics for Public Officials, Conn. Gen. Stat. §1-79(e), and has numerous exceptions. For example, one exception permits the acceptance of food and/or beverages valued up to \$50 per calendar year from any one donor and consumed on an occasion or occasions while the person paying or his representative is present. Therefore, such food and/or beverage is not a "gift." Another exception permits the acceptance of items having a value up to ten dollars (\$10) provided the aggregate value of all things provided by the donor to the recipient during a calendar year does not exceed fifty dollars (\$50). Therefore, such items are not a "gift." Depending on the circumstances, the "donor" may be an individual if the individual is bearing the expense, or a donor may be the individual's employer/group if the individual is passing the expense back to the employer/group he/she represents.

This policy requires DOT employees to immediately return any gift (as defined in the Code of Ethics) that any person or entity attempts to give to the employee(s). If any such gift or other item of value is received by other than personal delivery from the subject person or entity, the item shall be taken to the Office of Human Resources along with the name and address of the person or entity who gave the item. The Office of Human Resources, along with the recipient of the item of value, will arrange for the donation of the item to a local charity (e.g., Foodshare, local soup kitchens, etc.). The Office of Human Resources will then send a letter to the gift's donor advising the person of the item's donation to charity and requesting that no such gifts be given to DOT employees in the future.

2. ***Contracting for Goods or Services for Personal Use With Department Contractors, Consultants, or Vendors:*** Executive Order 7C provides that: "Appointed officials and state employees in the Executive Branch are prohibited from contracting for goods and services, for personal use, with any person doing business with or seeking business with his or her agency, unless the goods or services are readily available to the general public for the price which the official or state employee paid or would pay."

3. ***Gift Exchanges Between Subordinates and Supervisors/Senior Staff:*** A recent change in the Code of Ethics prohibits exchanges of gifts valued at \$100 or more between (*i.e.*, to and from) supervisors and employees under their supervision. The Citizen's Ethics Advisory Board has advised that: (1) the monetary limit imposed by this provision is a per-gift amount; (2) gifts given between supervisors and subordinates (or *vice versa*) in celebration of a "major life event," as defined in the Code of Ethics, need not comply with the \$100 limit; and (3) the limitations imposed by this provision apply to a direct supervisor and subordinate *and to any individual up or down the chain of command*. The Citizen's Ethics Advisory Board has also advised that supervisors or subordinates may not pool their money to give a collective or group gift valued at \$100 or more, even though each of the individual contributions is less than \$100.
  4. ***Acceptance of Gifts to the State:*** A recent change to the Code of Ethics for Public Officials modified the definition of the term "gift" to limit the application of the so-called "gift to the State" exception. In general, "gifts to the State" are goods or services given to a State agency for use on State property or to support an event and which facilitate State action or functions. Before accepting any benefit as a "gift to the State," DOT employees should contact the Ethics Compliance Officer.
  5. ***Charitable Organizations and Events:*** No DOT employee shall knowingly accept any gift, discount, or other item of monetary value for the benefit of a charitable organization from any person or entity seeking official action from, doing or seeking business with, or conducting activities regulated by, the Department.
  6. ***Use of Office/Position for Financial Gain:*** DOT employees shall not use their public office, position, or influence from holding their State office/position, nor any information gained in the course of their State duties, for private financial gain (or the prevention of financial loss) for themselves, any family member, any member of their household, nor any "business with which they are associated." In general, a business with which one is associated includes any entity of which a DOT employee or his/her immediate family member is a director, owner, limited or general partner, beneficiary of a trust, holder of 5 percent or more stock, or an officer (president, treasurer, or executive or senior vice president).
- DOT employees shall not use or distribute State information (except as permitted by the Freedom of Information Act), nor use State time, personnel, equipment, or materials, for other than State business purposes.
7. ***Other Employment:*** DOT employees shall not engage in, nor accept, other employment that will either impair their independence of judgment with regard to their State duties or require or induce them to disclose confidential information gained through their State duties.

Any DOT employee who engages in or accepts other employment (including as an independent contractor), or has direct ownership in an outside business or sole proprietorship, shall complete an Employment/Outside Business Disclosure Form (see attached) and submit it to the Department's Human Resources Administrator. Disclosure of other employment to the DOT Human Resources Administrator shall *not* constitute approval of the other employment for purposes of the Code of Ethics for Public Officials.

Inquiries concerning the propriety of a DOT employee's other employment shall be directed to the Office of State Ethics to assure compliance with the Code of Ethics for Public Officials. Employees anticipating accepting other employment as described above should give ample time (at least one month) to the Office of State Ethics to respond to such outside employment inquiries.

No employee of the DOT shall allow any private obligation of employment or enterprise to take precedence over his/her responsibility to the Department.

8. **Outside Business Interests:** Any DOT employee who holds, directly or indirectly, a financial interest in any business, firm, or enterprise shall complete an Employment/Outside Business Disclosure Form (see attached) and submit it to the Department's Human Resources Administrator. An indirect financial interest includes situations where a DOT employee's spouse has a financial interest in a business, firm, or enterprise. A financial interest means that the employee or his spouse is an owner, member, partner, or shareholder in a non-publicly traded entity. Disclosure of such outside business interests to the DOT Human Resources Administrator shall *not* constitute approval of the outside business interest under this Policy or the Code of Ethics for Public Officials. DOT employees shall not have a financial interest in any business, firm, or enterprise which will either impair their independence of judgment with regard to their State duties or require or induce them to disclose confidential information gained through their State duties. Inquiries concerning the propriety of a DOT employee's outside business interests shall be directed to the Office of State Ethics to assure compliance with the Code of Ethics for Public Officials.
9. **Contracts With the State:** DOT employees, their immediate family members, and/or a business with which a DOT employee is associated, may not enter into a contract with the State, other than pursuant to a court appointment, valued at \$100 or more unless the contract has been awarded through an open and public process.
10. **Sanctioning Another Person's Ethics Violation:** No DOT official or employee shall counsel, authorize, or otherwise sanction action that violates any provision of the Code of Ethics.
11. **Certain Persons Have an Obligation to Report Ethics Violations:** If the DOT Commissioner, Deputy Commissioner, or "person in charge of State agency procurement" and contracting has reasonable cause to believe that a person has violated the Code of Ethics or any law or regulation concerning ethics in State contracting, he/she *must* report such belief to the Office of State Ethics. All DOT employees are encouraged to disclose waste, fraud, abuse, and corruption about which they become aware to the appropriate authority (see also Policy Statement EX.O.-23 dated March 31, 2004), including, but not limited to, their immediate supervisor or a superior of their immediate supervisor, the DOT Office of Management Services, the Ethics Compliance Officer, the Auditors of Public Accounts, the Office of the Attorney General, or the Office of the Chief State's Attorney.
12. **Post-State Employment Restrictions:** In addition to the above-stated policies of the Department, DOT employees are advised that the Code of Ethics for Public Officials bars certain conduct by State employees *after they leave State service. Upon leaving State service:*
  - **Confidential Information:** DOT employees must never disclose or use confidential information gained in State service for the financial benefit of any person.
  - **Prohibited Representation:** DOT employees must *never* represent anyone (other than the State) concerning any "particular matter" in which they participated personally and substantially while in State service and in which the State has a substantial interest.

DOT employees also must not, for one year after leaving State service, represent anyone other than the State for compensation before the DOT concerning a matter in which the State has a substantial interest. In this context, the term "represent" has been very broadly defined. Therefore, any former DOT employee contemplating post-State employment work that might involve interaction with any bureau of DOT (or any Board or Commission administratively under the DOT) within

their first year after leaving State employment should contact the DOT Ethics Compliance Officer and/or the Office of State Ethics.

- **Employment With State Vendors:** DOT employees who participated substantially in, or supervised, the negotiation or award of a State contract valued at \$50,000 or more must not accept employment with a party to the contract (other than the State) for a period of one year after resigning from State service, if the resignation occurs within one year after the contract was signed.

**13. Ethical Considerations Concerning Bidding and State Contracts:** DOT employees also should be aware of various provisions of Part IV of the Code of Ethics that affect any person or firm who: (1) is, or is seeking to be, prequalified by DAS under Conn. Gen. Stat. §4a-100; (2) is a party to a large State construction or procurement contract, or seeking to enter into such a contract, with a State agency; or (3) is a party to a consultant services contract, or seeking to enter into such a contract, with a State agency. These persons or firms shall not:

- With the intent to obtain a competitive advantage over other bidders, solicit any information from an employee or official that the contractor knows is not and will not be available to other bidders for a large State construction or procurement contract that the contractor is seeking;
- Intentionally, willfully, or with reckless disregard for the truth, charge a State agency for work not performed or goods not provided, including submitting meritless change orders in bad faith with the sole intention of increasing the contract price, as well as falsifying invoices or bills or charging unreasonable and unsubstantiated rates for services or goods to a State agency; and
- Intentionally or willfully violate or attempt to circumvent State competitive bidding and ethics laws.

Firms or persons that violate the above provisions may be deemed a nonresponsible bidder by the DOT.

In addition, no person with whom a State agency has contracted to provide consulting services to plan specifications for any contract, and no business with which such person is associated, may serve as a consultant to any person seeking to obtain such contract, serve as a contractor for such contract, or serve as a subcontractor or consultant to the person awarded such contract.

DOT employees who believe that a contractor or consultant may be in violation of any of these provisions should bring it to the attention of their manager.

#### **Training for DOT Employees**

A copy of this policy will be posted throughout the Department, and provided to each employee either in hard copy or by e-mail. As set forth above, State law requires that certain employees involved in contractor/consultant/vendor selection, evaluation, or supervision must undergo annual ethics training coordinated or provided by the Ethics Compliance Officer. If you believe your duties meet these criteria, you should notify your Bureau Chief to facilitate compilation of a training schedule. In addition, the DOT Ethics Compliance Officer can arrange for periodic ethics training provided by the Office of State Ethics. Finally, the Department will make available, on its web site or otherwise, a copy of this policy to all vendors, contractors, and other business entities doing business with the Department.

**Important Ethics Reference Materials**

It is strongly recommended that every DOT employee read and review the following:

- Code of Ethics for Public Officials, Chapter 10, Part 1, Conn. General Statutes Sections 1-79 through 1-89a found at: [www.ct.gov/ethics/site/default.asp](http://www.ct.gov/ethics/site/default.asp)
- Ethics Regulations Sections 1-81-14 through 1-81-38, found at: [www.ct.gov/ethics/site/default.asp](http://www.ct.gov/ethics/site/default.asp)
- The Office of State Ethics web site includes summaries and the full text of formal ethics advisory opinions interpreting the Code of Ethics, as well as summaries of previous enforcement actions: [www.ct.gov/ethics/site/default.asp](http://www.ct.gov/ethics/site/default.asp). DOT employees are strongly encouraged to contact the Department's Ethics Compliance Officer or her designee, or the Office of State Ethics with any questions or concerns they may have.

(This Policy Statement supersedes Policy Statement No. F&A-10 dated January 6, 2006)

  
Ralph J. Carpenter  
COMMISSIONER

**Attachment**

**List 1 and List 3**

(Managers and supervisors are requested to distribute a copy of this Policy Statement to all employees under their supervision.)

cc: Office of the Governor, Department of Administrative Services, Office of State Ethics

Emp&amp;discForm 5/07

## Department of Transportation Employment & Outside Business Disclosure Form

In accordance with Department of Transportation (Department) Policy Statement No. F&A-10, Code of Ethics Policy, I am hereby advising the Department that in addition to my current DOT position, I have other employment and/or a direct or indirect financial interest in an outside business as follows:

1. Full name of outside employer, or entity in which I or my spouse have a financial interest (e.g., ownership or member/partner): \_\_\_\_\_

2. Location of Employer/Entity disclosed above: \_\_\_\_\_

3. Nature of my/my spouse's relationship to employer/entity disclosed above (check at least one):

- ☐ Employee or Independent Contractor (circle one)  
☐ Owner/Member/Partner/etc.  
☐ Family Member of Owner/Member/Partner/etc.

4. State agency(ies) with which above employer/entity is doing business or seeking Business (write "N/A" if not applicable): \_\_\_\_\_

5. Job Title at Outside Employer: \_\_\_\_\_

6. Job Responsibilities at Outside Employer: \_\_\_\_\_

7. Current State Title: \_\_\_\_\_

8. Current State Job Responsibilities: \_\_\_\_\_

9. Name/Title of Current State Supervisor: \_\_\_\_\_

I understand that the filing of this Disclosure with the DOT Human Resources Administrator does not relieve me of any obligations I have to comply with the Code of Ethics for Public Officials, and does not constitute approval of my outside employment and/or financial interests under the Code of Ethics for Public Officials. *Employees engaging in outside employment are strongly urged to seek written approval of their outside employment from the Office of State Ethics, 20 Trinity Street, Hartford, CT 06106.* I also understand that if either my State or outside employment/financial interest changes in location or function I am required to notify the Department immediately.

Signed: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_

Date: \_\_\_\_\_

**NOTICE TO CONTRACTOR – CONTRACTOR TRAINING  
REQUIREMENT FOR 10-HOUR OSHA CONSTRUCTION SAFETY AND  
HEALTH COURSE**

In accordance with Connecticut General Statute 31-53b and Public Act No. 08-83, the Contractor is required to furnish proof that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53, has completed a course of at least ten hours in duration in construction safety and health approved by the Federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 48 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268.

Proof of compliance with the provisions of the statute shall consist of a student course completion card issued by the federal Occupational Safety and Health Administration, or other such proof as deemed appropriate by the Commissioner of the Connecticut Department of Labor, dated no earlier than five years prior to the commencement of the project. Each employer shall affix a copy of the construction safety course completion card for each applicable employee to the first certified payroll submitted to the Department of Transportation on which the employee's name first appears.

Any employee required to complete a construction safety and health course as required that has not completed the course, shall have a maximum of fourteen (14) days to complete the course. If the employee has not been brought into compliance, they shall be removed from the project until such time as they have completed the required training.

This section does not apply to employees of public service companies, as defined in section 16-1 of the 2008 supplement to the General Statutes, or drivers of commercial motor vehicles driving the vehicle on the public works project and delivering or picking up cargo from public works projects provided they perform no labor relating to the project other than the loading and unloading of their cargo.

The internet website for the federal Occupational Safety and Health Training Institute is <http://www.osha.gov/fso/ote/training/edcenters>.

Additional information regarding this statute can be found at the Connecticut Department of Labor website, <http://www.ctdol.state.ct.us/wgwkstnd/wgmenu.htm>.

Any costs associated with this notice shall be included in the general cost of the contract. In addition, there shall be no time granted to the contractor for compliance with this notice. The contractor's compliance with this notice and any associated regulations shall not be grounds for claims as outlined in Section 1.11 – "Claims".

## **NOTICE TO CONTRACTOR - PROCUREMENT OF MATERIALS**

Upon Notice to Proceed, the Contractor shall proceed with shop drawings, working drawings, procurement of materials, and all other submittals required to complete the work in accordance with the contract documents.



**NOTICE TO CONTRACTOR - REQUIREMENTS OF TITLE 49, CODE OF  
FEDERAL REGULATIONS PART 26**

The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

## **NOTICE TO CONTRACTOR - VEHICLE EMISSIONS**

All motor vehicles and/or construction equipment (both on-highway and non-road) shall comply with all pertinent State and Federal regulations relative to exhaust emission controls and safety.

The contractor shall establish staging zones for vehicles that are waiting to load or unload at the contract area. Such zones shall be located where the emissions from the vehicles will have minimum impact on abutters and the general public.

Idling of delivery and/or dump trucks, or other equipment shall not be permitted during periods of non-active use, and it should be limited to three minutes in accordance with the Regulations of Connecticut State Agencies Section 22a-174-18(b)(3)(c):

No mobile source engine shall be allowed "to operate for more than three (3) consecutive minutes when the mobile source is not in motion, except as follows:

- (i) When a mobile source is forced to remain motionless because of traffic conditions or mechanical difficulties over which the operator has no control,
- (ii) When it is necessary to operate defrosting, heating or cooling equipment to ensure the safety or health of the driver or passengers,
- (iii) When it is necessary to operate auxiliary equipment that is located in or on the mobile source to accomplish the intended use of the mobile source,
- (iv) To bring the mobile source to the manufacturer's recommended operating temperature,
- (v) When the outdoor temperature is below twenty degrees Fahrenheit (20 degrees F),
- (vi) When the mobile source is undergoing maintenance that requires such mobile source be operated for more than three (3) consecutive minutes, or
- (vii) When a mobile source is in queue to be inspected by U.S. military personnel prior to gaining access to a U.S. military installation."

All work shall be conducted to ensure that no harmful effects are caused to adjacent sensitive receptors. Sensitive receptors include but are not limited to hospitals, schools, daycare facilities, elderly housing and convalescent facilities. Engine exhaust shall be located away from fresh air intakes, air conditioners, and windows.

A Vehicle Emissions Mitigation plan will be required for areas where extensive work will be performed in close proximity (less than 50 feet (15 meters)) to sensitive receptors. No work will proceed until a sequence of construction and a Vehicle Emissions Mitigation plan is submitted in writing to the Engineer for review and all comments are addressed prior to the commencement of any extensive construction work in close proximity (less than 50 feet (15 meters)) to sensitive receptors. The mitigation plan must address the control of vehicle emissions from all vehicles and construction equipment.

If any equipment is found to be in non-compliance with this specification, the contractor will be issued a Notice of Non-Compliance and given a 24-hour period in which to bring the equipment into compliance or remove it from the project. If the contractor then does not comply, the Engineer shall withhold all payments for the work performed on any item(s) on which the non-conforming equipment was utilized for the time period in which the equipment was out of compliance.

Any costs associated with this "Vehicle Emissions" notice shall be included in the general cost of the contract. In addition, there shall be no time granted to the contractor for compliance with this notice. The contractor's compliance with this notice and any associated regulations shall not be grounds for claims as outlined in Section 1.11 – "Claims".

## **NOTICE TO CONTRACTOR - FIRE DEPARTMENT, POLICE & EMERGENCY MEDICAL SERVICES**

The Contractor shall contact the Fire Department, Police and Emergency Medical Services, prior to work impacting local streets and establish coordination necessary as to disruption of services during construction.

## **NOTICE TO CONTRACTOR - SIGN INVENTORY**

Prior to the commencement of construction, the Contractor and the Engineer shall conduct a joint inventory of signs, delineators and object markers. Signs, delineators or object markers that are knocked down or destroyed by the Contractor during the construction of the project shall be replaced by the Contractor at no cost to the City.

## **NOTICE TO CONTRACTOR – SAFEGUARDING OF RESIDENCES AND COMMERCIAL PROPERTIES**

The Contractor shall maintain and protect traffic operations at all driveways and provide adequate sightline. The Contractor shall not restrict sightline with construction equipment when not actively working. The Contractor shall also safeguard pedestrian operation and maintain access to properties at all times.

## **NOTICE TO CONTRACTOR – NOISE POLLUTION**

The Contractor shall take measures to control the noise intensity caused by his construction operations and equipment, including but not limited to equipment used for drilling, pile driving, blasting, excavation or hauling.

All methods and devices employed to minimize noise shall be subject to the continuing approval of the Engineer and in accordance with the City of New Britain Ordinance Article V. Noise, Sec. 16-103-(16) & (17), Sec. 16-104-(7) (9) & (10). The maximum allowable level of noise at the nearest residence or occupied building shall be 90 decibels on the "A" weighted scale (dBA). Any operation that exceeds this standard will cease until a different construction methodology is developed to allow work to proceed within the 90 dBA limit.

## **NOTICE TO CONTRACTOR – CITY PERMITS**

The Contractor shall obtain all necessary city permits including but not limited to sidewalk, curb and road opening.

## **NOTICE TO CONTRACTOR - PROTECTION OF UNDERGROUND UTILITIES**

The Contractor is hereby instructed to follow established "Call Before You Dig" procedures.

The Contractor is hereby advised that placement of heavy equipment and materials or the traversing of heavy construction equipment over underground utilities which might be damaged utility shall be reviewed and approved by the Engineer.

The Contractor shall consider in his/her bid any inconvenience and work required for this condition. The work to repair or replace any damage caused by the Contractor's operations will be made solely at the Contractor's expense.

## **NOTICE TO CONTRACTOR - UTILITY COORDINATION**

In addition to the requirements of the Supplemental General Conditions Section 15, Existing Underground Utilities, Protection, and Responsibility, the Contractor is advised of the following Utility coordination items.

The Contractor will be responsible for the protection and support of utilities within the project limits. The Contractor is responsible for the design, method and manner of installations of temporary supports, if needed. The design for temporary supports must be submitted to the Engineer for review and approval.

The Contractor is hereby advised that upon issuance of the notice to proceed, the Contractor shall immediately coordinate the installation of all utilities, and develop a schedule for construction that accommodates each utility installation without negatively impacting the overall project schedule. Items specific for the project utility companies include:

- New Britain Water Department - coordinate inspection of new fire hydrant

The Contractor shall install all proposed utilities while maintaining existing utility services live at all times. In addition, the Contractor shall stake out the proposed construction survey base line and provide bench marks for any utility company requiring this service for their use in relocation of their facility. The cost of this service shall be included in the bid item for "Construction Staking".

### **ALL UTILITIES**

The Contractor shall coordinate construction activities with the utility companies and develop a construction schedule accordingly. The contractor is advised that his operations and road construction work may be significantly impacted until the utility companies have completed their proposed utility work. The Contractor should note that he will be required to reset casting of any utility work constructed and completed by others prior to the Contractor performing his work at any location within the project limits to final grade.

## **NOTICE TO CONTRACTOR - WATER USAGE FEE**

The New Britain Water Department shall charge the contractor for a water usage permit for each 6-month period or partial period beginning January to June and July to December for their usage of water throughout the duration of the project until completion.

## **NOTICE TO CONTRACTOR - LIST OF CONTACTS OF UTILITY PERSONNEL**

Prior to the commencement of construction, the Contractor shall contact, coordinate and maintain close liaison with the following Utility Companies:

|   |                  |                |
|---|------------------|----------------|
| City of New Britain<br>(Director of Public Works)               | Mark E. Moriarty | (860) 826-3350 |
| City of New Britain<br>(City Engineer)                          | Robert Trottier  | (860) 826-3355 |
| New Britain Water Department                                    | Chris Polkowski  | (860) 826-3538 |
| Connecticut Light and Power<br>dba Eversource Energy - Electric | Thomas Woronik   | (860) 267-3891 |
| Frontier Communications   | Lynne DeLucia    | (203) 238-5000 |
| Connecticut Natural Gas Corp.<br>(CNG)                          | Jonathan Gould   | (860) 727-3044 |
| Comcast of Connecticut, Inc                                     | Jim Bitzas       | (413) 562-9923 |
| Lighttower Fiber Networks                                       | Eric Clark       | (203) 649-3904 |
| WilTel Communications, LLC                                      | Mike Weaver      | (919) 710-8891 |

## **NOTICE TO CONTRACTOR - WORK NEAR EVERSOURCE FACILITIES**

All work in and/or within three (3) feet of energized Eversource facilities shall be performed by a qualified Eversource contractor. Contact Eversource for a list of their qualified contractors.



## **NOTICE TO CONTRACTOR - SALVAGEABLE MATERIALS**

The Contractor shall salvage the following materials:

| ITEMS   | DESTINATIONS   |
|---|--|
| Catch Basin Tops,<br>Brick Pavers and<br>Traffic Signal Equipment (excluding mast arm assemblies) | Department of Public Works<br>55 Harvard Street<br>New Britain, CT<br>Tel. (860) 828-3480            |
| Fire Hydrants   | New Britain Water Department<br>1000 Shuttle Meadow Avenue<br>New Britain, CT<br>Tel. (860) 826-3536 |

The materials to be salvaged shall be delivered by the Contractor to the destination indicated above between the hours of 8:00 AM and 3:00 PM Monday through Friday, holidays excluded, after the proper notification has been made to the above Authorities.

All salvageable material shall be loaded, transported and unloaded by the Contractor.

The Contractor shall not receive payment for this work. The costs for loading, transporting and unloading of salvageable materials shall be included in the overall cost of this project.

## **NOTICE TO CONTRACTOR – UNANTICIPATED DISCOVERY OF CULTURAL RESOURCES**

If historic properties are unexpectedly encountered during Project construction, the contractor will immediately cease all construction activities in the immediate vicinity that may reasonably be assumed to affect the historic properties. Any historic property discoveries shall to the extent possible be protected in situ to allow for consultation among the Parties and the Tribes. The historic properties may be preserved in situ or mitigated on a case-by-case basis in consultation with the Parties and the Tribes. No artifacts are to be removed from the site unless approved by all parties. Notwithstanding anything to the contrary herein, the curation and disposition of any cultural resources shall be consistent with 36 C.F.R. Part 79 and other applicable law. If human remains are unexpectedly encountered during Project construction, the remains will be treated in a respectful manner and in accordance with the respective laws of the State of Connecticut (Connecticut General Statutes Chapter 184a Section 10-388) and State of Connecticut Department of Transportation, Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 817, Article 1.10.06.

[https://www.ct.gov/dot/lib/dot/documents/dpublications/817/\\_july2018\\_form817.pdf](https://www.ct.gov/dot/lib/dot/documents/dpublications/817/_july2018_form817.pdf)

## **NOTICE TO CONTRACTOR - TRAFFIC SIGNALS**

The Contractor is hereby notified that certain conditions pertaining to the installation of new signals and maintenance of traffic signal operations are required when relevant, as part of this contract.

### **Qualified/Unqualified Workers**

#### **U.S. Department of Labor**

**Occupational Safety & Health Administration (OSHA) [www.osha.gov](http://www.osha.gov)**

**Part Number 1910**

**Part Title Occupational Safety & Health Administration**

**Subpart S**

**Subpart Title Electrical**

**Standard Number 1910.333**

**Title Selection and use of work practices**

**This project includes countdown pedestrian signals. The countdown display is allowed only during the flashing don't walk time of the pedestrian movement.**

The Controller Unit (CU) shall conform to the current edition of the Functional Specifications for Traffic Control Equipment. The Functional Specifications require the CU meet NEMA Standard Publication No. TS2-1992 Type 2. The Functional Specifications are available on the Departments' web site <http://www.ct.gov/dot/site/default.asp>, click on "Doing Business with CONNDOT", under Engineering Resources click on "Traffic Engineering", Scroll down to Traffic Documents click on "Functional\_Specifications\_for\_Traffic\_Control\_Equip.pdf".

The contractor will be held liable for all damage to existing equipment resulting from his or his subcontractor's actions. A credit will be deducted from monies due the Contractor for all maintenance calls responded to by City of New Britain personnel.

The 30-Day Test on traffic control equipment, as specified in Section 10.00, Article 10.00.10 - TESTS, will not begin until the items listed below are delivered to the City Engineer.

Five (5) sets of cabinet wiring diagrams. Leave one set in the controller cabinet.

All spare load switches and flash relays.

Siren Pre-emption Notes:

- Pre-emption is to operate through the internal pre-emption of the signal controller.
- If not present in a controller cabinet the contractor shall install the following items:
  - Pre-emption disconnect switch.
  - Pre-emption termination panel with “D” harness.
  - Pre-emption test pushbuttons.
- Contractor must provide a chart, or print out of the program steps and settings.
- Detector locations are for illustration only. Exact locations shall be determined by the Manufacturer or his designated representative. Detector cables are to be installed continuous between each detector and the auxiliary equipment cabinet.

The Contractor shall field verify the locations, dimensions, equipment locations and notify the City Engineer of any discrepancies.

## **NOTICE TO CONTRACTOR – SIDEWALK FREE PATH**

The clearance of traffic signal appurtenances (mast arms, span poles, and pedestals) when in or adjacent to sidewalks was recently revised to require a free path of not less than 4 feet (1.2 m.) Locations where the 4 foot (1.2 m) free path cannot be met are noted on the plan. All other locations where the 4 foot (1.2 m) free path cannot be met require the Contractor to notify the Engineer and contact the City of New Britain.

## **NOTICE TO CONTRACTOR – ELECTRIC SERVICE CONNECTION**

Electric service for the operation of the traffic control signal will be provided via an underground conduit connection to an electric manhole. Eversource Electric is the owner of the electric manhole and all work associated with the service connection shall be coordinated directly with their representative.

The manhole connection work including coring through the manhole wall and installing a three-foot stub of rigid metal conduit shall be conducted by Eversource or one of their approved contractors. The project work includes connecting to the three-foot stub conduit and running the rest of the required conduit into the controller and providing the service wire.

The Contractor will be required to **hire Eversource or their approved vendor and pay** for all the work associated with the connection to the manhole.

The cabinet wiring and any required electrical inspections by the City of New Britain shall be conducted and coordinated by the Contractor. Following the inspection, notify Eversource and provide all required documentation. Eversource will facilitate the final service connection from the manhole into the cabinet electric panel. The Contractor shall provide the service wire unless otherwise advised by Eversource.

The coordination activities associated with the service connection to the Eversource manhole shall be initiated early in the project to ensure timely activation of the traffic control signal.

## **NOTICE TO CONTRACTOR – UTILITY COMPANIES**

It is understood that any references in the contract documents to Northeast Utilities, CL&P and/or Yankee Gas are meant to refer to Eversource.

It is understood that any references in the contract documents to AT&T is meant to refer to Frontier Communications.

## **NOTICE TO CONTRACTOR - ALL-INCLUSIVE DRAINAGE**

### **ADDED SECTIONS:**

#### **2.86 – DRAINAGE TRENCH EXCAVATION**

#### **ROCK IN DRAINAGE TRENCH EXCAVATION**

#### **5.86 – CATCH BASINS, MANHOLES AND DROP INLETS**

#### **6.86 – DRAINAGE PIPES**

#### **DRAINAGE PIPE ENDS**

This Contract contains the above-noted Special Provisions for all-inclusive drainage, developed to replace the following Sections in their entireties:

- Section 5.07 – *Catch Basins, Manholes and Drop Inlets*
- Section 6.51 – *Culverts*
- Section 6.52 – *Culvert Ends*

The Section 5.86 and 6.86 items include excavation and bedding material in the drainage structure, pipe and pipe end unit prices.

Section 2.05 *Trench Excavation* may be included for miscellaneous trenching, where necessary, but will not be used with all-inclusive drainage items.

Other Standard Specifications, Supplemental Specifications or Special Provisions may contain references to Articles or Subarticles from previous versions of Sections 5.07, 6.51 and 6.52 which are no longer valid.

The following Standard Specifications Sections or Supplements contain references to Articles or Subarticles from Section 2.05 which shall remain in effect:

- Section 2.06 – *Ditch Excavation*
- Section 5.06 – *Retaining Walls, Endwalls and Steps*
- Section 7.51 – *Underdrains and Outlets*
- Section 10.01 – *Trenching and Backfilling*

‘Rock in Drainage Trench Excavation’ is now defined in Section 2.86. ‘Rock in Trench Excavation’ will remain in Section 2.05 and may be used with trenching not associated with all-inclusive drainage items.

**Any references to Articles beginning with “5.07,” “6.51,” or “6.52” shall refer to the pertinent topic or materials in the new Special Provisions contained herein.**



## NOTICE TO CONTRACTOR

### **CONNECTICUT NATURAL GAS CORPORATION**

#### **DEPARTMENTAL PROCEDURE (480.01)**

#### **PROTECTION/REPLACEMENT OF EXPOSED GAS FACILITIES**

### **PURPOSE**

This procedure establishes Corporate policy for the protection/replacement of gas facilities when exposed.

The practice of the Corporation is to adhere to the prescriptions of appropriate sections of Title 49 of the Code of Federal Regulations, Part 192.614. Any contractor, utility company crew, builder, or excavator must adhere to the regulations.

### **PROCEDURE**

#### **I. DEFINITIONS**

- A. Excavation - An operation for the purpose of movement or removal of earth, rock, or other materials in or on the ground, or otherwise disturbing the subsurface of the earth, by the use of powered or mechanized equipment. This includes, but is not limited to, digging, pile driving, augering, backfilling, test boring, drilling, grading, plowing-in, hammering, pulling-in, trenching, and tunneling.
- B. Damage - Includes, but is not limited to, the weakening of structure or support, penetration or destruction of the protective coating, housing, or the severance, partial or complete, of gas facilities.
- C. Gas Facility - All physical facilities which house or move gas for transportation and distribution including pipe, valves, and other appurtenances attached to the pipe.

#### **II. NOTIFICATION**

- A. A copy of this procedure is given to all agencies requesting review of their proposed construction designs.
- B. Upon receipt of outside agencies' plans, maps, and correspondence, Engineering Services reviews the project relative to the Corporation's facilities and responds to the requesting party.
- C. The excavator notifies "Call Before You Dig" (CBYD) as prescribed by Connecticut State Law, Section 16-345 of Public Act 87-71.
- D. Once excavation is started, the construction site supervisors are responsible for visiting the excavation site as outlined in Procedure #929.01 - "Monitoring of CNG Gas Facilities."

Refer to Procedure Memorandum #480.01

**CONNECTICUT NATURAL GAS CORPORATION**  
**DEPARTMENTAL PROCEDURE (480.01)**  
**PROTECTION/REPLACEMENT OF EXPOSED GAS FACILITIES**

**III. GUIDELINES**

**A. General**

1. The support for the gas facility either by strapping (see EXHIBITS I and III) or wooden vertical supports (see EXHIBIT II) is installed in a manner that the pipe does not move when the soil is removed from under the pipe and that undue stress is not imposed at fittings, valves, and other accessories on the pipe.
2. Trench shoring practices are not affected by the requirements outlined in this procedure.
3. An excavator is responsible for any damages that he/she inflicts upon the Corporation's facilities.
4. If the excavator/contractor is to be billed for damages or a replacement, the Distribution Supervisor documents, takes photographs of the affected facility, and immediately sends a letter (Exhibit IV) to the excavator/contractor stating that a bill will be forthcoming.
5. Any conflicts between CNG or the excavator/contractor regarding the billing for repair of the damage or the possible replacement are resolved by a Distribution Manager.

**B. Crossings**

1. Temporary Support - Cast Iron, Steel, Plastic

EXHIBIT I is a drawing which depicts a temporary support for a gas main that crosses a trench at any angle with an exposed pipe length of greater than six feet for cast iron or ten feet for plastic or steel (see 2b).

2. Permanent Support - Cast Iron

- a. When cast iron pipe crossing exposure is six feet or less in length, one permanent pipe support is required (see EXHIBIT II).
- b. When cast iron pipe is six inches or less in diameter and crossing exceeds six feet in length, the pipe is replaced. When this condition exists, the replacement consists of the length of exposure plus a minimum of four feet measured perpendicular from the trench wall to the pipe. The removal and replacement expense is borne by the excavator/contractor.

Refer to Procedure Memorandum #480.01

**CONNECTICUT NATURAL GAS CORPORATION**  
**DEPARTMENTAL PROCEDURE (480.01)**  
**PROTECTION/REPLACEMENT OF EXPOSED GAS FACILITIES**

- c. When cast iron pipe is greater than six inches in diameter and is crossed and exceeds six feet in length, two or more permanent pipe supports are required.
- d. When cast iron pipe is greater than six inches in diameter and is crossed and the exposure exceeds 12 feet in length, it is considered for possible replacement depending on site conditions.

3. Permanent Support - Steel, Plastic

A firm foundation of properly compacted backfill is the only permanent support required for plastic or steel pipe.

C. Parallel Excavation

1. Temporary Support - Cast Iron, Steel, Plastic

- a. The EXHIBIT III drawing depicts a type of temporary support for a gas main that is exposed or undermined by a parallel excavation.
- b. The policy of the Company is to replace the cast iron pipe at the excavator's/contractor's expense.
  - 1) If the relocation is not possible at the start of the project, temporary supporting may be permitted by CNG after consideration is given to the type of pipe, length of exposed pipe, service lines, and other pertinent facts.
  - 2) When temporary support is allowed, it should be done in a manner similar to EXHIBIT III. After the completion of the project, the replacement of a facility is scheduled to be replaced in accordance with Procedure #930.01 - "Replacement of Cast Iron Pipe."

Date: 3/22/07

**CONNECTICUT NATURAL GAS CORPORATION**

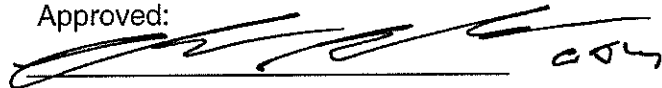
**DEPARTMENTAL PROCEDURE (480.01)**

**PROTECTION/REPLACEMENT OF EXPOSED GAS FACILITIES**

2. Permanent Support - Cast Iron
  - a. After the excavation and before backfilling, if the length of exposure of a cast iron main is less than six feet, the main must be permanently supported as shown in EXHIBIT III.
  - b. If the length of exposure is greater than six feet, the pipe is replaced in compliance with Departmental Procedure #930.01. The cost of this replacement will be borne by the excavator/contractor.

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Approved:

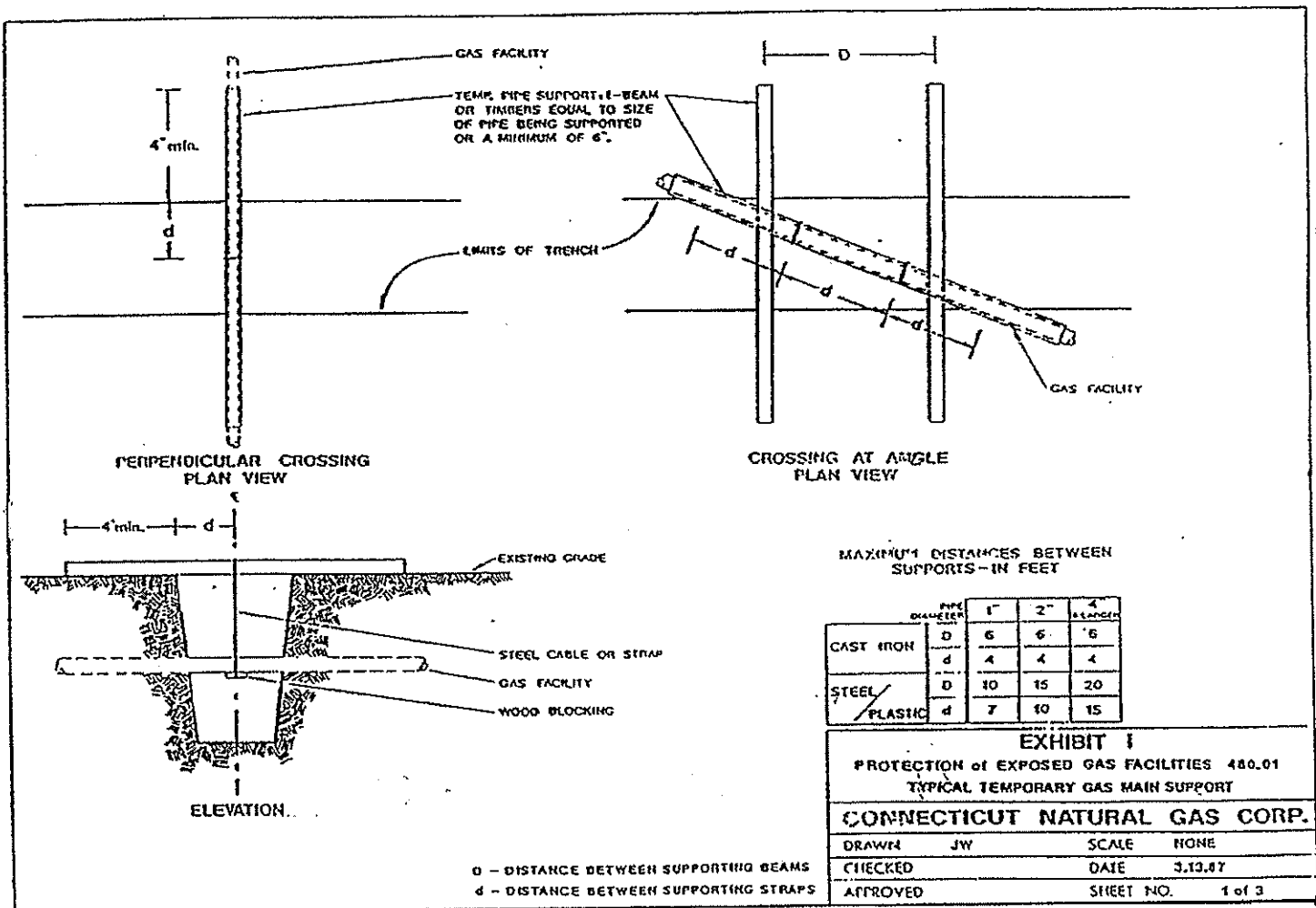


Regional Director – CNG Field Operations

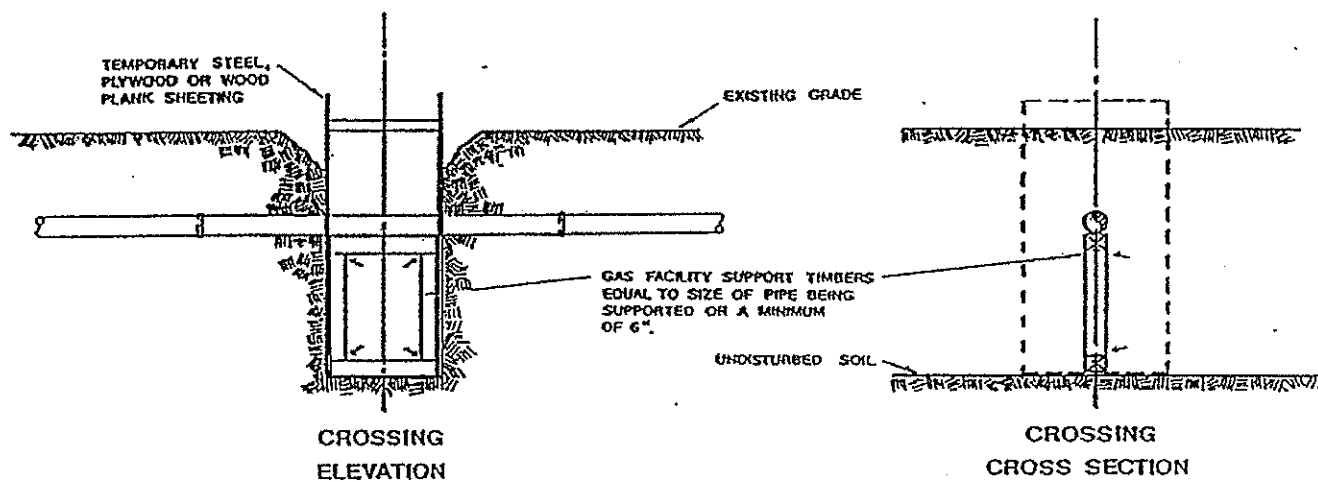
3/22/07

Refer to Procedure Memorandum #480.01

# EXHIBIT I



## EXHIBIT II

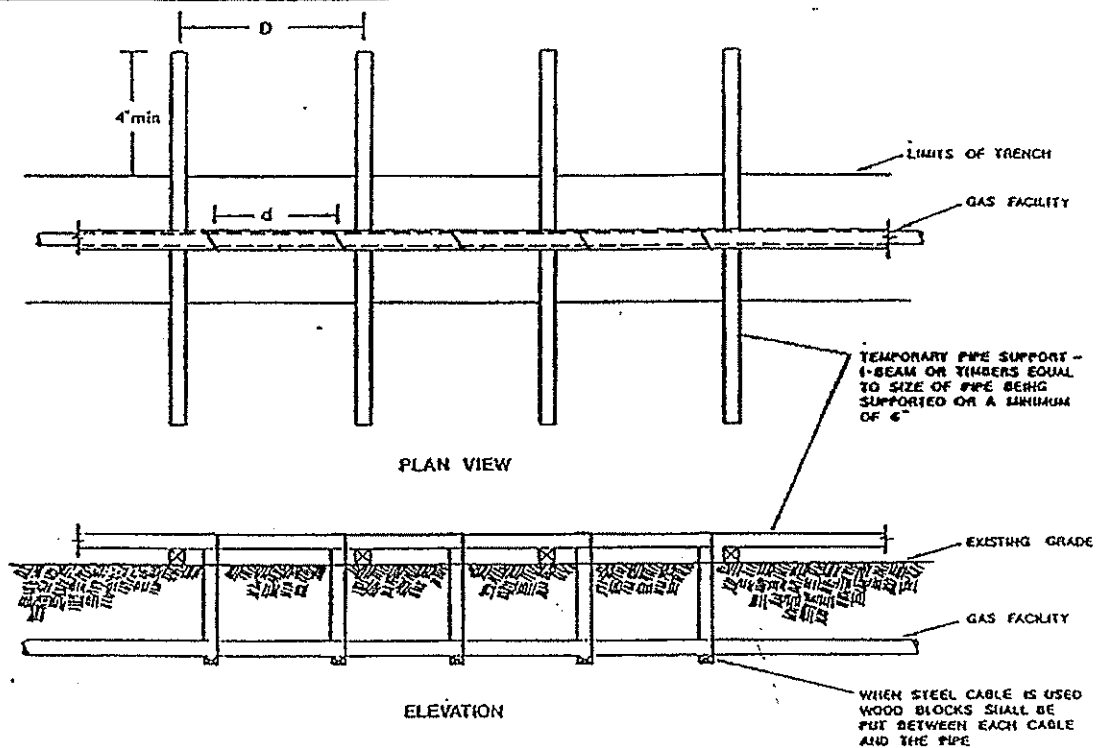


WOOD WEDGES  
AS REQUIRED

| EXHIBIT II                                   |    |           |         |
|--|----|-----------|---------|
| PROTECTION of EXPOSED GAS FACILITIES 480.01  |    |           |         |
| TYPICAL PERMANENT CAST IRON GAS MAIN SUPPORT |    |           |         |
| <b>CONNECTICUT NATURAL GAS CORP.</b>         |    |           |         |
| DRAWN  | JW | SCALE     | NONE    |
| CHECKED                                      |    | DATE      | 3.13.87 |
| APPROVED                                     |    | SHEET NO. | 2 of 3  |

Refer to Procedure Memorandum #480.01

# EXHIBIT III



MAXIMUM DISTANCES BETWEEN SUPPORTS-IN FEET

|                 | PIPE DIAMETER | PIPE DIAMETER |    |             |
|-----------------|---------------|---------------|----|-------------|
|                 |               | 1"            | 2" | 4" & LARGER |
| CAST IRON       | D             | 6             | 6  | 6           |
|                 | d             | 4             | 4  | 4           |
| STEEL / PLASTIC | D             | 10            | 15 | 20          |
|                 | d             | 7             | 10 | 15          |

D - DISTANCE BETWEEN SUPPORTING BEAMS  
d - DISTANCE BETWEEN SUPPORTING STRAPS

| EXHIBIT III   |           |         |
|---|-----------|---------|
| PROTECTION OF EXPOSED GAS FACILITIES 480.01             |           |         |
| TYPICAL TEMPORARY GAS MAIN SUPPORT/PARALLEL EXCAVATIONS |           |         |
| CONNECTICUT NATURAL GAS CORP.                           |           |         |
| DRAWN J.W.  | SCALE     | NONE    |
| CHECKED   | DATE      | 3.13.87 |
| APPROVED  | SHEET NO. | 3 of 3  |

Date: 3/22/07

**CONNECTICUT NATURAL GAS CORPORATION**

**DEPARTMENTAL PROCEDURE (480.01)**

**PROTECTION/REPLACEMENT OF EXPOSED GAS FACILITIES**

Excavator's Name  
Excavator's Address  
City, State, Zip

**Exhibit IV**

Re:

Gentlemen:

Connecticut Natural Gas Construction Site Inspector, \_\_\_\_\_, states that as a result of your excavating operations on \_\_\_\_\_, approximately \_\_\_\_\_ feet of inch cast iron pipe was exposed and/or undermined.

It is the responsibility of the excavator to exercise reasonable care in accordance with the State of Connecticut Public Act 87-71, Section 16-345-4, Responsibility of Excavators:

("a") [V] (5) Exercise reasonable care when working in proximity to the under-ground facilities of any public utility. REASONABLE CARE SHALL INCLUDE, WITHOUT LIMITATION, THE USE OF CONSTRUCTION METHODS APPROPRIATE TO ENSURE THE INTEGRITY OF EXISTING UTILITY FACILITIES AND THEIR TEMPORARY AND PERMANENT SUPPORT INCLUDING BUT NOT LIMITED TO ADEQUATE AND PROPER SHORING AND PROPER BACKFILL METHODS AND TECHNIQUES; THE SELECTION OF EQUIPMENT AND EXPLOSIVES CAPABLE OF PERFORMING THE WORK WITH THE MINIMUM REASONABLE LIKELIHOOD OF DISTURBANCE TO UNDERGROUND FACILITIES; ADEQUATE SUPERVISORY PERSONNEL TO ENSURE PROPER ACTIONS; PROPER UNDERSTANDING BY THE PERSONNEL ON THE JOB SITE OF THE AUTHORITY OF ALL PARTIES INVOLVED IN THE ACTIVITY SO THAT PROMPT ACTION CAN BE TAKEN IN THE EVENT OF UNANTICIPATED CONTACT WITH UNDERGROUND FACILITIES; ADEQUATE TRAINING OF EMPLOYEES IN EXECUTING THEIR ASSIGNMENTS TO ENSURE PROTECTION OF UTILITY FACILITIES AND THE PUBLIC; MAINTAINING NECESSARY LIAISON WITH OWNERS OF UNDERGROUND FACILITIES; SPONSORING PREPLANNING AND PRECONSTRUCTION MEETINGS AS NECESSARY AND COMPLYING WITH ALL APPLICABLE LAWS AND REGULATIONS."

The cast iron pipe appears to have been undermined to an extent that jeopardizes the integrity of the facility. As a result, replacement of the facility in the immediate vicinity of excavation may be necessary. If replacement is necessary, a bill for the replacement will be submitted to you in the near future once the work is complete.

If you have any questions regarding this matter, please contact me.

Very truly yours,

Construction Site Inspector

Refer to Procedure Memorandum #480.01



CONNECTICUT NATURAL GAS CORPORATION

DEPARTMENTAL PROCEDURE 482.01

BLASTING NEAR PIPES CONVEYING COMBUSTIBLE GAS

PURPOSE

This outlines the procedures followed when blasting is required near pipes conveying combustible gas.

The practice of the Corporation is to assure the safety of its facilities by assuring that contractors comply with the Connecticut General Statute Sections 16-345 through 16-355 and the Connecticut Regulations of State Agencies Sections 16-345-1 et. seq. (see EXHIBIT I).

PROCEDURE

I. ADMINISTRATION

CNG shall obey and comply with all pertinent provisions of the Connecticut State Statutes and Regulations.

- A. Engineering Services provides each city or town fire chief and state fire marshal a copy of the CNG guidelines for blasting and the guidelines are updated as necessary.
- B. When notified by Call Before You Dig (CBYD) that there will be blasting near a CNG facility, the Distribution Supervisor obtains the time of blasting, the blaster's name, the person calling and the time notified. A Construction Site Inspection Form (See EXHIBIT II) is completed by the Distribution Supervisor.
- C. The Distribution Supervisor obtains the necessary gas facility records and schedules the inspection at the job site.

II. DISTRIBUTION RESPONSIBILITIES

- A. Prior to each blasting project, a Distribution Supervisor or their designee arranges to meet with the contractor and the blaster to:
  - 1. Check the contractor's and blaster's permits and insurance certificates;
  - 2. Review CNG's blasting policy with the general and blasting contractor;
  - 3. Perform a leak survey of the entire blasting project area.

CONNECTICUT NATURAL GAS CORPORATION

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BLASTING NEAR PIPES CONVEYING COMBUSTIBLE GAS

- B. Prior to each detonation, the Distribution Supervisor or their designee arranges to meet with the contractor and the blaster to:
1. Complete Parts A through R and U through W of the CNG Blasting Investigation Report (see EXHIBIT III).
  2. Conduct a leak survey prior to each detonation and record the results on Part S of the CNG Blasting Investigation Report. In the event a gas leak is detected, the Distribution Supervisor or his designee shall ensure that no further blasting occurs until the leak is repaired and all residual gas is cleared.
  3. Inspect the site and plot W (maximum pounds/delay of eight milli-seconds or more) versus R (horizontal distance between explosion and pipeline) on EXHIBIT IV, using the appropriate pipe material type.
    - a. If the plot of the parameters lies in the area marked "Blasting Allowed Upon Permission of Area Inspector", the Manager, Distribution Services is contacted.
    - b. If the plot of the parameters lies in the area marked "Blasting Not Allowed", the Manager of Distribution Services is contacted.
    - c. If any unusual conditions exist, the city or town inspector, fire chief, or state marshal are notified.
  4. Any time the recommended CNG policy limit is planned to be exceeded, the Manager, Engineering Services shall be contacted. The Manager, Engineering Services or his designee shall consult a Connecticut certified blasting consultant to review and approve the proposed blasting plan. The expense for this shall be borne by the contractor responsible for the project.

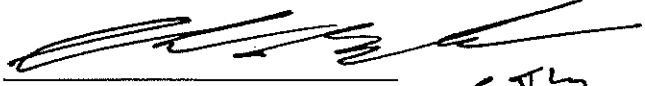
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CONNECTICUT NATURAL GAS CORPORATION

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BLASTING NEAR PIPES CONVEYING COMBUSTIBLE GAS

- C. After each detonation, the Distribution Supervisor or their designee:
1. Conducts a leak survey after each detonation and records the results on Part T of the Blasting Investigation Report. In the event a gas leak is detected, the Distribution Supervisor or his designee shall ensure that no further blasting occurs until the leak is repaired and all residual gas is cleared.
  2. Returns the completed Blasting Investigation Report to Distribution for filing.

APPROVED: 

TITLE: Regional Director- CNG Field Operations

CTM  
3/22/07

CONNECTICUT NATURAL GAS CORPORATION

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BLASTING NEAR PIPES CONVEYING COMBUSTIBLE GAS

**Exhibit I**

**PUBLIC SERVICE COMPANIES**

**CHAPTER 293**

**SECTION 16-345**

**EXCAVATION, DEMOLITION, OR DISCHARGE OF EXPLOSIVES**

**Section**

|        |   |
|--------|---|
| 16-345 | Definitions   |
| 16-346 | Compliance with chapter required prior to excavation or discharge of explosives.  |
| 16-347 | Public utilities to file with Department of Public Utility Control                |
| 16-348 | Central clearinghouse. Apportionment of costs                                     |
| 16-349 | Notice of proposed excavation, discharge of explosives or demolition              |
| 16-350 | Permits to require compliance with chapter  |
| 16-351 | Information and assistance relocation of underground facilities                   |
| 16-352 | Emergency excavation, demolition, or discharge of explosives                      |
| 16-353 | Relation of chapter to permits and other laws                                     |
| 16-354 | Care to be exercised near underground facilities                                  |
| 16-355 | Procedure when contact is made with or damage is suspected or done to underground |

**Law Review Commentaries**

Regulated Industries. James E. Rice (1980) 54 Connecticut Bar J. 514

CONNECTICUT NATURAL GAS CORPORATION

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BLASTING NEAR PIPES CONVEYING COMBUSTIBLE GAS

**Section 16-345: Definitions.**

- (a) "Person" means an individual, partnership, corporation, or association, including a person engaged as a contractor by a public agency but excluding a public agency.
- (b) "Public Agency" means the state or any political subdivision thereof, including any governmental agency.
- (c) "Public Utility" means the owner or operator of underground facilities for furnishing electric, gas, telephone, telegraph, pipeline, sewage, water, community television antenna, steam or traffic signal service, including a municipal or other public owner or operator.
- (d) "Central Clearinghouse" means the group of public utilities formed pursuant to Section 16-348 for the purposes of receiving and giving notice of excavation activity within the state.
- (e) "Excavation" means an operation for the purposes of movement or removal of earth, rock, or other materials in or on the ground, or otherwise disturbing the subsurface of the earth, by the use of powered or mechanized equipment, including but not limited to digging, blasting, auguring, back filling, test boring, drilling, pile driving, grading, plowing-in, hammering, pulling-in, trenching and tunneling; excluding the movement of earth by tools manipulated only by human or animal power and the tilling of soil for agricultural purposes.
- (f) "Demolition" means the wrecking, razing, rending, moving, or removing of any structure.
- (g) "Damage" includes but is not limited to substantial weakening of structural or lateral support of a utility line, penetration or destruction of any utility line protective coating, housing or other protective device or the severance, partial or complete, of any utility line.
- (h) "Approximate location of underground facilities" means a strip of land not more than three feet wide or a strip of land extending not more than one and one-half feet on either side of the underground facilities.

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BLASTING NEAR PIPES CONVEYING COMBUSTIBLE GAS

**Section 16-346: Compliance with chapter required prior to excavation or discharge of explosives.**

No person, public agency, or public utility shall engage in excavation or discharge explosives at or near the location of a public utility underground facility or demolish a structure located at or near or containing a public utility facility without having first ascertained the location of all underground facilities of public utilities in the area of such excavation, discharge, or demolition in the manner prescribed in this chapter and in such regulations as the department shall adopt pursuant to Section 16-357.

**Section 16-347: Public utilities to file with Department of Public Utility Control.**

A public utility shall file with the Department of Public Utility Control the location of its underground facilities, except facilities for storm sewers, by reference to a standard grid system, to be established by the department, and the title, address, and telephone number of its representative designated to receive the notice required by Section 16-349.

**Section 16-348: Central clearinghouse. Apportionment of costs.**

The public utilities of the state shall, under the direction of the Department of Public Utility Control, organize and operate a central clearinghouse within the state for receiving and giving the notices required by Section 16-349. The department shall apportion the cost of this service equitably among the public utilities for those underground facilities registered with the department, as provided in Section 16-347, except sanitary sewer or water facilities owned or operated by a city, town, or borough.

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BLASTING NEAR PIPES CONVEYING COMBUSTIBLE GAS

**Section 16-349: Notice of proposed excavation, discharge of explosives or demolition.**

Except as provided in Section 16-352, a person, public agency, or public utility responsible for excavating or discharging explosives at or near the location of public utility facilities or demolishing a structure containing a public utility facility shall notify the central clearinghouse of such proposed excavation, discharge, or demolition, orally or in writing, at least two full days, excluding Saturdays, Sundays, and holidays, but not more than thirty days before commencing such excavation, demolition, or discharge of explosives. The central clearinghouse shall immediately transmit such information to the public utilities whose facilities may be affected. In the event the proposed excavation, demolition, or discharge of explosives has not commenced within thirty days of such notification, or the excavation, demolition, or discharge of explosives will be expanded outside of the location originally specified in such notification, the person, public agency or public utility responsible for such excavation, demolition or discharge of explosives shall again notify the central clearinghouse at least two full days, excluding Saturdays, Sundays, and holidays, but not more than thirty days before commencing or expanding such excavation, demolition, or discharge of explosives.

**Section 16-350: Permits to require compliance with chapter.**

Any permit issued by a public agency for excavation, demolition, or discharge of explosives shall require compliance with this chapter. No such permit shall be issued by any public agency unless such public agency receives satisfactory evidence from the person, public agency, or public utility seeking such permit that the requirements of this chapter have been met. Such evidence shall be obtained from the central clearinghouse and shall be in such form as the department may prescribe by regulations pursuant to Section 16-357.

CONNECTICUT NATURAL GAS CORPORATION

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BLASTING NEAR PIPES CONVEYING COMBUSTIBLE GAS

**Section 16-351: Information and assistance relocation of underground facilities.**

A public utility receiving notice pursuant to Section 16-349 shall inform the person, public agency, or public utility proposing to excavate, discharge explosives, or demolish a structure, of the approximate location of its underground facilities in the area in such manner as will enable such person, public agency, or public utility to establish the precise location of the underground facilities, and shall provide such other assistance in establishing the precise location of the underground facilities as the department may require by regulation pursuant to Section 16-357. Such person, public agency, or public utility shall designate the area of the proposed excavation, demolition, or discharge of explosives as the department may prescribe by regulation. The public utility receiving notice shall mark the approximate location of its underground facilities in such manner and using such methods, including color coding, as the department may prescribe by regulation. If the precise location of the underground facilities cannot be established, the person, public agency, or public utility shall so notify the public utility whose facilities may be affected, which shall provide such further assistance as may be needed to determine the precise location of the underground facilities in advance of the proposed excavation or discharge of explosives or demolition.

**Section 16-352: Emergency excavation, demolition, or discharge of explosives.**

- (a) In case of emergency involving danger to life, health, or property or which requires immediate correction to continue the operation of a major industrial plant, or to assure the continuity of public utility service, excavation, or demolition without explosives may be made without the two-day notice required to Section 16-349 provided notice thereof by telephone is given as soon as reasonably possible.
- (b) In case of an emergency involving an immediate and substantial danger of death or serious personal injury, explosives may be discharged if notice thereof is given at any time before discharge.



CONNECTICUT NATURAL GAS CORPORATION

DEPARTMENTAL PROCEDURE 482.01

BLASTING NEAR PIPES CONVEYING COMBUSTIBLE GAS

**Section 16-353: Relocation of chapter to permits and other laws.**

Except as provided in Section 16-350, this chapter shall not be construed to affect or impair local ordinances, charters, or other provisions of law requiring permits to be obtained before excavating in a public highway or to demolish structures on private property, nor shall it be construed to grant to any person or public agency any rights not specifically provided by this chapter. A permit from a public agency shall not relieve any person from responsibility for complying with the provisions of this chapter. The failure of any person who has been granted a permit to comply with the provisions of this chapter shall not be deemed to impose any liability upon the public agency issuing the permit.

**Section 16-354: Care to be exercised near underground facilities.**

A person, public agency, or public utility responsible for excavating, discharging explosives, or demolition shall exercise reasonable care when working in proximity to the underground facilities of any public utility and shall comply with such safety standards and other requirements as the department shall prescribe by regulation pursuant to Section 16-357. If the facilities are likely to be exposed, such support shall be provided as may be reasonably necessary for protection of the facilities. If gas facilities are likely to be exposed, only hand digging shall be employed.

**Section 16-355: Procedure when contact is made with or damage is suspected or done to underground.**

When any contact is made with or any damage is suspected or done to any underground facility of a public utility, the person, public agency, or public utility responsible for the operations causing the contact, suspected damage or damage shall immediately notify the public utility whose facilities have been affected, which shall dispatch its own personnel as soon as reasonably possible to inspect the underground facility and, if necessary, effect temporary or permanent repairs. If a serious electrical short is occurring or if dangerous fluids or gas are escaping from a broken line, the person, public agency, or public utility responsible for the operations causing the damage shall alert all persons within the danger area and take all feasible steps to insure the public safety pending the arrival of repair personnel. As used in this section, "contact" includes, without limitation, the striking, scraping, or denting, however slight, of any underground utility facility, the structural or lateral support of an underground utility line and any underground utility line protective coating, housing, or other protective device.



## CONSTRUCTION SITE INSPECTION

PAGE \_\_\_\_ OF \_\_\_\_

STREET: \_\_\_\_\_ TOWN: \_\_\_\_\_ INSPECTOR: \_\_\_\_\_  
 EXCAVATOR: \_\_\_\_\_ CBYD #: \_\_\_\_\_ DATE: \_\_\_\_\_  
 EXCAVATOR CONTACT PERSON: \_\_\_\_\_ TIME ARRIVED: \_\_\_\_\_  
 EXCAVATOR PHONE #: \_\_\_\_\_ TIME DEPARTED: \_\_\_\_\_  
 EXCAVATOR ADDRESS: \_\_\_\_\_

## TYPE OF EXCAVATION

INSTALLATION ☐REPAIR ☐

|                                      |                                      |                                   |  |
|--------------------------------------|--------------------------------------|-----------------------------------|--|
| <input type="checkbox"/> San Sewer   | <input type="checkbox"/> Foundations | <input type="checkbox"/> Cable TV | <input type="checkbox"/> Road Reconstruction             |
| <input type="checkbox"/> Storm Drain | <input type="checkbox"/> Telephone   | <input type="checkbox"/> Manhole  | <input type="checkbox"/> Blasting (Form 815.65 Required) |
| <input type="checkbox"/> Water       | <input type="checkbox"/> Electric    | <input type="checkbox"/> Gas      | <input type="checkbox"/> Other                           |

## EXCAVATION CLASSIFICATION

Excavation Classification Grade      A      B      C      Criteria No(s) \_\_\_\_\_  
 (See Reverse Side)

Limit of Proposed Excavation: From: \_\_\_\_\_ To: \_\_\_\_\_ Length: \_\_\_\_\_ Ft.  
 Limit of Actual Excavation: From: \_\_\_\_\_ To: \_\_\_\_\_ Length: \_\_\_\_\_ Ft.  
 Average Depth of Excavation: \_\_\_\_\_ Ft. \_\_\_\_\_ In.  
 Average Width of Excavation: \_\_\_\_\_ Ft. \_\_\_\_\_ In.  
 Distance from C/L of Excavation to Gas Facility: \_\_\_\_\_ Ft. \_\_\_\_\_ In.

Existing Gas Facilities Within Scope of Inspection/Proposed work area: MAINS

|                |            |                      |             |
|----------------|------------|----------------------|-------------|
| Material _____ | Size _____ | Pressure Class _____ | Cover _____ |
| Material _____ | Size _____ | Pressure Class _____ | Cover _____ |

Existing Gas Facilities Within Scope of Inspection/Proposed work area: SERVICES

|                |            |                      |             |
|----------------|------------|----------------------|-------------|
| Material _____ | Size _____ | Pressure Class _____ | Cover _____ |
| Material _____ | Size _____ | Pressure Class _____ | Cover _____ |

Other Gas Facilities:

Gas Facility Exposed? Yes ☐ No ☐ If Yes, Complete 'Existing Pipe Inspection' Section  
 Critical Valve Located? Yes ☐ No ☐ If Yes, Attach Copy of Valve Record Cards

## EXISTING PIPE INSPECTION

MATERIAL: Steel ☐ MD Plastic ☐ HD Plastic ☐ C. Iron ☐ Copper ☐ Other ☐  
 COATING: None ☐ X-Tru ☐ Coal Tar ☐ Thin Film ☐ Other ☐ COATING CONDITION: Good ☐ Fair ☐ Poor ☐  
 TYPE CORROSION: None ☐ Rust/Scale ☐ Shallow Pits ☐ Deep Pits ☐ Leak ☐ Graphitization (Cast Iron) ☐

## LEAKAGE SURVEY

Pre-Construction Survey: Date of Previous Annual Leakage Survey: \_\_\_\_\_

Existing Leakage: Yes ☐ No ☐

Location: \_\_\_\_\_ Order No: \_\_\_\_\_ Date: \_\_\_\_\_

Location: \_\_\_\_\_ Order No: \_\_\_\_\_ Date: \_\_\_\_\_

Inspection Leakage Survey:

From: \_\_\_\_\_ To: \_\_\_\_\_ Length: \_\_\_\_\_ Ft.

F.I. ID No. \_\_\_\_\_ CGI ID No. \_\_\_\_\_ Date: \_\_\_\_\_

Leakage Detected: Yes ☐ No ☐ If Yes, Attach Copy of 'Leak Survey Field Report'

CONTACT WITH EXCAVATOR/COMMENTS: \_\_\_\_\_

SEE BACK SIDE:

## ATTACHMENTS

|                                      |   |  |
|--------------------------------------|---|--|
| <input type="checkbox"/> CBYD Ticket | <input type="checkbox"/> Inspection Sketch    | <input type="checkbox"/> Blasting Investigation Report (815.65)    |
| <input type="checkbox"/> CNG Prints  | <input type="checkbox"/> Construction Drawing | <input type="checkbox"/> Leak Survey Field Report (C:-LEAK (1-92)) |
| <input type="checkbox"/> Photograph  | <input type="checkbox"/> Valve Record Cards   | <input type="checkbox"/> Hand Written Work Order (P-30)            |
| <input type="checkbox"/> F.I. Survey | <input type="checkbox"/> Other _____          |  |

# BLASTING INVESTIGATION REPORT

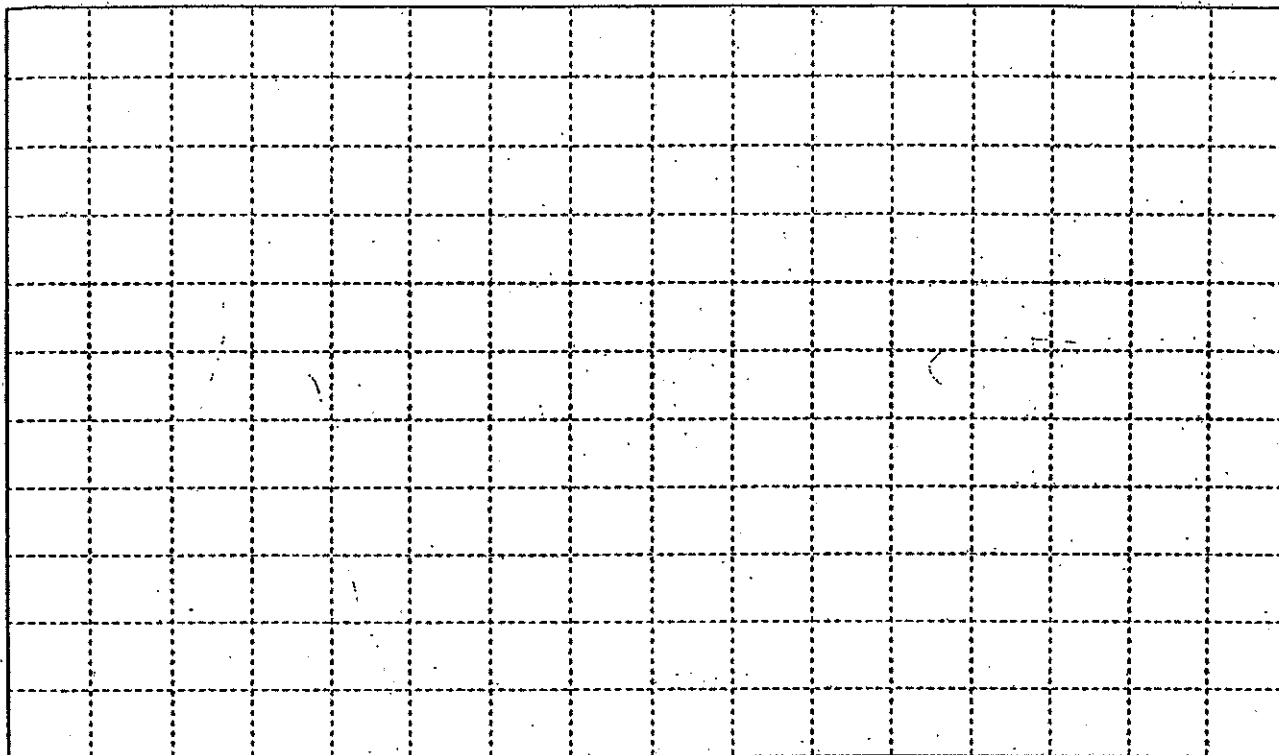
- [illegible]

A blank 10x10 grid for graphing, consisting of 10 columns and 10 rows of squares.

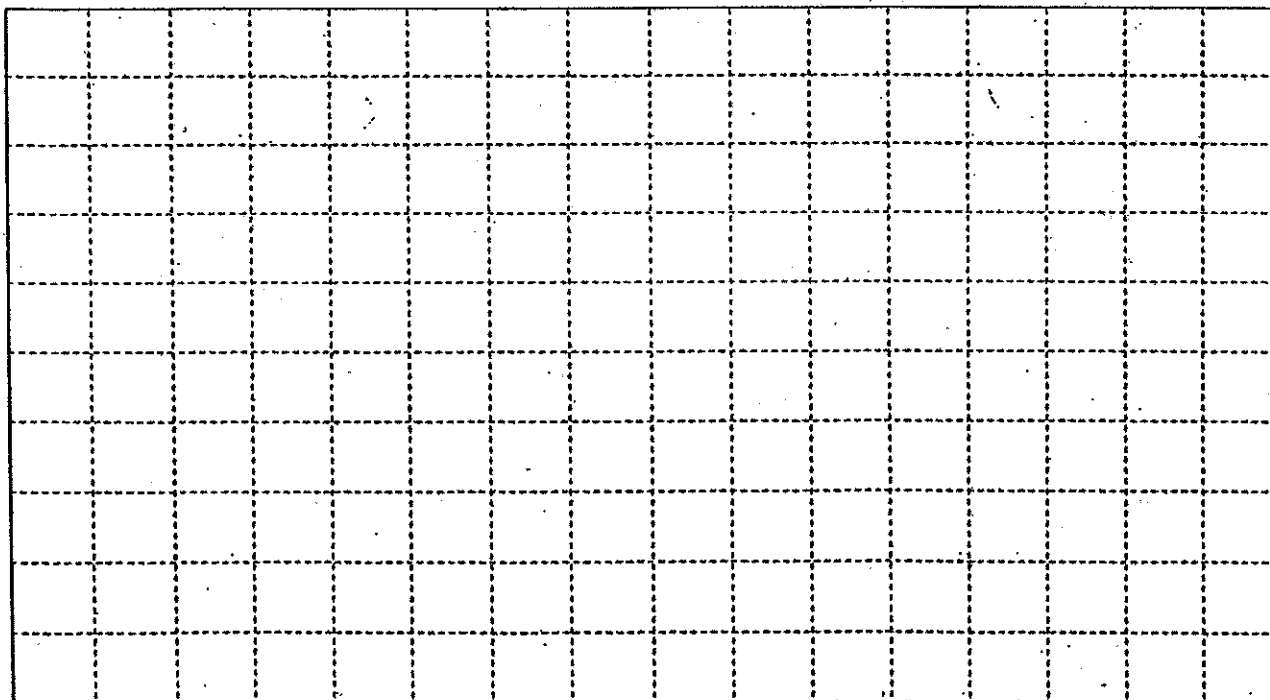
(Continued on page 2)

BLASTING INVESTIGATION REPORT

V. Sketch of Area



W. Sketch of Blast Hole

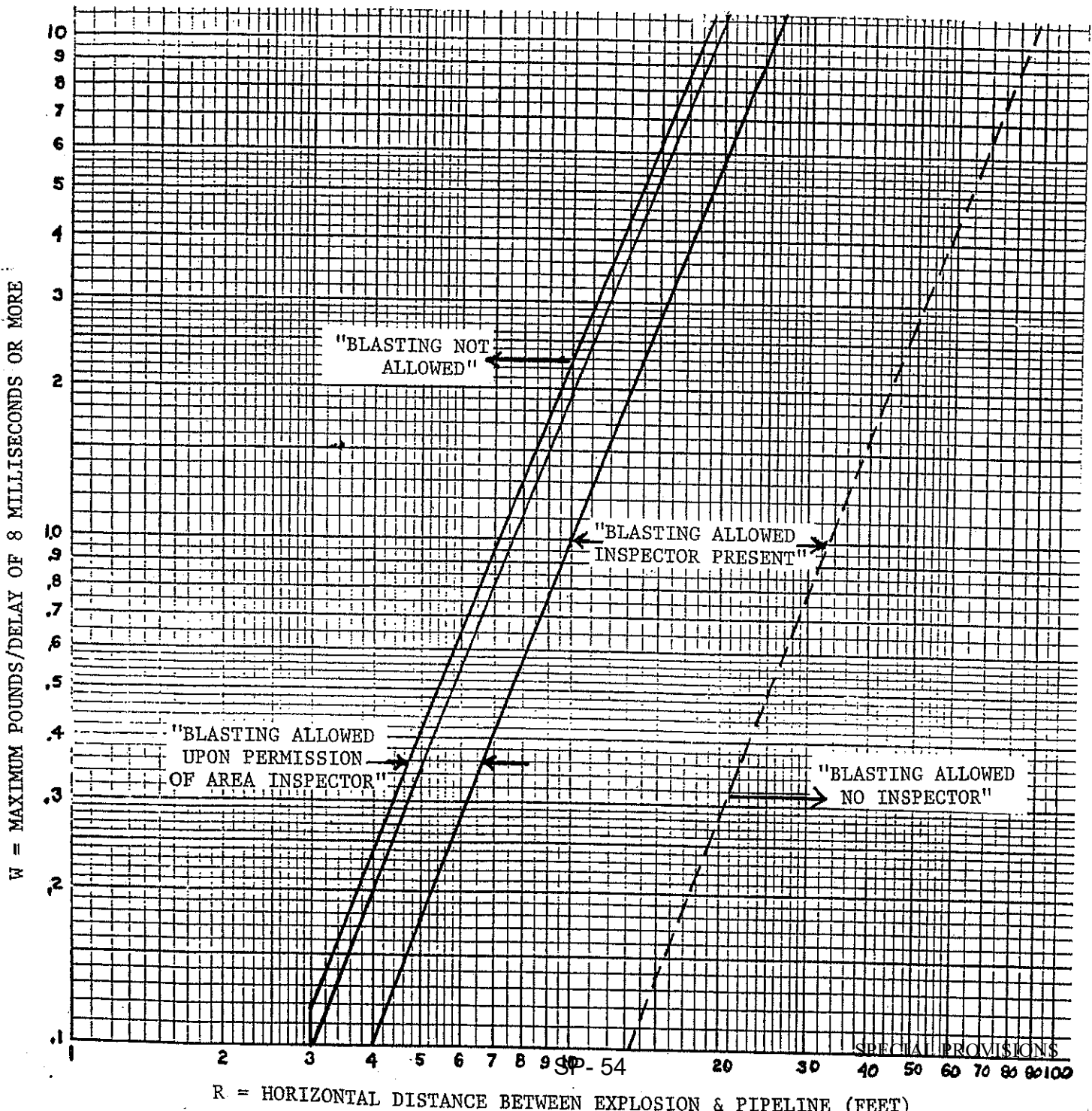


# EXHIBIT IV

## STEEL

### CHARGE-DISTANCE LIMITS IN BLASTING NEAR BURIED PIPELINES

REFER TO PROCEDURE MEMORANDUM #482.01

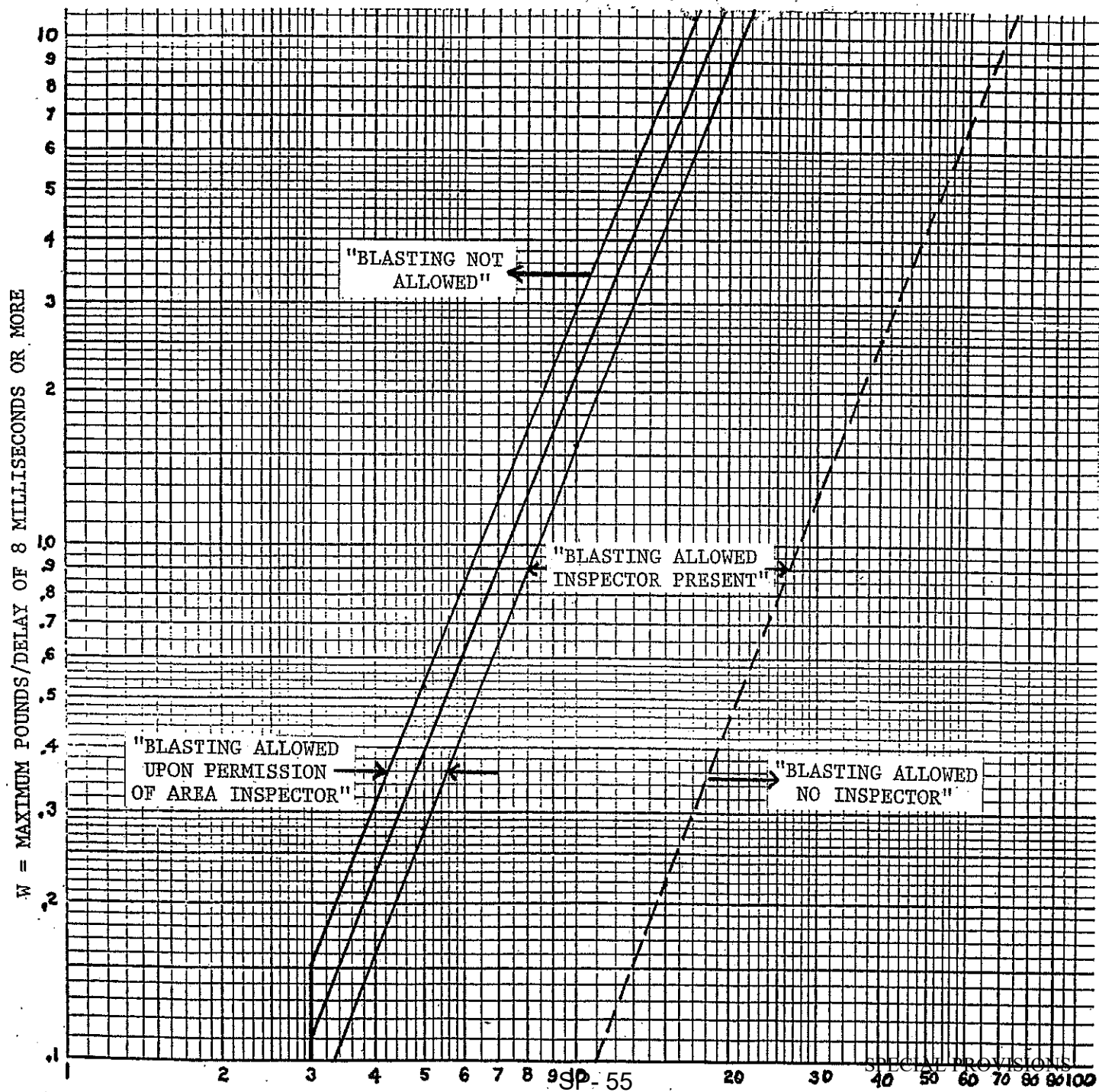


# EXHIBIT IV

## PLASTIC

### CHARGE-DISTANCE LIMITS IN BLASTING NEAR BURIED PIPELINES

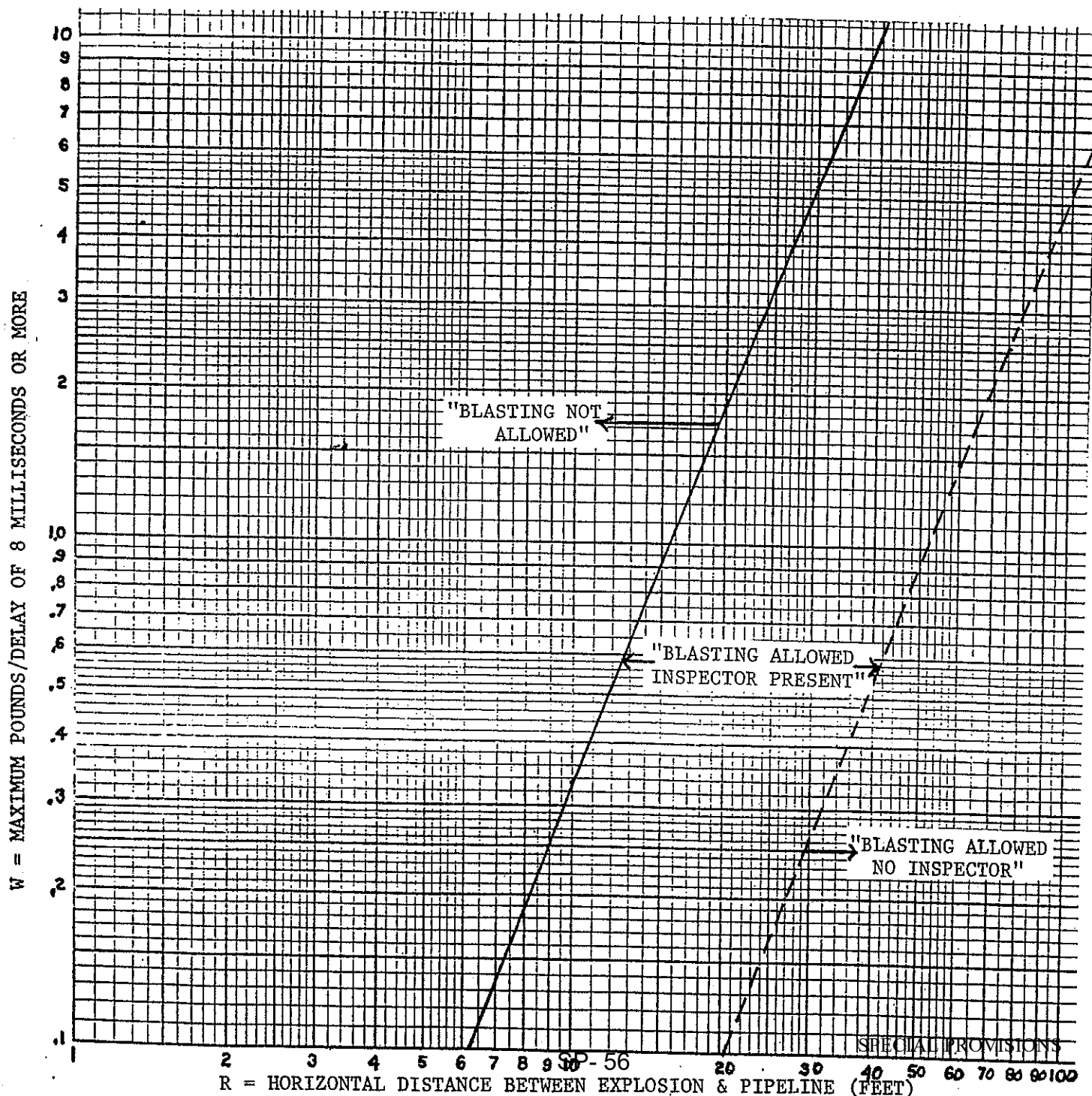
REFER TO PROCEDURE MEMORANDUM #482.01



CAST IRON AND BARE STEEL

CHARGE-DISTANCE LIMITS IN BLASTING  
NEAR BURIED PIPELINES

REFER TO PROCEDURE MEMORANDUM #482.01



## **SECTION 1.05 - CONTROL OF THE WORK**

**Article 1.05.02** - Plans, Working Drawings and Shop Drawings are supplemented as follows:

**Sub article 1.05.02** - (2) is supplemented by the following:

### **Traffic Signal Items:**

When required by the contract documents or when ordered by the City of New Britain or the Engineer, The Contractor shall prepare and submit product data sheets, working drawings and/or shop drawings for all traffic signal items to the City of New Britain and Tighe & Bond, Inc. for approval before fabrication. The packaged set submitted in an electronic portable document format (.pdf) shall be in an individual file with appropriate bookmarks for each item. The electronic files for catalog cuts shall be created on ANSI A (8 1/2" x 11"; 216 mm x 279mm; letter) sheets. Working drawings and shop drawings shall be created on ANSI B (11" x 17"; 279 mm x 432 mm; ledger/tabloid) sheets.

Please send the pdf documents via email to:

Mr. Robert Trottier, P.E.  
City Engineer  
New Britain City Hall  
27 West Main Street  
New Britain, Connecticut 06051  
[rtrottier@NewBritainCT.gov](mailto:rtrottier@NewBritainCT.gov)

Mr. Christopher Granatini, P.E.  
Tighe & Bond, Inc.  
213 Court Street, Suite 900  
Middletown, Ct 06457  
[cogranatini@tighebond.com](mailto:cogranatini@tighebond.com)

### **Steel Span Poles and Mast Arm Assemblies:**

When these items are included in the project, the submission for Steel Span Poles and Mast Arm Assemblies shall follow the format and be sent to the "Engineer of Record" as described in the Steel Span Pole and Steel Mast Arm Assembly special provision.

At the completion of the Work, submit one complete set of the approved submittals to the City of New Britain at the contacts listed above.



## **SECTION 1.06 CONTROL OF MATERIALS**

### **Article 1.06.01 - Source of Supply and Quality:**

Add the following:

#### **Traffic Signal Items:**

For the following traffic signal items the contractor shall submit a complete description of the item, shop drawings, product data sheets and other descriptive literature which completely illustrates such items presented for formal review. Such review shall not change the requirements for a certified test report and materials certificate as may be called for. All documents shall be grouped into one separate file for each group of items as indicated by the Roman numerals below (for example, one pdf file for all of the pedestal items). The documents for all of the traffic signal items shall be submitted at one time, unless otherwise allowed by the engineer.

- I. 1003204 – Light Standard (10' Bracket, 30' Mounting Height)
- II. 10080XX – Rigid Metal Conduit
- III. 10100XXA – Concrete Handholes & Covers
- IV. 11020XX – Aluminum Pedestals
- V. 1051XXA – Traffic Signals, Mast Arm Mounted - LEDs, Housings and Hardware  
11052XXA – Traffic Signals, Pole Mounted - LEDs, Housings and Hardware  
11053XXA – Traffic Signals, Pedestal Mounted - LEDs, Housings and Hardware  
11055XXA – LED Traffic Signal Lamp Unit
- VI. 11070XXA – Accessible Pedestrian Signal & Detector - Button, Housings & Sign
- VII. 1108118A – NEMA TS2, Type 2 Traffic Controller and Cabinet
- VIII. 11XXXXXXA – Siren Pre-Emption – Detector & Phase Selector
- IX. 1108843A - 12-Position Wall Mounted Fiber Optic Patch Panel
- X. 1111600A – Extension Bracket  
11122XXA – Vehicle Detection - Camera Assembly, Processor and Monitor
- XI. 1112242A – Fiber Optic Cable Splice Enclosure
- XII. 1113XXXXA – Cable - Control Cable, Comm., CAT6, VC, Detector Cable (optical)  
1113023A – 12 Strand Fiber Optic Interconnect Cable

**Article 1.06.07 - Certified Test Reports and Materials Certificate.**

Add the following:

- 1) For the materials in the following items, a Certified Test Report will be required confirming their conformance to the requirements set forth in these plans or specifications or both. Should the consignee noted on a Certified Test Report be other than the Prime Contractor, then Materials Certificates shall be required to identify the shipment.

Steel Mast Arm Anchor Bolts  
Steel Mast Arm Assembly

- 2) For the materials in the following items, a Materials Certificate will be required confirming their conformance to the requirements set forth in these plans or specifications or both.

Aluminum Pedestals

Siren Pre-Emption Equipment

Siren Detector

Steel Mast Arm Assembly

Phase Selector (Audio)

Traffic Signal Housings and Hardware

Video Vehicle Detection

LED Traffic Signal Lamp Unit

Camera Assembly

Pedestrian Signals Housing and Hardware

Camera Extension Bracket

Pedestrian Pushbuttons and Type of Sign

Video Detector Processor

Accessible Pedestrian Signal & Detector

Camera Cable

Traffic Signal Controller Unit

Monitor

Traffic Controller Cabinet

Controller Unit

Communication Cable

Solid State Time Switch

Solid State Load Switch

Conflict Monitor

Solid State Flasher

Flash Transfer Relay

## **SECTION 1.06 CONTROL OF MATERIALS**

### **Article 1.06.07 - Certified Test Reports and Materials Certificates:**

Add the following:

All materials used on this project shall require a Certified Test Report or Material Certificate.

Following is a partial list of items that may be included in the project.

1. For the materials in the following items, a Certificate Test Report will be required confirming their conformance to the requirements set forth in the plans, these Specifications or both. Should the consignee noted on a Certified Test Report be other than the Prime Contractor, then Materials Certificates shall be required to identify the shipment.

|                             |                          |                     |
|-----------------------------|--------------------------|---------------------|
| Subbase                     | Granular Fill            | Class A Concrete    |
| Pervious Structure Backfill | Processed Aggregate Base | Class F Concrete    |
| Topsoil                     | Joint Sealer             | Riprap              |
| Bedding Material            | Cement                   | #8 Stone            |
| #6 Stone                    | Anchoring Cement         | #67 Stone           |
| Sand                        | Chemical Anchors         | Deformed Steel Bars |
| Threaded Steel Bars         |                          |                     |

2. For the material in the following items, a Materials Certificate will be required confirming their conformance to the requirements set forth in the plans or these specifications if it is from a Connecticut Department of transportation approved plant/supplier. Otherwise, testing is required.

|                          |                                     |                        |
|--------------------------|-------------------------------------|------------------------|
| Bituminous Concrete      | Portland Cement Concrete            | Class A Concrete       |
| Portland Cement          | Pavement Marking                    | Class F Concrete       |
| Signs                    | Sanitary Manhole Brick (for invert) | Joint Sealer           |
| Concrete Building Brick  | Masonry Concrete Units              | Deformed Steel Bars    |
| Reinforcing Steel        | Wire & Welded Wire Fabric           | Threaded Steel Bars    |
| Anchor Bolts             | Structural Steel                    | Membrane Waterproofing |
| Dowel Bars               | Galvanizing                         | * Membrane             |
| Paint                    | Damp Proofing                       | * Glass Fabric         |
| Metal Beam Rail Elements | Grass Seed                          | * Primer               |
| Precast Concrete Units   | Fertilizer                          | * Mastic               |
|                          | Wetland Seed Mix                    |                        |

**SECTION 1.07**  
**LEGAL RELATIONS AND RESPONSIBILITIES**

**1.07.01—Laws to be Observed:** is amended as follows:

In the second sentence of the first paragraph, after the word "State" add the words "and Municipality".

**1.07.03—Proprietary Devices, Materials and Processes:** is amended as follows:

After the word "State" add the words "and Municipality" throughout this Article.

**1.07.04—Restoration of Surfaces Opened Pursuant to Permit or Contract:** is amended as follows:

Replace the word "Department" with "Municipality" throughout this Article.

**1.07.07—Safety and Public Convenience:** is amended as follows:

In the penultimate paragraph, after the word "Department," add the words "or Municipality".

**1.07.09—Protection and Restoration of Property:** is supplemented and amended as follows:

Add the words "or Municipality" after the word "State" wherever the word "State" appears in this Article.

Add the phrase "or Municipality, as applicable" after the word "Department" wherever the word "Department" appears in this Article.

Add the following:

The Contractor shall notify the Tree Warden of the Municipality in which the project is located, five (5) days prior to flagging so that the Tree Warden may be present during the flagging.

All trees scheduled to be removed outside of the proposed gutter or curb lines of the highway shall be visibly marked or flagged by the Contractor at least five (5) days prior to cutting of such trees.

The Engineer will inspect the identified trees and verify the limits of tree removal prior to the Contractor proceeding with his cutting operation, should such an operation be required elsewhere in this contract.

**1.07.10 - Contractor's Duty to Indemnify the State Against Claims for Injury or Damage:** is amended as follows:

Revise the title of this Article to read "Contractor's Duty to Indemnify the State and/or Municipality Against Claims for Injury or Damage."

In the first sentence, delete the words "the Department".

Replace the word "State" with "State and/or Municipality" throughout this Article.

Replace the word "Commissioner" with "Engineer" throughout this Article.

Add the following paragraph after the only paragraph:

"It is further understood and agreed by the parties hereto, that the Contractor shall not use the defense of Sovereign Immunity in the adjustment of claims or in the defense of any suit, including any suit between the State and/or Municipality and the Contractor, unless requested to do so by the State and/or Municipality."

**1.07.13—Contractor's Responsibility for Adjacent Property and Services:** is supplemented with the following:

The Contractor's attention is directed to the fact that overhead utilities (including utility poles, pole guys and overhead wires) exist in the immediate vicinity of the project.

The Contractor shall be liable for all damages and claims received or sustained by any persons, corporations or property in consequence of damage to the existing utilities, their appurtenances, or other facilities caused directly or indirectly by the operations of the Contractor.

The following company and representative shall be contacted by the Contractor to coordinate the protection of their utilities on this project 30 days prior to the start of any work on this project involving their utilities:

| Company                                      | Representative         | Phone #<br>/Email  | Address   |
|--|------------------------|--|---|
| City of New Britain<br>Public Works          | Mr. Robert<br>Trottier | (860) 826-3355<br><a href="mailto:Robert.Trottier@newbritainct.gov">Robert.Trottier@newbritainct.gov</a> | 27 West Main Street<br>New Britain, CT 06051      |
| City of New Britain<br>Water Department      | Mr. Chris<br>Polkowski | (860) 826-3538<br><a href="mailto:water@NewBritainCT.gov">water@NewBritainCT.gov</a>                     | 1000 Shuttle Meadow Ave.<br>New Britain, CT 06052 |
| Eversource Energy                            | Mr. Thomas<br>Woronik  | (860) 267-3891<br><a href="mailto:Thomas.Woronik@eversource.com">Thomas.Woronik@eversource.com</a>       | 22 East High Street<br>East Hampton, CT 06424     |
| Comcast of<br>Connecticut, Inc               | Mr. Jim<br>Bitzas      | (413) 562-9923<br><a href="mailto:jim_bitzas@cable.comcast.com">jim_bitzas@cable.comcast.com</a>         | 1110 East Mountain Road<br>Westfield, MA 01085    |
| Frontier<br>Communications of<br>Connecticut | Ms. Lynne<br>DeLucia   | (203) 238-5000<br><a href="mailto:Lynne.m.delucia@ftr.com">Lynne.m.delucia@ftr.com</a>                   | 1441 North Colony Rd.<br>Meriden, CT 06450        |

|                                     |                    |  |  |
|-------------------------------------|--------------------|--|--|
| Connecticut Natural Gas Corporation | Mr. Jonathan Gould | (860) 727-3044<br><a href="mailto:jgould@ctgcorp.com">jgould@ctgcorp.com</a>                 | 76 Meadow Street, 1 <sup>st</sup> Floor<br>E. Hartford, CT 06108 |
| Lighttower Fiber Networks I, LLC    | Mr. Eric Clark     | (203) 649-3904<br><a href="mailto:Eric.Clark@crowncastle.com">Eric.Clark@crowncastle.com</a> | 1781 Highland Avenue<br>Cheshire, CT 06410                       |
| WilTel Communications, LLC          | Mr. Mike Weaver    | (919) 710-8891<br><a href="mailto:mike.weaver@level3.com">mike.weaver@level3.com</a>         | 1025 Eldorado Boulevard -<br>43C-317<br>Broomfield, CO 80021     |

The City of New Britain Building Department shall be contacted for electrical service inspections for controllers. Please provide the electrical service request number provided by the power company. This is a Work Request (WR) Number provided by Eversource.

**1.07.14—Personal Liability of Representatives of the State:** is amended as follows:

Add the words "and Municipality" after the word "State".

**1.07.15—No Waiver of Legal Rights:** is amended as follows:

Replace the words "Commissioner" and "Department" with "Municipality" or "Municipal" throughout this Article.

**1.07.16—Unauthorized Use of Area(s) within the Project Site:** is amended as follows:

Replace the words "Commissioner" and "State" with "Municipality" throughout this Article.

Add the following new Subarticle:

**1.07.19—Personal Liability of Representatives of the Municipality**

In carrying out any of the provisions of these specifications, or in exercising any power or authority granted to them by or within the scope of the Contract, the Engineer and his authorized representatives, including consultant engineering firms and their employees, shall be subject to no liability, either personally or as officials of the Municipality, it being understood that in all such matters they act solely as agents and representatives of the Municipality.

## **SECTION 1.08 - PROSECUTION AND PROGRESS**

### **Article 1.08.03 - Prosecution of Work:**

Add the following:

The contractor shall schedule work to begin on the southwest side of Columbus Boulevard and the north side of Chestnut Street between Columbus Boulevard and Herald Square. Work in this area shall be sufficiently complete prior to starting other work to allow for the installation of street trees in this area. This will provide as much time as possible for the tree pits to settle prior installation of the Flexi-Pave Pavement. Flexi-Pave Pavement shall be installed at the end of the project.

Construction activities shall be performed in a manor to minimize impact to vehicular and pedestrian traffic operations. A minimum of one lane of travel shall be maintained in each direction at all times.

An ADA compliant pedestrian route through the construction limits must be maintained and protected at all times.

Access to all properties and businesses must be maintained at all times unless prior arrangements are made with the property owners and/or business proprietors.

### **Article 1.08.04 - Limitation of Operations - Add the following:**

In order to provide for traffic operations as outlined in the Special Provision "Maintenance and Protection of Traffic," the Contractor will not be permitted to perform any work which will interfere with the described traffic operations on all project roadways as follows:

#### **All Project Roadways**

Monday through Friday between 4:00 p.m. and 6:00 p.m.

From Friday at 6:00 p.m. to Monday at 7:00 a.m.

## **SECTION 2.86 - DRAINAGE TRENCH EXCAVATION, ROCK IN DRAINAGE TRENCH EXCAVATION**

### **2.86.01—Description**

### **2.86.03—Construction Methods**

### **2.86.04—Method of Measurement**

### **2.86.05—Basis of Payment**

**2.86.01—Description:** Drainage trench excavation consists of the excavation necessary for the proper installation of drainage structures, pipes, pipe ends and any other incidental drainage items.

It shall include earth and rock excavation, removal of existing pipes, dewatering, backfill, and disposal of materials; to the trench limits described herein, to the dimensions shown on the plans, or as directed by the Engineer.

#### **Classifications:**

- (1) **Drainage Trench Excavation** will include only the excavation necessary for the construction of the drainage items and the removals specified above.
- (2) **Rock in Drainage Trench Excavation**, insofar as it applies to drainage trench excavation, shall be defined as 1/2 cubic yard or more in volume of the following obstructions removed from the limits of the drainage trench:
  - (a) rock in definite ledge formation
  - (b) boulders, or portions of boulders
  - (c) cement masonry structures
  - (d) concrete or reinforced concrete structures
  - (e) reinforced concrete pipe
  - (f) subsurface concrete pavement or concrete base

The removal shall be as indicated or directed from within the limits defined in 2.86.03 for drainage trench excavation.

### **2.86.03—Construction Methods:**

#### **(1) Drainage Trench Excavation Limits:**

*Horizontal Limits:* Trench widths for pipes, pipe ends, pipe-arches, and drainage structures shall be as follows:

- (a) 2 feet greater than the nominal inside diameter of circular pipe or nominal inside span of elliptical pipe or pipe-arch for such diameters or spans of less than 30 inches
- (b) 3 feet greater than the nominal inside diameter of circular pipe or the nominal inside span of elliptical pipe or pipe-arch for such diameters or spans that are 30 inches or greater
- (c) 4 feet greater than the nominal inside diameter or nominal horizontal inside span for pipe-arches fabricated from structural plates
- (d) 2 feet beyond the neat lines of all exterior or foundation walls of drainage structures

*Vertical Limits:* Trench depths shall extend vertically as follows:

- (a) From the bottom of the trench to the bottom of the roadway excavation, or in areas away from roadway excavation, to the top of existing ground surface.



- (b) Where drainage pipe is to be laid in a fill area, the embankment shall be placed and compacted to a minimum elevation 12 inches above the top of the proposed pipe, whereupon the drainage trench excavation shall be performed and the pipe installed.

- (2) **Drainage Trench Excavation:** Drainage trench excavation shall be made in conformity with the requirements of the plans, or as directed by the Engineer. The Contractor shall furnish and employ such shores, braces, pumps, or ancillary equipment as needed for the proper protection of property, proper completion of the work, as well as safety of the public and employees of both the Contractor and the Department. All bracing and shoring shall be removed when no longer required for the construction or safety of the work. When required, the Contractor shall provide or have on the Site at all times any OSHA certification for equipment to be used, per 1.07.07. For support of trenches greater than 10 feet in depth, working drawings shall be submitted, in accordance with 1.05.02. The Contractor shall control erosion and sedimentation at trench locations and ensure that pumped water from the drainage excavation is discharged in accordance with the requirements of 1.10.

Where a firm foundation is not encountered at the grades established due to unsuitable material, such as soft, spongy, or unstable soil, the unsuitable material shall be removed and replaced with approved backfill, thoroughly compacted in lifts not to exceed 6 inches, for the full trench width. The Engineer shall be notified prior to removal of the unsuitable material in order to determine the depth of removal necessary.

After the excavation is complete, the Contractor shall notify the Engineer and no drainage structure or material shall be placed in the excavated area until the Engineer has approved the depth of excavation and the character of the foundation material.

- (3) **Rock in Drainage Trench Excavation:**

- (a) Rock in Drainage Trench Excavation - Ledge: When rock in definite ledge form is encountered, the Contractor shall excavate a minimum of 12 inches below the bottom of the proposed pipe or drainage structure; and this depth shall be filled with bedding material (as specified in M.08.03-1) below the proposed pipe; or granular fill (as specified in M.02.01) below the proposed drainage structure, which shall be thoroughly compacted in lifts not to exceed 6 inches.
- (b) Rock in Drainage Trench Excavation - Boulders: When boulders are encountered, the Contractor shall remove them from the trench and if backfill is required, the void shall be filled with bedding material, surplus excavated material (as specified in 2.02.03-8) or granular fill which shall be thoroughly compacted in lifts not to exceed 6 inches.
- (c) Rock in Drainage Trench Excavation –Structures: When cement masonry, concrete or reinforced concrete structures are encountered within the drainage trench limits, the Contractor shall remove the structure in its entirety or as directed by the Engineer, and if backfill is required, the void shall be filled with bedding material, surplus excavated material or granular fill which shall be thoroughly compacted in lifts not to exceed 6 inches.

- (4) **Backfill:** Suitable material excavated from the drainage trench shall be used as backfill material prior to consideration of using any other source of backfill. Backfill material used shall be of a quality satisfactory to the Engineer and shall be free from large or frozen lumps, wood and other extraneous material. Rock fill or stones larger than 5 inches shall not be placed within 1 foot of the drainage structure or pipe. The grading shall be

completed to the lines shown on the plans, or as ordered, by refilling to the required elevation with approved material, placed in layers not to exceed 6 inches in depth after compaction, which shall be thoroughly compacted with equipment approved by the Engineer.

All surplus or unsuitable material shall be removed and disposed of as directed. Should additional material be required for backfilling, it may be obtained from the Project surplus excavation in accordance with 2.02.03-8 or from borrow pits, gravel pits, or elsewhere as directed by the Engineer.

#### **2.86.04—Method of Measurement:**

**Drainage Trench Excavation:** Drainage trench excavation will not be measured for payment.

If granular fill or borrow is required to replace unsuitable material it will be measured for payment as directed by the Engineer.

**Rock in Drainage Trench Excavation:** If any material meeting the definition of Rock in Drainage Trench Excavation is encountered, the Contractor shall strip it of sufficient overlying material to allow for proper measurement and shall then notify the Engineer that the rock surface is ready for measurement. If the Contractor fails to give such notice, the Engineer will presume that the measurements taken at the time the Engineer first saw the material in question will give the true quantity of excavation.

Rock in Drainage Trench Excavation will be measured according to the classification provided in 2.86.01 and within the drainage trench excavation limits provided in 2.86.03.

For the removal of underground obstructions, as classified in 2.86.01-2, the measurement shall be the actual volume of rock removed (1/2 cubic yard or more) as approved by the Engineer.

Rock in Drainage Trench Excavation will not be measured for payment in fills.

Bedding Material or other suitable fill, as specified in 2.86.03(3), used to fill voids after rock is excavated will not be measured for payment.

#### **2.86.05—Basis of Payment:**

**Drainage Trench Excavation:** There will be no direct payment for drainage trench excavation required for the installation of drainage pipes, pipe ends, catch basins, drop inlets, manholes, and other drainage structures, or any other incidental drainage work including materials, tools, equipment and labor necessary to complete the drainage trench excavation in conformity with the plans or as directed by the Engineer.

There will be no direct payment for backfill or disposal of surplus material necessary for the satisfactory completion of this work.

There will be no direct payment made for shoring, bracing, dewatering, or for material or equipment necessary for the satisfactory completion of the work.

Where called for on the plans to install temporary earth retaining systems for the support of existing facilities, pavement, utilities, or for other constraints, payment will be made in accordance with such items in the Contract.

If granular fill or borrow is used to replace unsuitable material, payment will be made at the respective Contract unit prices, or in the absence of such items in the Contract, as Extra Work in accordance with 1.04.05.

**Rock in Drainage Trench Excavation:** When rock, conforming to the description in 2.86.01 is encountered within the limits of drainage trench excavation, its removal will be classified and

paid for at the Contract unit price per cubic yard for "Rock in Drainage Trench Excavation 0' – 10' Deep," or "Rock in Drainage Trench Excavation 0' – 20' Deep," as the case may be.

Those portions of drainage trench excavation classified and paid for as "Rock in Drainage Trench Excavation" of the various depths will be the actual volumes of rock excavated within the limits for drainage trench excavation, at the applicable bottom depth price.

Where no item or items for "Rock in Drainage Trench Excavation" at the applicable depth appear in the proposal and rock is encountered in drainage trench excavation, its removal will be paid for as Extra Work in accordance with 1.04.05.

When excavation is necessary in fill, no such excavation will be paid for as "Rock in Drainage Trench Excavation."

**When excavation is necessary for any purpose other than drainage-related items, no such excavation will be paid under this item.**

Bedding material or any other suitable material used to fill voids vacated by excavated rock will not be paid for but shall be included in the unit price per cubic yard for "Rock in Drainage Trench Excavation."

| Pay Item   | Pay Unit |
|--|----------|
| Rock in Drainage Trench Excavation 0' - 10' Deep | c.y.     |
| Rock in Drainage Trench Excavation 0' - 20' Deep | c.y.     |

## **SECTION 4.06 - BITUMINOUS CONCRETE**

Section 4.06 is being deleted in its entirety and replaced with the following:

### **4.06.01—Description**

### **4.06.02—Materials**

### **4.06.03—Construction Methods**

- 1. Material Documentation**
- 2. Transportation of Mixture**
- 3. Paving Equipment**
- 4. Test Section**
- 5. Transitions for Roadway Surface**
- 6. Spreading and Finishing of Mixture**
- 7. Longitudinal Joint Construction Methods**
- 8. Contractor Quality Control (QC) Requirements**
- 9. Temperature and Seasonal Requirements**
- 10. Field Density**
- 11. Acceptance Sampling and Testing**
- 12. Density Dispute Resolution Process**
- 13. Corrective Work Procedure**
- 14. Protection of the Work**
- 15. Cut Bituminous Concrete Pavement**

### **4.06.04—Method of Measurement**

### **4.06.05—Basis of Payment**

**4.06.01—Description:** Work under this Section shall include the production, delivery, placement and compaction of a uniform textured, non-segregated, smooth bituminous concrete pavement to the grade and cross section shown on the plans.

The following terms as used in this specification are defined as:

Bituminous Concrete: A composite material consisting of prescribed amounts of asphalt binder and aggregates. Asphalt binder may also contain additives engineered to modify specific properties and/or behavior of the composite material. References to bituminous concrete apply to all of its forms, such as those identified as hot-mix asphalt (HMA) or polymer-modified asphalt (PMA).

Bituminous Concrete Plant (Plant): A structure where aggregates and asphalt binder are combined in a controlled fashion into a bituminous concrete mixture suitable for forming pavements and other paved surfaces.

Course: A continuous layer (a lift or multiple lifts) of the same bituminous concrete mixture placed as part of the pavement structure.

Density Lot: The total tonnage of all bituminous concrete placed in a single lift which are:

PWL density lots = When the project total estimated quantity per mixture is larger than 3,500 tons

Simple Average density lots = When the project total estimated quantity per mixture is 3,500 tons or less

Disintegration: Erosion or fragmentation of the pavement surface which can be described as

polishing, weathering-oxidizing, scaling, spalling, raveling, or formation of potholes.

Dispute Resolution: A procedure used to resolve conflicts between the Engineer and the Contractor's results that may affect payment.

Hot Mix Asphalt (HMA): A bituminous concrete mixture typically produced at 325°F.

Job Mix Formula (JMF): A recommended aggregate gradation and asphalt binder content to achieve the required mixture properties.

Lift: An application of a bituminous concrete mixture placed and compacted to a specified thickness in a single paver pass.

Percent Within Limits (PWL): The percentage of the lot falling between the Upper Specification Limit (USL) and the Lower Specification Limit (LSL).

Polymer Modified Asphalt (PMA): A bituminous concrete mixture containing a polymer-modified asphalt binder and using a qualified warm mix technology.

Production Lot: The total tonnage of a bituminous concrete mixture from a single source that may receive an adjustment.

Production Sub Lot: Portion of the production lot typically represented by a single sample.

Quality Assurance (QA): All those planned and systematic actions necessary to provide CTDOT the confidence that a Contractor will perform the work as specified in the Contract.

Quality Control (QC): The sum total of activities performed by the vendor (Producer, Manufacturer, and Contractor) to ensure that a product meets contract specification requirements.

Superpave: A bituminous concrete mix design used in mixtures designated as "S\*" Where "S" indicates Superpave and \* indicates the sieve related to the nominal maximum aggregate size of the mix.

Segregation: A non-uniform distribution of a bituminous concrete mixture in terms of gradation, temperature, or volumetric properties.

Warm Mix Asphalt (WMA) Technology: A qualified additive or technology that may be used to produce a bituminous concrete at reduced temperatures and/or increase workability of the mixture.

**4.06.02—Materials:** All materials shall meet the requirements of Section M.04.

**1. Materials Supply:** The bituminous concrete mixture must be from one source of supply and originate from one Plant unless authorized by the Engineer.

**2. Recycled Materials:** Reclaimed Asphalt Pavement (RAP), Crushed Recycled Container Glass (CRCG), Recycled Asphalt Shingles (RAS), or crumb rubber (CR) from recycled tires may be incorporated in bituminous concrete mixtures in accordance with Project Specifications.

**4.06.03—Construction Methods**

**1. Material Documentation:** All vendors producing bituminous concrete must have Plants with automated vehicle-weighting scales, storage scales, and material feeds capable of producing a delivery ticket containing the information below.

- a. State of Connecticut printed on ticket.
- b. Name of Producer, identification of Plant, and specific storage silo if used.
- c. Date and time.
- d. Mixture Designation, mix type and level. Curb mixtures for machine-placed curbing must state "curb mix only."

- e. If WMA Technology is used, “-W” must be listed following the mixture designation.
- f. Net weight of mixture loaded into the vehicle. (When RAP and/or RAS is used, the moisture content shall be excluded from mixture net weight.)
- g. Gross weight (equal to the net weight plus the tare weight or the loaded scale weight).
- h. Tare weight of vehicle (daily scale weight of the empty vehicle).
- i. Project number, purchase order number, name of Contractor (if Contractor other than Producer).
- j. Vehicle number - unique means of identification of vehicle.
- k. For Batch Plants: individual aggregate, recycled materials, and virgin asphalt max/target/min weights when silos are not used.
- l. For every mixture designation: the running daily and project total delivered and sequential load number.

The net weight of mixture loaded into the vehicle must be equal to the cumulative measured weights of its components.

The Contractor must notify the Engineer immediately if, during production, there is a malfunction of the weight recording system in the automated Plant. Manually written tickets containing all required information will be allowed for no more than 1 hour.

The State reserves the right to have an Inspector present to monitor batching and/or weighing operations.

**2. Transportation of Mixture:** The mixture shall be transported in vehicles that are clean of all foreign material, excessive coating or cleaning agents, and that have no gaps through which material might spill. Any material spilled during the loading or transportation process shall be quantified by re-weighing the vehicle. The Contractor shall load vehicles uniformly so that segregation is minimized. Loaded vehicles shall be tightly covered with waterproof covers acceptable to the Engineer. Mesh covers are prohibited. The cover must minimize air infiltration. Vehicles found not to be in conformance shall not be loaded

Vehicles with loads of bituminous concrete being delivered to State projects must not exceed the statutory or permitted load limits referred to as gross vehicle weight (GVW). The Contractor shall furnish a list and allowable weights of all vehicles transporting mixture. The State reserves the right to check the gross and tare weight of any vehicle. If the gross or tare weight varies from that shown on the delivery ticket by more than 0.4%, the Engineer will recalculate the net weight. The Contractor shall correct the discrepancy to the satisfaction of the Engineer.

If a vehicle delivers mixture to the Project and the delivery ticket indicates that the vehicle is overweight, the load may not be rejected but a “Measured Weight Adjustment” will be taken in accordance with Article 4.06.04.

Vehicle body coating and cleaning agents must not have a deleterious effect on the mixture. The use of solvents or fuel oil, in any concentration, is prohibited for the coating of vehicle bodies.

For each delivery, the Engineer shall be provided a clear, legible copy of the delivery ticket.

**3. Paving Equipment:** The Contractor shall have the necessary paving and compaction equipment at the Project Site to perform the work. All equipment shall be in good working order and any equipment that is worn, defective, or inadequate for performance of the work shall be repaired or replaced by the Contractor to the satisfaction of the Engineer. During the paving operation, the use of solvents or fuel oil, in any concentration, is strictly prohibited as a release agent or cleaner on any paving equipment (i.e., rollers, pavers, transfer devices, etc.).

Refueling or cleaning of equipment is prohibited in any location on the Project where fuel or solvents might come in contact with paved areas or areas to be paved. Solvents used in cleaning mechanical equipment or hand tools shall be stored clear of areas paved or to be paved. Before any such equipment and tools are cleaned, they shall be moved off of areas paved or to be paved.

**Pavers:** Each paver shall have a receiving hopper with sufficient capacity to provide for a uniform spreading operation and a distribution system that places the mix uniformly, without segregation. The paver shall be equipped with and use a vibratory screed system with heaters or burners. The screed system shall be capable of producing a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture. Pavers with extendible screed units as part of the system shall have auger extensions and tunnel extenders as necessary. Automatic screed controls for grade and slope shall be used at all times unless otherwise authorized by the Engineer. The controls shall automatically adjust the screed to compensate for irregularities in the preceding course or existing base. The controls shall maintain the proper transverse slope and be readily adjustable, and shall operate from a fixed or moving reference such as a grade wire or floating beam (minimum length 20 feet).

**Rollers:** All rollers shall be self-propelled and designed for compaction of bituminous concrete. Roller types shall include steel wheeled, pneumatic, or a combination thereof. Rollers that operate in a dynamic mode shall have drums that use a vibratory or oscillatory system or combination. Vibratory rollers shall be equipped with indicators for amplitude, frequency, and speed settings/readouts to measure the impacts per foot during the compaction process. Oscillatory rollers shall be equipped with frequency indicators. Rollers can operate in the dynamic mode using the oscillatory system on concrete structures such as bridges and catch basins if at the lowest frequency setting.

Pneumatic tire rollers shall be equipped with wide-tread compaction tires capable of exerting an average contact pressure from 60 to 90 psi uniformly over the surface. The Contractor shall furnish documentation to the Engineer regarding tire size, pressure and loading to confirm that the proper contact pressure is being developed and that the loading and contact pressure are uniform for all wheels.

**Lighting:** For paving operations which will be performed during hours of darkness the paving equipment shall be equipped with lighting fixtures as described below or with an approved equal. Lighting shall minimize glare to passing traffic. The lighting options and minimum number of fixtures are listed in Tables 4.06-1 and 4.06-2.

**TABLE 4.06-1: Minimum Paver lighting**

| Option | Fixture Configuration            | Fixture Quantity | Requirement                      |
|--------|----------------------------------|------------------|----------------------------------|
| 1      | Type A                           | 3                | Mount over screed area           |
|        | Type B (narrow) or Type C (spot) | 2                | Aim to auger and guideline       |
|        | Type B (wide) or Type C (flood)  | 2                | Aim 25feet behind paving machine |
| 2      | Type D Balloon                   | 2                | Mount over screed area           |

**TABLE 4.06-2: Minimum Roller Lighting**

| Option | Fixture Configuration | Fixture Quantity | Requirement                                |
|--------|-----------------------|------------------|--|
| 1      | Type B (wide)         | 2                | Aim 50 feet in front of and behind roller  |
|        | Type B (narrow)       | 2                | Aim 100 feet in front of and behind roller |
| 2      | Type C (flood)        | 2                | Aim 50 feet in front of and behind roller  |
|        | Type C (spot)         | 2                | Aim 100 feet in front of and behind roller |
| 3      | Type D Balloon        | 1                | Mount above the roller                     |

\*All fixtures shall be mounted above the roller.

Type A: Fluorescent fixture shall be heavy duty industrial type. Each fixture shall have a minimum output of 8,000 lumens. The fixtures shall be mounted horizontally and be designed for continuous row installation.

Type B: Each floodlight fixture shall have a minimum output of 18,000 lumens.

Type C: Each fixture shall have a minimum output of 19,000 lumens.

Type D: Balloon light – each balloon light fixture shall have minimum output of 50,000 lumens and emit light equally in all directions.

**Material Transfer Vehicle (MTV):** A MTV shall be used when placing bituminous concrete surface course (a lift or multiple lifts) as indicated in the Contract except as noted on the plans or as directed by the Engineer. In addition, continuous paving lengths of less than 500 feet may not require the use of a MTV as determined by the Engineer.

The MTV must be a vehicle specifically designed for the purpose of delivering the bituminous concrete mixture from the delivery vehicle to the paver. The MTV must continuously remix the bituminous concrete mixture throughout the placement process.

The use of a MTV will be subject to the requirements stated in Article 1.07.05 Load Restrictions. The Engineer may limit the use of the vehicle if it is determined that the use of the MTV may damage highway components, utilities, or bridges. The Contractor shall submit to the Engineer at time of pre-construction the following information:

1. The make and model of the MTV.
2. The individual axle weights and axle spacing for each piece of paving equipment (haul vehicle, MTV and paver).
3. A working drawing showing the axle spacing in combination with all pieces of equipment that will comprise the paving echelon.

**4. Test Section:** The Engineer may require the Contractor to place a test section whenever the requirements of this specification or Section M.04 are not met.

The Contractor shall submit the quantity of mixture to be placed and the location of the test section for review and approval by the Engineer. The same equipment used in the construction of a passing test section shall be used throughout production.

If a test section fails to meet specifications, the Contractor shall stop production, make necessary adjustments to the job mix formula, Plant operations, or procedures for placement and compaction. The Contractor shall construct test sections, as allowed by the Engineer, until all the required specifications are met. All test sections shall also be subject to removal as set forth in Article 1.06.04.



**5. Transitions for Roadway Surface:** Transitions shall be formed at any point on the roadway where the pavement surface deviates, vertically, from the uniform longitudinal profile as specified on the plans. Whether formed by milling or by bituminous concrete mixture, all transition lengths shall meet the criteria below unless otherwise specified.

Permanent Transitions: Defined as any gradual change in pavement elevation that remains as a permanent part of the work.

A transition shall be constructed no closer than 75 feet from either side of a bridge expansion joint or parapet. All permanent transitions, leading and trailing ends shall meet the following length requirements:

| Posted Speed Limit | Permanent Transition Length Required |
|--------------------|--------------------------------------|
| > 35 mph           | 30 feet per inch of elevation change |
| 35 mph or less     | 15 feet per inch of elevation change |

In areas where it is impractical to use the above-described permanent transition lengths, the use of a shorter permanent transition length may be permitted when approved by the Engineer.

Temporary Transitions: Defined as a transition that does not remain a permanent part of the work.

All temporary transitions shall meet the following length requirements:

| Posted Speed Limit | Temporary Transition Length Required   |
|--------------------|--|
| > 50 mph           | Leading Transition: 15 feet per inch of vertical change (thickness)<br>Trailing Transition: 6 feet per inch of vertical change (thickness) |
| 40, 45 or 50 mph   | Leading and Trailing: 4 feet per inch of vertical change (thickness)   |
| 35 mph or less     | Leading and Trailing: 3 feet per inch of vertical change (thickness)   |

**Note:** Any temporary transition to be in place over the winter shutdown period or during extended periods of inactivity (more than 14 calendar days) shall meet the greater than 50 mph requirements shown above.

**6. Spreading and Finishing of Mixture:** Prior to the placement of the mixture, the underlying base course shall be brought to the plan grade and cross section within the allowable tolerance.

Immediately before placing a bituminous concrete lift, a uniform coating of tack coat shall be applied to all existing underlying pavement surfaces and on the exposed surface of a wedge joint. Such surfaces shall be clean and dry. Sweeping or other means acceptable to the Engineer shall be used.

The mixture shall not be placed whenever the surface is wet or frozen.

Tack Coat Application: The tack coat shall be applied by a pressurized spray system that results in uniform overlapping coverage at an application rate of 0.03 to 0.05 gal./s.y. for a non-milled surface and an application rate of 0.05 to 0.07 gal./s.y. for a milled surface. For areas

where both milled and un-milled surfaces occur, the tack coat shall be an application rate of 0.03 to 0.05 gal /s.y. The Engineer must approve the equipment and the method of measurement prior to use. The material for tack coat shall be heated to  $160^{\circ}\text{F} \pm 10^{\circ}\text{F}$  and shall not be further diluted.

Tack coat shall be allowed sufficient time to break prior to any paving equipment or haul vehicles driving on it.

The Contractor may request to omit the tack coat application between bituminous concrete layers that have not been exposed to traffic and are placed during the same work shift. Requests to omit tack coat application on the upper and lower surfaces of a wedge joint will not be considered.

**Placement:** The mixture shall be placed and compacted to provide a smooth, dense surface with a uniform texture and no segregation at the specified thickness and dimensions indicated in the plans and specifications.

When unforeseen weather conditions prevent further placement of the mixture, the Engineer is not obligated to accept or place the bituminous concrete mixture that is in transit from the Plant.

In advance of paving, traffic control requirements shall be set up, maintained throughout placement, and shall not be removed until all associated work including density testing is completed.

The mixture temperature will be verified by means of a probe or infrared type of thermometer. The placement temperature range shall be listed in the quality control plan (QCP) for placement and meet the requirements of Table M.04.03-4. Any HMA material that falls outside the specified temperature range as measured by a probe thermometer may be rejected.

The Contractor shall inspect the newly placed pavement for defects in mixture or placement before rolling is started. Any deviation from standard crown or section shall be immediately remedied by placing additional mixture or removing surplus mixture. Such defects shall be corrected to the satisfaction of the Engineer.

Where it is impracticable due to physical limitations to operate the paving equipment, the Engineer may permit the use of other methods or equipment. Where hand spreading is permitted, the mixture shall be placed by means of suitable shovels and other tools, and in a uniformly loose layer at a thickness that will result in a completed pavement meeting the designed grade and elevation.

**Placement Tolerances:** Each lift of bituminous concrete placed at a specified thickness shall meet the following requirements for thickness and area. Any pavement exceeding these limits shall be subject to an adjustment or removal. Lift tolerances will not relieve the Contractor from meeting the final designed grade. Lifts of specified non-uniform thickness, i.e. wedge or shim course, shall not be subject to thickness and area adjustments.

- a) Thickness: Where the average thickness of the lift exceeds that shown on the plans beyond the tolerances shown in Table 4.06-3, the Engineer will calculate the thickness adjustment in accordance with Article 4.06.04.

**TABLE 4.06-3: Thickness Tolerances**

| Mixture Designation | Lift Tolerance |
|---------------------|----------------|
| S1                  | +/- 3/8 inch   |
| S0.25, S0.375, S0.5 | +/- 1/4 inch   |

Where the thickness of the lift of mixture is less than that shown on the plans beyond the

tolerances shown in Table 4.06-3, the Contractor, with the approval of the Engineer, shall take corrective action in accordance with this Section.

- b) Area: Where the width of the lift exceeds that shown on the plans by more than the specified thickness, the Engineer will calculate the area adjustment in Article 4.06.04.
- c) Delivered Weight of Mixture: When the delivery ticket shows that the truck exceeds the allowable gross weight for the vehicle type, the Engineer will calculate the weight adjustment in accordance with Article 4.06.04.

Transverse Joints: All transverse joints shall be formed by saw-cutting to expose the full thickness of the lift. Tack coat shall be applied to the sawn face immediately prior to additional mixture being placed.

Compaction: The Contractor shall compact the mixture to meet the density requirements as stated in Article 4.06.04 and eliminate all roller marks without displacement, shoving cracking, or aggregate breakage.

When placing a lift with a specified thickness less than 1 1/2 inches, or a wedge course, the Contractor shall provide a minimum rolling pattern as determined by the development of a compaction curve. The procedure to be used shall be documented in the Contractor's QCP for placement and demonstrated on the first day of placement.

The use of the vibratory system on concrete structures is prohibited. When approved by the Engineer, the Contractor may operate a roller using an oscillatory system at the lowest frequency setting.

If the Engineer determines that the use of compaction equipment in the dynamic mode may damage highway components, utilities or adjacent property, the Contractor shall provide alternate compaction equipment.

Rollers operating in the dynamic mode shall be shut off when changing directions.

These allowances will not relieve the Contractor from meeting pavement compaction requirements.

Surface Requirements:

Each lift of the surface course shall not vary more than 1/4 inch from a Contractor-supplied 10 foot straightedge. For all other lifts of bituminous concrete, the tolerance shall be 3/8 inch. Such tolerance will apply to all paved areas.

Any surface that exceeds these tolerances shall be corrected by the Contractor at its own expense.

**7. Longitudinal Joint Construction Methods:** The Contractor shall use Method I - Notched Wedge Joint (see Figure 4.06-1) when constructing longitudinal joints where lift thicknesses are 1 1/2 inches to 3 inches. S1.0 mixtures shall be excluded from using Method I. Method II - Butt Joint (see Figure 4.06-2) shall be used for lifts less than 1 1/2 inches or greater than 3 inches. Each longitudinal joint shall maintain a consistent offset from the centerline of the roadway along its entire length. The difference in elevation between the two faces of any completed longitudinal joint shall not exceed 1/4 inch at any location.

**Method I - Notched Wedge Joint:**

A notched wedge joint shall be constructed as shown in Figure 4.06-1 using a device that is attached to the paver screed and is capable of independently adjusting the top and bottom vertical notches. The device shall have an integrated vibratory system. The top vertical notch must be located at the centerline or lane line in the final lift. The requirement for paving full width "curb to curb" as described in Method II may be waived if addressed in the QC plan and approved by

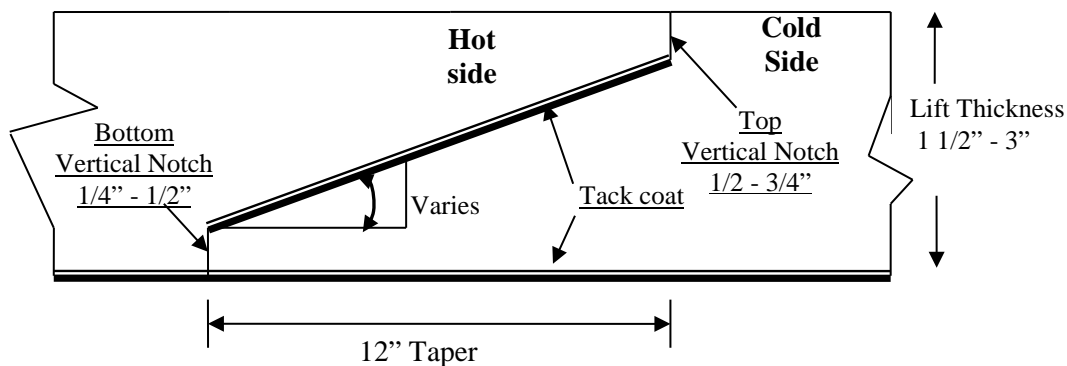
the Engineer.

The taper portion of the wedge joint shall be evenly compacted using equipment other than the paver or notch wedge joint device. The compaction device shall be the same width as the taper and not reduce the angle of the wedge or ravel the top notch of the joint during compaction.

When placed on paved surfaces, the area below the sloped section of the joint shall be treated with tack coat. The top surface of the sloped section of the joint shall be treated with tack coat prior to placing the completing pass.

The taper portion of the wedge joint shall not be exposed to traffic for more than 5 calendar days.

**Figure 4.06-1: Notched Wedge Joint (Not to Scale)**



Any exposed wedge joint must be located to allow for the free draining of water from the road surface.

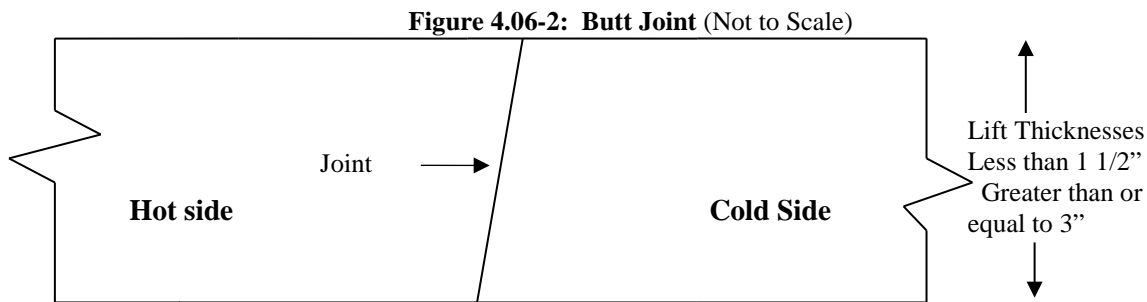
The Engineer reserves the right to define the paving limits when using a wedge joint that will be exposed to traffic.

If Method I cannot be used on those lifts which are 1 ½ inches to 3 inches, Method III may be substituted according to the requirements below for “Method III - Butt Joint with Hot Poured Rubberized Asphalt Treatment.”

**Method II - Butt Joint:**

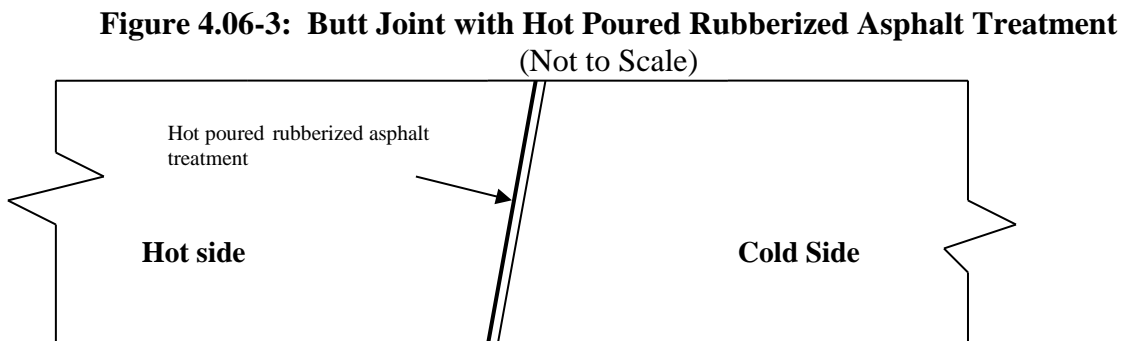
When adjoining passes are placed, the Contractor shall use the end gate to create a near vertical edge (refer to Figure 4.06-2). The completing pass (hot side) shall have sufficient mixture so that the compacted thickness is not less than the previous pass (cold side). During placement of multiple lifts, the longitudinal joint shall be constructed in such a manner that it is located at least 6 inch from the joint in the lift immediately below. The joint in the final lift shall be at the centerline or at lane lines. The end gate on the paver should be set so there is an overlap onto the cold side of the joint.

The Contractor shall not allow any butt joint to be incomplete at the end of a work shift unless otherwise allowed by the Engineer. When using this method, the Contractor is not allowed to leave a vertical edge exposed at the end of a work shift and must complete paving of the roadway full width “curb to curb.”



**Method III - Butt Joint with Hot Poured Rubberized Asphalt Treatment:**

If Method I cannot be used due to physical constraints in certain limited locations, the Contractor may submit a request in writing for approval by the Engineer to use Method III as a substitution in those locations. There shall be no additional measurement or payment made when Method III is substituted for Method I. When required by the Contract or approved by the Engineer, Method III (see Figure 4.06-3) shall be used.



All of the requirements of Method II must be met with Method III. In addition, the longitudinal vertical edge must be treated with a rubberized joint seal material meeting the requirements of ASTM D6690, Type 2. The joint sealant shall be placed on the face of the “cold side” of the butt joint as shown above prior to placing the “hot side” of the butt joint. The joint seal material shall be applied in accordance with the manufacturer’s recommendation so as to provide a uniform coverage and avoid excess bleeding onto the newly placed pavement.

**8. Contractor Quality Control (QC) Requirements:** The Contractor shall be responsible for maintaining adequate quality control procedures throughout the production and placement operations. Therefore, the Contractor must ensure that the materials, mixture, and work provided by Subcontractors, Suppliers, and Producers also meet Contract specification requirements.

This effort must be documented in Quality Control Plans (QCP) and must address the actions, inspection, or sampling and testing necessary to keep the production and placement operations in control, to determine when an operation has gone out of control and to respond to correct the situation in a timely fashion.

The Standard QCP for production shall consist of the quality control program specific to the production facility.

There are 3 components to the QCP for placement: a Standard QCP, a Project Summary Sheet

that details Project-specific information, and, if applicable, a separate Extended Season Paving Plan as required in 4.06.03-9 “Temperature and Seasonal Requirements.”

The Standard QCP for both production and placement shall be submitted to the Department for approval each calendar year and at a minimum of 30 days prior to production or placement.

Production or placement shall not occur until all QCP components have been approved by the Engineer.

Each QCP shall include the name and qualifications of a Quality Control Manager (QCM). The QCM shall be responsible for the administration of the QCP, and any modifications that may become necessary.

The QCM shall have the ability to direct all Contractor personnel on the Project during paving operations.

The QCPs shall also include the name and qualifications of any outside testing laboratory performing any QC functions on behalf of the Contractor. The QC Technician performing in-place density testing shall be NETTCP certified as a paving inspector.

Approval of the QCP does not relieve the Contractor of its responsibility to comply with the Project specifications. The Contractor may modify the QCPs as work progresses and must document the changes in writing prior to resuming operations. These changes include but are not limited to changes in quality control procedures or personnel. The Department reserves the right to deny significant changes to the QCPs.

QCP for Production: Refer to M.04.03-1.

QCP for Placement: The Standard QCP, Project Summary Sheet, and Extended Season Paving Plan shall conform to the format provided by the Engineer. The format is available at [http://www.ct.gov/dot/lib/dot/documents/dconstruction/pat/qcp\\_outline\\_hma\\_placement.pdf](http://www.ct.gov/dot/lib/dot/documents/dconstruction/pat/qcp_outline_hma_placement.pdf)

The Contractor shall perform all quality control sampling and testing, provide inspection, and exercise management control to ensure that bituminous concrete placement conforms to the requirements as outlined in its QCP during all phases of the work. The Contractor shall document these activities for each day of placement.

The Contractor shall submit complete field density testing and inspection records to the Engineer within 48 hours in a manner acceptable to the Engineer.

The Contractor may obtain 1 mat core and 1 joint core per day for process control, provided this process is detailed in the QCP. The results of these process control cores shall not be used to dispute the Department’s determinations from the acceptance cores. The Contractor shall submit the location of each process control core to the Engineer for approval prior to taking the core. The core holes shall be filled to the same requirements described in Subarticle 4.06.03-10.

**9. Temperature and Seasonal Requirements:** Paving, including placement of temporary pavements, shall be divided into 2 seasons, “In-Season” and “Extended-Season.” In-Season paving occurs from May 1 to October 14, and Extended Season paving occurs from October 15 to April 30. The following requirements shall apply unless otherwise authorized or directed by the Engineer:

- Mixtures shall not be placed when the air or subbase temperature is less than 40°F regardless of the season.
- Should paving operations be scheduled during the Extended Season, the Contractor must submit an Extended Season Paving Plan for the Project that addresses minimum delivered mix temperature considering WMA, PMA, or other additives; maximum paver speed; enhanced rolling patterns; and the method to balance mixture delivery and placement

operations. Paving during Extended Season shall not commence until the Engineer has approved the plan.

**10. Field Density** The Contractor shall obtain cores for the determination of mat and longitudinal joint density of bituminous concrete pavements. Within five calendar days of placement, mat and joint cores shall be extracted on each lift with a specified thickness of 1 1/2 inches or more. Joint cores shall not be extracted on HMA S1.0 lifts.

The Contractor shall extract cores from random locations determined by the Engineer in accordance with ASTM D3665. Four (4) or six (6) inch diameter cores shall be extracted for S0.25, S0.375 and S0.5 mixtures; 6 inch diameter cores shall be required for S1.0 mixtures. The Contractor shall coordinate with the Engineer to witness the extraction, labeling of cores, and filling of the core holes.

Each lift will be separated into lots as follows:

- a. Simple Average Density Lots: For total estimated quantities below 2,000 tons, the lift will be evaluated in one lot which will include the total paved tonnage of the lift and all longitudinal joints between the curb lines.  
For total estimated quantities between 2,000 and 3,500 tons, the lift will be evaluated in two lots in which each lot will include approximately half of the total tonnage placed for the full paving width of a lift including all longitudinal joints between the curb lines.
- b. PWL Density Lots: Mat density lots will include each 3,500 tons of mixture placed within 30 calendar days. Joint density lots will include 14,000 linear feet of constructed joints. Bridge density lots will always be analyzed using simple average lot methodology.
- c. Partial Density Lot (For PWL only): A mat density lot with less than 3,500 tons or a joint density lot with less than 14,000 linear feet due to:
  - completion of the course; or
  - a lot spanning 30 calendar days.

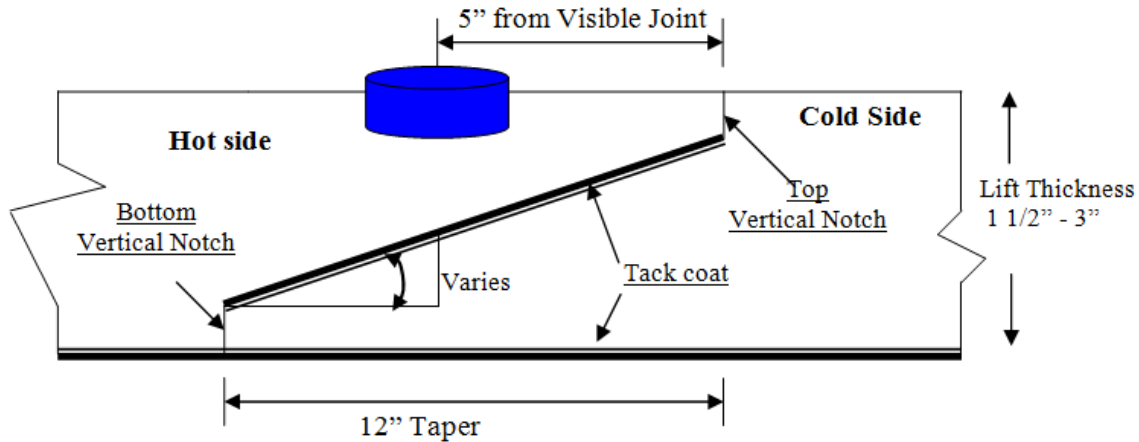
Prior to paving, the type and number of lot(s) will be determined by the Engineer.

Noncontiguous areas such as highway ramps may be combined to create one lot.

After the lift has been compacted and cooled, the Contractor shall cut cores to a depth equal to or greater than the lift thickness and shall remove them without damaging the lift(s) to be tested. Any core that is damaged or obviously defective while being obtained will be replaced with a new core from a location within 2 feet measured in a longitudinal direction.

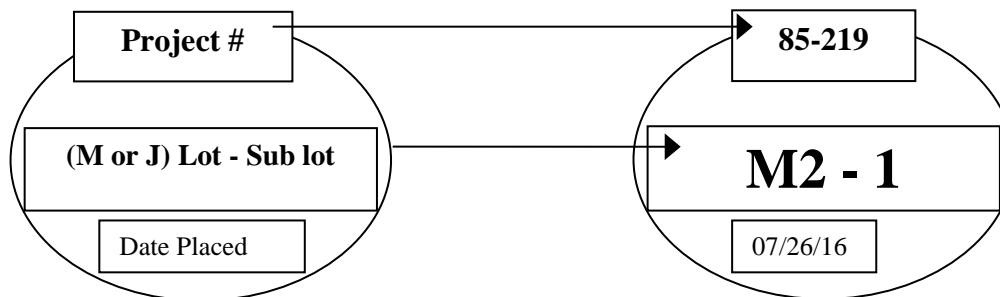
A mat core shall not be located any closer than 1 foot from the edge of a paver pass. If a random number locates a core less than 1 foot from any edge, the location will be adjusted by the Engineer so that the outer edge of the core is 1 foot from the edge of the paver pass.

Method I, Notched Wedge Joint cores shall be taken so that the center of the core is 5 inches from the visible joint on the hot mat side (Figure 4.06-4).

**Figure 4.06-4: Notched Wedge Joint Cores (Not to Scale)**

When Method II or Method III Butt Joint is used, cores shall be taken from the hot side so the edge of the core is within 1 inch of the longitudinal joint.

The cores shall be labeled by the Contractor with the Project number, date placed, lot number, and sub-lot number. The core's label shall include "M" for a mat core and "J" for a joint core. For example, a mat core from the first lot and the first sub-lot shall be labeled with "M1 - 1." A mat core from the second lot and first sub-lot shall be labeled "M2-1" (see Figure 4.06-5). The Engineer shall fill out a MAT-109 to accompany the cores. The Contractor shall deliver the cores and MAT-109 to the Department's Central Lab. The Contractor shall use a container approved by the Engineer. The container shall have a lid capable of being locked shut and tamper proof. The Contractor shall use foam, bubble wrap, or another suitable material to prevent the cores from being damaged during handling and transportation. Once the cores and MAT-109 are in the container the Engineer will secure the lid using security seals at the removable hinges(s) and at the lid opening(s). The security seals' identification number must be documented on the MAT-109. All sealed containers shall be delivered to the Department's Central Lab within two working days from time of extraction. Central Lab personnel will break the security seal and take possession of the cores.

**Figure 4.06-5: Labeling of Cores**

Each core hole shall be filled within 4 hours upon core extraction. Prior to being filled, the hole shall be prepared by removing any free water and applying tack coat using a brush or other



means to uniformly cover the cut surface. The core hole shall be filled using a bituminous concrete mixture at a minimum temperature of 240°F containing the same or smaller nominal maximum aggregate size and compacted with a hand compactor or other mechanical means to the maximum compaction possible. The bituminous concrete shall be compacted to 1/8 inch above the finished pavement.

**Simple Average Density Lots:**

A standard simple average density lot is the quantity of material placed within the defined area excluding any bridge decks.

A combo simple average density lot is the quantity of material placed within the defined area including bridge decks less than or equal to 500 feet long.

A bridge simple average density lot is the quantity of material placed on a bridge deck longer than 500 feet.

The number of cores per lot shall be determined in accordance with Table 4.06-4. If a randomly selected mat or joint core location is on a bridge deck, the core is to be obtained on the bridge deck in addition to the core(s) required on the bridge deck.

The number of cores per lot shall be determined in accordance with Table 4.06-5. Multiple bridge decks can be combined into one lot if the paving and underlying conditions are comparable. If multiple bridge decks are combined into a single bridge lot, at least one mat and joint core shall be obtained on each bridge.

The longitudinal locations of mat cores within a standard, combo, or bridge lot containing multiple paving passes will be determined using the combined length of the paving passes within the lot.

**TABLE 4.06-4: Number of Cores per Lot (Simple Average)**

| Lot Type                            | No. of Mat Cores |                               | No. of Joint Cores |                               |
|-------------------------------------|------------------|-------------------------------|--------------------|-------------------------------|
| Standard Lot < 500 Tons             | 3                |                               | 3                  |                               |
| Standard Lot ≥ 500 Tons             | 4                |                               | 4                  |                               |
| Combo Lot < 500 Tons                | 2 plus           | 1 per bridge<br>(≤ 300')      | 2 plus             | 1 per bridge<br>(≤ 300')      |
| Combo Lot ≥ 500 Tons <sup>(1)</sup> | 4 plus           | 2 per bridge<br>(301' – 500') | 4 plus             | 2 per bridge<br>(301' – 500') |

**TABLE 4.06-5: Number of Core per Bridge Density Lot (Simple Average)**

| Length of Bridge(s) (Feet) | Minimum No. of Mat Cores | Minimum No. of Joint Cores |
|----------------------------|--------------------------|----------------------------|
| < 500                      | 2                        | 2                          |
| 501 – 1,500                | 3                        | 3                          |
| 1,501 – 2,500              | 4                        | 4                          |
| 2,501 and greater          | 5                        | 5                          |

**PWL Density Lots:**

A PWL mat density lot is 3,500 tons of material placed within the defined area excluding any bridges. One mat core will be obtained per every 500 tons placed.

A PWL joint density lot is 14,000 linear feet of longitudinal joint excluding any joints on bridge decks. One joint core will be obtained per every 2,000 linear feet of joint.

Bridge density lots will always be analyzed as using the simple average lot methodology. The number of cores per lot shall be determined in accordance with Table 4.06-5. Multiple bridge decks can be combined into one lot if the paving and underlying conditions are comparable. If multiple bridge decks are combined into a single bridge lot, at least one mat and joint core shall be obtained on each bridge.

**11. Acceptance Sampling and Testing:** Sampling shall be performed in accordance with ASTM D3665 or a statistically-based procedure of stratified random sampling approved by the Engineer.

**Plant Material Acceptance:** The Contractor shall provide the required sampling and testing during all phases of the work in accordance with M.04. The Department will verify the Contractor's acceptance test results. Should any test results exceed the specified tolerances in the Department's current QA Program for Materials, the Contractor's test results for a subject lot or sub lot may be replaced with the Department's results for the purpose of calculating adjustments. The verification procedure is included in the Department's current QA Program for Materials.

**Density Acceptance:** The Engineer will perform all acceptance testing in accordance with AASHTO T 331. The density of each core will be determined using the daily production's average maximum theoretical specific gravity (Gmm) established during the testing of the parent material at the Plant. When there was no testing of the parent material or any Gmm exceeds the specified tolerances in the Department's current QA Program for Materials, the Engineer will determine the maximum theoretical density value to be used for density calculations.

**12. Density Dispute Resolution Process:** The Contractor and Engineer will work in partnership to avoid potential conflicts and to resolve any differences that may arise during quality control or acceptance testing for density. Both parties will review their sampling and testing procedures and results and share their findings. If the Contractor disputes the Engineer's test results, the Contractor must submit in writing a request to initiate the Dispute Resolution Process within five calendar days of the notification of the test results. No request for dispute resolution will be allowed unless the Contractor provides quality control results from samples taken prior to and after finish rolling, and within the timeframe described in 4.06.03-8 supporting its position. No request for dispute resolution will be allowed for a density lot in which any core was not taken within the required 5 calendar days of placement. Should the dispute not be resolved through evaluation of existing testing data or procedures, the Engineer may authorize the Contractor to obtain a new core or set of core samples per disputed lot. The core samples must be extracted no later than seven calendar days from the date of the Engineer's authorization. All such core samples shall be extracted and the core hole filled using the procedure outlined in 4.06.03-10.

a) **Simple Average Lots:** The Contractor may only dispute any simple average lot that is adjusted at or below 95 percent payment. The number and location (mat, joint, or structure) of the cores taken for dispute resolution must reflect the number and location of the original cores. The location of each core shall be randomly located within the respective original sub lot. The dispute resolution results shall be combined with the original results and averaged for determining the final in-place density value.

b) **PWL Lots:** The Contractor may dispute any PWL subplot when the PWL falls below 50%

calculated in accordance with section 4.06.04.2.b. An additional random core in the subplot may be taken to validate the accuracy of the core in question. The Department will verify the additional core test result and may average the original test result with the additional core result for purpose of calculating adjustments.

**13. Corrective Work Procedure:**

If pavement placed by the Contractor does not meet the specifications, and the Engineer requires its replacement or correction, the Contractor shall:

- a) Propose a corrective procedure to the Engineer for review and approval prior to any corrective work commencing. The proposal shall include:
  - Limits of pavement to be replaced or corrected, indicating stationing or other landmarks that are readily distinguishable.
  - Proposed work schedule.
  - Construction method and sequence of operations.
  - Methods of maintenance and protection of traffic.
  - Material sources.
  - Names and telephone numbers of supervising personnel.
- b) Any corrective courses placed as the final wearing surface shall match the specified lift thickness after completion.

**14. Protection of the Work:** The Contractor shall protect all sections of the newly finished pavement from damage that may occur as a result of the Contractor's operations for the duration of the Project.

**15. Cut Bituminous Concrete Pavement:** Work under this item shall consist of making a straight-line cut in the bituminous concrete pavement to the lines delineated on the plans or as directed by the Engineer. The cut shall provide a straight, clean, vertical face with no cracking, tearing or breakage along the cut edge.

**4.06.04—Method of Measurement:**

**1. HMA S\* or PMA S\*:** Bituminous concrete will be measured for payment as the amount of material in tons placed as determined by the net weight on the delivered tickets and adjusted by area, thickness and weight as follows:

**Quantity Adjustments:** Adjustments may be applied to the placed bituminous concrete quantities that will be measured for payment using the following formulas:

**Yield Factor** for Adjustment Calculation = 0.0575 tons/SY/inch

**Actual Area (SY)** = [(Measured Length (ft)) x (Avg. of width measurements (ft))] ÷ 9 s.f./SY

**Actual Thickness (t)** = Total tons delivered / [Actual Area (SY) x 0.0575 tons/SY/inch]

- a) Area: If the average width exceeds the allowable tolerance, an adjustment will be made using the following formula. The tolerance for width is equal to the specified thickness (inch) of the lift being placed.

**Quantity Adjusted for Area (T<sub>A</sub>)** = [(L x W<sub>adj</sub>)/9] x (t) x 0.0575 Tons/SY/inch = (-) tons

Where: L = Length (ft)

(t) = Actual thickness (inches)

W<sub>adj</sub> = (Designed width (ft) + tolerance /12) - Measured Width)

- b) Thickness: If the actual average thickness is less than the allowable tolerance, the Contractor shall submit a repair procedure to the Engineer for approval. If the actual thickness exceeds the allowable tolerance, an adjustment will be made using the following formula:

$$\text{Quantity Adjusted for Thickness (T}_T\text{)} = A \times t_{\text{adj}} \times 0.0575 = (-) \text{ tons}$$

Where:  $A$  = Area =  $\{[L \times (\text{Design width} + \text{tolerance (lift thickness)/12})] / 9\}$   
 $t_{\text{adj}}$  = Adjusted thickness =  $[(Dt + \text{tolerance}) - \text{Actual thickness}]$   
 $Dt$  = Designed thickness (inches)

- c) Weight: If the quantity of bituminous concrete representing the mixture delivered to the Project is in excess of the allowable gross vehicle weight (GVW) for each vehicle, an adjustment will be made using the following formula:

$$\text{Quantity Adjusted for Weight (T}_W\text{)} = \text{GVW} - \text{DGW} = (-) \text{ tons}$$

Where: DGW = Delivered gross weight as shown on the delivery ticket or measured on a certified scale

## 2. Bituminous Concrete Adjustment Cost:

- a) Production Lot Adjustment: An adjustment may be applied to each production lot as follows:

- i. Non-PWL Production Lot (less than 3,500 tons):

The adjustment values in Tables 4.06-6 and 4.06-7 will be calculated for each sub lot based on the Air Void (AV) and Asphalt Binder Content (PB) test results for that sub lot. The total adjustment for each day's production (lot) will be computed as follows:

$$\text{Tons Adjusted for Superpave Design (T}_{SD}\text{)} = [(AdjAV_t + AdjPB_t) / 100] \times \text{Tons}$$

Where: AdjAV<sub>t</sub>: Percent adjustment for air voids

AdjPB<sub>t</sub>: Percent adjustment for asphalt binder

Tons: Weight of material (tons) in the lot adjusted by 4.06.4-1

Percent Adjustment for Air Voids =  $AdjAV_t = [AdjAV_1 + AdjAV_2 + AdjAV_i + \dots + AdjAV_n] / n$

Where: AdjAV<sub>t</sub> = Total percent air void adjustment value for the lot

AdjAV<sub>i</sub> = Adjustment value from Table 4.06-6 resulting from each sub lot or the average of the adjustment values resulting from multiple tests within a sub lot, as approved by the Engineer.

$n$  = number of sub lots based on Table M.04.03-2

**TABLE 4.06-6: Adjustment Values for Air Voids**

| <b>Adjustment Value<br/>(AdjAV<sub>i</sub>) (%)</b> | <b>S0.25, S0.375, S0.5, S1<br/>Air Voids (AV)</b> |
|---|---|
| +2.5  | 3.8 - 4.2   |
| +3.125*(AV-3)                                       | 3.0 - 3.7   |
| -3.125*(AV-5)                                       | 4.3 - 5.0   |
| 20*(AV-3)   | 2.3 - 2.9   |
| -20*(AV-5)  | 5.1 - 5.7   |
| -20.0   | ≤ 2.2 or ≥ 5.8                                    |

Percent Adjustment for Asphalt Binder =  $\text{AdjPB}_t = [(\text{AdjPB}_1 + \text{AdjPB}_2 + \text{AdjPB}_i + \dots + \text{AdjPB}_n)] / n$

Where:  $\text{AdjPB}_t$  = Total percent liquid binder adjustment value for the lot  
 $\text{AdjPB}_i$  = Adjustment value from Table 4.06-7 resulting from each sub lot  
 $n$  = number of binder tests in a production lot

**TABLE 4.06-7: Adjustment Values for Binder Content**

| <b>Adjustment Value<br/>(AdjAV<sub>i</sub>) (%)</b> | <b><u>S0.25, S0.375, S0.5, S1</u><br/>Pb</b> |
|---|--|
| 0.0   | JMF Pb ± 0.3                                 |
| - 10.0  | ≤ JMF Pb - 0.4 or ≥ JMF Pb + 0.4             |

ii. PWL Production Lot (3500 tons or more):

For each lot, the adjustment values will be calculated using PWL methodology based on AV, VMA, and PB test results. The results will be considered as being normally distributed and all applicable equations in AASHTO R 9 and AASHTO R 42 Appendix X4 will apply.

Only one test result will be considered for each sub lot. The specification limits are listed in M.04.

For AV, PB, and voids in mineral aggregate (VMA), the individual material quantity characteristic adjustment (Adj) will be calculated as follows:

For PWL between 50 and 90%:  $\text{Adj}(\text{AV}_t \text{ or } \text{PB}_t \text{ or } \text{VMA}_t) = (55 + 0.5 \text{ PWL}) - 100$

For PWL at and above 90%:  $\text{Adj}(\text{AV}_t \text{ or } \text{PB}_t \text{ or } \text{VMA}_t) = (77.5 + 0.25 \text{ PWL}) - 100$

Where:  $\text{AdjAV}_t$  = Total percent AV adjustment value for the lot

$\text{AdjPB}_t$  = Total percent PB adjustment value for the lot

$\text{AdjVMA}_t$  = Total percent VMA adjustment value for the lot

A lot with PWL less than 50% in any of the 3 individual material quality characteristics will be evaluated under 1.06.04.

The total adjustment for each production lot will be computed using the following formula:

**Tons Adjusted for Superpave Design ( $T_{SD}$ )** =  $[(0.5AdjAV_t + 0.25AdjPB_t + 0.25 AdjVMA_t) / 100] \times$   
Tons

Where Tons: Weight of material (tons) in the lot adjusted by 4.06.4-1

iii. Partial Lots:

Lots with less than 4 sub lots will be combined with the prior lot. If there is no prior lot with equivalent material or if the last test result of the prior lot is over 30 calendar days old, the adjustment will be calculated as indicated in 4.06.04-2.a)i.

Lots with 4 or more sub lots will be calculated as indicated in 4.06.04-2.a)ii.

**Production Lot Adjustment:  $T_{SD} \times$  Unit Price = Est. (Pi)**

Where: Unit Price = Contract unit price per ton per type of mixture

Est. (Pi) = Pay Unit in dollars representing incentive or disincentive per lot

b) Density Lot Adjustment: An adjustment may be applied to each density lot as follows:

i. Simple Average Density Lot (less than 3500 tons) and Bridge Lots:

The final lot quantity shall be the difference between the total payable tons for the Project and the sum of the previous lots. If either the Mat or Joint adjustment value is “remove and replace,” the density lot shall be removed and replaced (curb to curb).

No positive adjustment will be applied to a density lot in which any core was not taken within the required 5 calendar days of placement.

**Tons Adjusted for Density ( $T_D$ )** =  $[(PA_M \times 0.50) + (PA_J \times 0.50)] / 100] \times$  Tons

Where:  $T_D$  = Total tons adjusted for density for each lot

$PA_M$  = Mat density percent adjustment from Table 4.06-8

$PA_J$  = Joint density percent adjustment from Table 4.06-9

Tons: Weight of material (tons) in the lot adjusted by 4.06.4-1

**TABLE 4.06-8: Adjustment Values for Pavement Mat density**

| Average Core Result | Percent Adjustment (Bridge and Non-Bridge) <sup>(1)(2)</sup> |
|---------------------|--|
| Percent Mat Density |  |
| 97.1 - 100          | -1.667*(ACRPD-98.5)  |
| 94.5 – 97.0         | +2.5   |
| 93.5 – 94.4         | +2.5*(ACRPD-93.5)  |
| 92.0 – 93.4         | 0  |
| 90.0 – 91.9         | -5*(92-ACRPD)  |
| 88.0 – 89.9         | -10*(91-ACRPD)   |
| 87.0 – 87.9         | -30  |
| 86.9 or less        | Remove and Replace (curb to curb)                            |

**Notes:**

<sup>(1)</sup> ACRPD = Average Core Result Percent Density

<sup>(2)</sup> All Percent Adjustments to be rounded to the second decimal place; for example round 1.667 to 1.67.



**TABLE 4.06-9: Adjustment Values for Pavement Joint Density**

| Average Core Result<br>Percent Joint Density | Percent Adjustment (Bridge and Non-Bridge) <sup>(1)(2)</sup> |
|--|--|
| 97.1 – 100                                   | -1.667*(ACRPD-98.5)  |
| 93.5 – 97.0                                  | +2.5   |
| 92.0 – 93.4                                  | +1.667*(ACRPD-92)  |
| 91.0 – 91.9                                  | 0  |
| 89.0 – 90.9                                  | -7.5*(91-ACRPD)  |
| 88.0 – 88.9                                  | -15*(90-ACRPD)   |
| 87.0 – 87.9                                  | -30  |
| 86.9 or less                                 | Remove and Replace (curb to curb)                            |

**Notes:**

<sup>(1)</sup> ACRPD = Average Core Result Percent Density

<sup>(2)</sup> All Percent Adjustments to be rounded to the second decimal place; for example round 1.667 to 1.67

Additionally, any subplot with a density result below 87% will be evaluated under 1.06.04.

ii. PWL Density Lot (3,500 tons or more):

For each lot, the adjustment values will be calculated using PWL methodology based on mat and joint density test results. Only one result will be included for each subplot. The results will be considered as being normally distributed and all applicable equations in AASHTO R 9 and AASHTO R 42 Appendix X4 will apply.

The specification limits for the PWL determination are as follows:

Mat Density: 91.5-98%

Joint Density: 90-98%

For mat and joint density, the individual percent adjustment (PA) will be calculated as follows:

For PWL between 50 and 90%:  $PA_{(M \text{ or } J)} = 0.25 * PWL - 22.50$

For PWL at and above 90%:  $PA_{(M \text{ or } J)} = 0.125 * PWL - 11.25$

Where:  $PA_M$  = Total percent mat density adjustment value for the PWL mat density lot

$PA_J$  = Total percent joint density adjustment value for the PWL joint density lot

No positive adjustment will be applied to a density lot in which any core was not taken within the required 5 calendar days of placement.

A lot with PWL less than 50% will be evaluated under 1.06.04.

The total adjustment for each PWL mat density lot will be computed as follows:

**Tons Adjusted for Mat Density ( $T_{MD}$ ) =  $(PA_M / 100) \times \text{Tons}$**

Where: Tons= Weight of material (tons) in the lot adjusted by 4.06.4-1.

The total adjustment for each PWL joint density lot will be computed as follows:



**Tons Adjusted for Joint Density ( $T_{JD}$ ) =  $(PA_J / 100) \times J\_Tons$**

Tons Adjusted for Joint Density will be calculated at the end of each project or project phase.

Where:  $J\_Tons$  = Tons in project or phase adjusted by 4.06.4 – 1 x  $\frac{\text{Lot joint length}}{\text{Joint length in project or phase}}$

All bridge density lot adjustments will be evaluated in accordance with 4.06.04-2.b)i.

Additionally, any subplot with a density result below 87% will be evaluated under 1.06.04.

iii. Partial Lots:

Lots with less than 4 sub lots will be combined with the prior lot. If there is no prior lot with equivalent material and placement conditions or if the last test result of the prior lot is over 30 calendar days old, the mat and joint individual adjustments will be calculated in accordance to Tables 4.06-8 and 4.06-9.  $T_{MD}$  and  $T_{JD}$  will be calculated as indicated in 4.06.04-2.b)i.

Lots with 4 or more sub lots will be calculated as indicated in 4.06.04-2.b)ii.

**Density Lot Adjustment (Simple Average Lots):  $T_D \times \text{Unit Price} = \text{Est. (Di)}$**

**Density Lot Adjustment (PWL Lots):  $(T_{MD} \text{ or } T_{JD}) \times \text{Unit Price} = \text{Est. (DMi or DJi)}$**

Where: Unit Price = Contract unit price per ton per type of mixture

Est. (Di)= Pay Unit in dollars representing incentive or disincentive per simple average density lot

Est. (DMi)= Pay Unit in dollars representing incentive or disincentive per PWL mat lot

Est. (DJi)= Pay Unit in dollars representing incentive or disincentive per PWL joint lot

Additionally, any subplot with a density result below 87% will be evaluated under 1.06.04.

**3. Transitions for Roadway Surface:** The installation of permanent transitions will be measured under the appropriate item used in the formation of the transition.

The quantity of material used for the installation of temporary transitions will be measured for payment under the appropriate item used in the formation of the transition. The installation and removal of a bond breaker and the removal and disposal of any temporary transition formed by milling or with bituminous concrete pavement is not measured for payment.

**4. Cut Bituminous Concrete Pavement:** The quantity of bituminous concrete pavement cut will be measured in accordance with 2.02.04.

**5. Material for Tack Coat:** The quantity of tack coat will be measured for payment by the number of gallons furnished and applied on the Project and approved by the Engineer. No tack coat material shall be included that is placed in excess of the tolerance described in 4.06.03.

- a. Container Method – Material furnished in a container will be measured to the nearest 1/2 gallon. The volume will be determined by either measuring the volume in the original container by a method approved by the Engineer or using a separate graduated container

capable of measuring the volume to the nearest 1/2 gallon. The container in which the material is furnished must include the description of material, including lot number or batch number and manufacturer or product source.

b. Vehicle Method

- i. Measured by Weight: The number of gallons furnished will be determined by weighing the material on calibrated scales furnished by the Contractor. To convert weight to gallons, one of the following formulas will be used:

Tack Coat (gallons at 60°F) = Measured Weight (pounds) / Weight per gallon at 60°F

Tack Coat (gallons at 60°F) = 0.996 x Measured Weight (pounds) / Weight per gallon at 77°F

- ii. Measured by automated metering system on the delivery vehicle:

Tack Coat (gallons at 60°F) = 0.976 x Measured Volume (gallons).

**6. Material Transfer Vehicle (MTV):** The furnishing and use of a MTV will be measured separately for payment based on the actual number of surface course tons delivered to a paver using the MTV.

**4.06.05—Basis of Payment:**

**1. HMA S\* or PMA S\*:** The furnishing and placing of bituminous concrete will be paid for at the Contract unit price per ton for " HMA S\*" or " PMA S\*."

All costs associated with providing illumination of the work area are included in the general cost of the work.

All costs associated with cleaning the surface to be paved, including mechanical sweeping, are included in the general cost of the work. All costs associated with constructing longitudinal joints are included in the general cost of the work.

All costs associated with obtaining cores for acceptance testing and dispute resolution are included in the general cost of the work.

**2. Bituminous Concrete Adjustment Costs:** This adjustment will be calculated using the formulas shown below if all of the measured adjustments in 4.06.04-2 are not equal to zero. A positive or negative adjustment will be applied to monies due the Contractor.

**Production Lot:**  $\Sigma \text{ Est (Pi)} = \text{Est. (P)}$

**Density Lot (Simple Average Lots):**  $\Sigma \text{ Est (Di)} = \text{Est. (D)}$

**Density Lot (PWL):**  $\Sigma \text{ Est (DMi)} + \Sigma \text{ (DJi)} = \text{Est. (D)}$

**Bituminous Concrete Adjustment Cost= Est. (P) + Est. (D)**

Where: Est. ( )= Pay Unit in dollars representing incentive or disincentive in each production or density lot calculated in 4.06.04-2

The Bituminous Concrete Adjustment Cost item, if included in the bid proposal or estimate, is not to be altered in any manner by the Bidder. If the Bidder should alter the amount shown, the altered figure will be disregarded and the original estimated cost will be used for the Contract.

**3. Transitions for Roadway Surface:** The installation of permanent transitions will be paid under the appropriate item used in the formation of the transition. The quantity of material used for the installation of temporary transitions will be paid under the appropriate pay item used in the formation of the transition. The installation and removal of a bond breaker, and the removal and disposal of any temporary transition formed by milling or with bituminous concrete

pavement is included in the general cost of the work.

4. The cutting of bituminous concrete pavement will be paid in accordance with 2.02.05.
5. Material for tack coat will be paid for at the Contract unit price per gallon at 60°F for "Material for Tack Coat."
6. The Material Transfer Vehicle (MTV) will be paid at the Contract unit price per ton for "Material Transfer Vehicle."

| Pay Item                            | Pay Unit |
|-------------------------------------|----------|
| HMA S*                              | ton      |
| PMA S*                              | ton      |
| Bituminous Concrete Adjustment Cost | est.     |
| Material for Tack Coat              | gal.     |
| Material Transfer Vehicle           | ton      |

## **SECTION 5.86 - CATCH BASINS, MANHOLES AND DROP INLETS**

### **5.86.01—Description**

### **5.86.02—Materials**

### **5.86.03—Construction Methods**

### **5.86.04—Method of Measurement**

### **5.86.05—Basis of Payment**

**5.86.01—Description:** The work under this Section shall consist of furnishing, preparing, and installing catch basins, manholes and drop inlets (and also the removal, abandonment, alteration, reconstruction, or conversion of such existing structures) in conformity with the lines, grades, dimensions and details shown on the plans.

This Section shall also include resetting or replacing catch basin tops as well as manhole frames and covers.

**5.86.02—Materials:** The materials for this work shall meet the following requirements:

Drainage structures shall meet the requirements of M.08.02 and shall utilize concrete with a 28-day minimum compressive strength of 4000 psi.

Galvanizing shall meet the requirements of M.06.03.

Mortar shall meet the requirements of M.11.04.

Butyl rubber joint seal shall meet the requirements of ASTM C990.

Granular fill, if necessary, shall meet the requirements of M.02.01.

Protective compound material shall be a type appearing on the Department's Qualified Products List and be acceptable to the Engineer, as specified in M.03.09.

**5.86.03—Construction Methods:** Drainage trench excavation, including rock in drainage trench excavation and backfilling, shall be performed in accordance with 2.86.03 and the requirements of the plans.

Where a drainage structure is to be installed below the surface, a drainage trench shall be excavated to the required depth, the bottom of which shall be graded to the elevation of the bottom of the proposed drainage structure or to ensure a uniform foundation for the structure.

Where a firm foundation is not encountered at the grades established due to unsuitable material, such as soft, spongy, or unstable soil, the unsuitable material shall be removed and replaced with approved granular fill, thoroughly compacted in lifts not to exceed 6 inches. The Engineer shall be notified prior to removal of the unsuitable material in order to determine the depth of removal necessary.

When rock, as defined in 2.86.01-2, is encountered, work shall be performed in accordance with 2.86.03 and the requirements of the plans.

When a drainage structure outside of proposed drainage trench limits is to be removed, it shall be completely removed and all pipes shall be removed or plugged with cement masonry.

When a drainage structure is to be abandoned, the structure shall be removed to a depth 2 feet below the subgrade or as directed by the Engineer. The floor of the structure shall be broken and all pipes shall be plugged with cement masonry.

Drainage structures shall be constructed in accordance with the plans and the requirements contained herein for the character of the work involved. The provisions of 6.02.03 pertaining to bar reinforcement shall apply except that shop drawings need not be submitted for approval unless called for in the plans, Contract or directed by the Engineer. Welding shall be performed in accordance with the applicable sections of the AWS Structural Welding Code, D1.1.

When it becomes necessary to increase the horizontal dimensions of manholes, catch basins and drop inlets to sizes greater than those shown on the plans in order to provide for multiple pipe installations, large pipes or for other reasons, the Contractor shall construct such manholes, catch basins and drop inlets to modified dimensions as directed by the Engineer.

The surfaces of the tops of all catch basins, and drop inlets shall be given a coat of protective compound material, at the manufacturer's recommended application rate, immediately upon completion of the concrete curing period.

All masonry units shall be laid in full mortar beds.

Metal fittings for catch basins, manholes or drop inlets shall be set in full mortar beds or otherwise secured as shown on the plans.

All inlet and outlet pipes shall be set flush with the inside face of the wall of the drainage structure as shown on the plans. The pipes shall extend through the walls for a sufficient distance beyond the outside surface to allow for satisfactory connections, and the concrete or masonry shall be constructed around them neatly to prevent leakage along their outer surfaces.

When constructing a new drainage structure within a run of existing pipe, the section of existing pipe disturbed by the construction shall be replaced with new pipe of identical type and size extending from the drainage structure to the nearest joint of the existing pipe in accordance with 6.86.03 or as directed by the Engineer.

Backfilling shall be performed in accordance with 2.86.03.

Frames, covers and tops which are to be reset shall be removed from their present beds, the walls or sides shall be rebuilt to conform to the requirements of the new construction and the frames, covers and tops shall be reset as shown on the plans or as directed by the Engineer.

#### **5.86.04—Method of Measurement:**

**Drainage Trench Excavation:** In accordance with 2.86.04, excavation for drainage trench will not be measured for payment but shall be included in the Contract unit price for the type of structure being installed.

**Rock in Drainage Trench Excavation:** Rock in Drainage Trench Excavation will be measured in accordance with the drainage trench excavation limits described in 2.86.03.

**Manholes, Catch Basins and Drop Inlets** will be measured as separate units.

**Resetting of Manholes, Catch Basins and Drop Inlets** will be measured as separate units.

**Replacement of frames, covers, and tops** will be measured as a unit for catch basin top or manhole frame and cover.

**Conversion of drainage structures** as specified on the plans, or as directed by the Engineer, including structure reconstruction will be measured for payment as a unit.

**Removal or abandonment of drainage structures** outside of drainage trench excavation limits, as defined in 2.86.03, will be measured as separate units.

There will be no measurement or direct payment for the application of the protective compound material, the cost of this work shall be considered as included in the general cost of the work.

Measurement for payment for work and materials involved with installing pipes to connect new drainage structures into a run of existing pipe will be as provided for under the applicable Contract items in accordance with 6.86.04.

There will be no measurement or direct payment for plugging existing pipes with cement masonry, the cost of this work will be considered as included in the general cost of the work.

#### **5.86.05—Basis of Payment:**

**Drainage Trench Excavation** for the installation of proposed structures described herein will be paid for under the respective drainage Contract item(s) for which the excavation is being performed, in accordance with the provisions of 2.86.05.

**Rock in Drainage Trench Excavation** will be paid for in accordance with the provisions of 2.86.05.

**Manholes and Catch Basins** will be paid for at the Contract unit price for each "Manhole," or "Catch Basin," of the type specified, at "0' to 10' Deep" or "0' to 20' Deep," complete in place, which price shall include all excavation, backfill, materials, equipment, tools and labor incidental thereto.

**Drop Inlets** will be paid for at the Contract unit price for each "Drop Inlet," of the type specified, complete in place, which price shall include all excavation, backfill, materials, equipment, tools and labor incidental thereto.

**Manholes, Catch Basins and Drop Inlets** constructed to modified dimensions as directed by the Engineer, will be paid for as follows:

Where the interior floor area has to be increased to accommodate existing field conditions, as measured horizontally at the top of the base of the completed structure, and does not exceed 125% of the interior floor area as shown on the plans for that structure, then the structure shall be paid for at the Contract unit price for each "Manhole," "Catch Basin," or "Drop Inlet" of the type specified. Where the floor area is greater than 125%, the increase in the unit price for the individual structure shall be in direct proportion to the increase of the completed structure interior floor area as compared to the interior floor area as shown on the plans for that structure. Such increased unit price shall include all excavation, materials, equipment, tools, and labor incidental to the completion of the structure.

**Reset Units** will be paid for at the Contract unit price each for "Reset Manhole," "Reset Catch Basin," or "Reset Drop Inlet," of the type specified, respectively, complete in place, which price shall include excavation, cutting of pavement, removal and replacement of pavement structure, and all materials, equipment, tools and labor incidental thereto, except when the work requires reconstruction greater than 3 feet, measured vertically, then the entire cost of resetting the unit will be paid for as Extra Work in accordance with the provisions of 1.04.05.

**Frames, Covers, and Tops** when required in connection with reset units, will be paid for at the Contract unit price each for such "Manhole Frame and Cover" or "(Type) Catch Basin Top," complete in place, including all incidental expense; or when no price exists, the furnishing and placing of such material will be paid for as Extra Work in accordance with the provisions of 1.04.05.

When the catch basin top has a stone or granite curb in its design, the curb or inlet shall be included in the cost of the "(Type) Catch Basin Top."

**Conversion of drainage structures** will be paid for at the Contract unit price each for "Convert Catch Basin to (Type) Catch Basin," "Convert Catch Basin to (Type) Manhole," or

"Convert Manhole to (Type) Catch Basin," complete in place, which price shall include excavation, cutting of pavement, removal and replacement of pavement, backfill, all alterations to existing structure, all materials including catch basin frame and grate of the type specified, or manhole frame and cover, all equipment, tools and labor incidental thereto.

The maximum change in elevation of frame under these items shall not exceed 3 feet. Greater depth changes, if required, shall be paid for as Extra Work, in accordance with 1.04.05.

**Removal or abandonment of drainage structures** outside of drainage trench excavation limits as defined in 2.86.03 will be paid for at the Contract unit price each for "Remove Drainage Structure – 0' to 10' Deep," "Remove Drainage Structure – 0' to 20' Deep," or "Abandon Drainage Structure," which price shall include excavation, cutting of pavement, removal and replacement of pavement, backfill, and all equipment, tools and labor incidental thereto.

| Pay Item                                   | Pay Unit |
|--|----------|
| (Type) Catch Basin – 0' to 10' Deep        | ea.      |
| (Type) Catch Basin – 0' to 20' Deep        | ea.      |
| Manhole (Size) – 0' to 10' Deep            | ea.      |
| Manhole (Size) – 0' to 20' Deep            | ea.      |
| (Type) Drop Inlet                          | ea.      |
| Reset Catch Basin                          | ea.      |
| Reset Manhole                              | ea.      |
| Reset Drop Inlet                           | ea.      |
| Convert Catch Basin to (Type) Catch Basin  | ea.      |
| Convert Catch Basin to (Type) Manhole      | ea.      |
| Convert Manhole to (Type) Catch Basin      | ea.      |
| Manhole Frame and Cover                    | ea.      |
| (Type) Catch Basin Top                     | ea.      |
| Remove Drainage Structure – 0' to 10' Deep | ea.      |
| Remove Drainage Structure – 0' to 20' Deep | ea.      |
| Abandon Drainage Structure                 | ea.      |

## **SECTION 6.86 - DRAINAGE PIPES, DRAINAGE PIPE ENDS**

### **6.86.01—Description**

### **6.86.02—Materials**

### **6.86.03—Construction Methods**

### **6.86.04—Method of Measurement**

### **6.86.05—Basis of Payment**

**6.86.01—Description:** This work shall consist of furnishing, preparing and installing drainage pipes of the size and type specified, bedding material, joint sealant, rubber gaskets, clamps, collars, grout, grout collars, drainage trench excavation, backfilling or satisfactory disposal of all materials, the removal of which is necessary for the proper completion of the work, connecting proposed drainage systems to existing systems, plugging or abandoning existing pipes and removal of existing pipe within trench limits, as shown on the plans or as directed by the Engineer.

This Section shall also include removal of drainage pipes outside of drainage trench excavation limits, as defined in 2.86.03-1.

**6.86.02—Materials:** The materials for this work shall meet the following requirements:  
Drainage Pipe, Drainage Pipe Ends, Sealers, Gaskets and connection hardware shall meet the requirements of M.08.01.

Bedding Material shall meet the requirements of M.08.03-1.

Granular Fill, if necessary, shall meet the requirements of M.02.01.

Brick Masonry shall meet the requirements of M.11.03 and Mortar shall meet the requirements of M.11.04.

Concrete used for Concrete Pipe Connections shall be Class “F” Concrete meeting the requirements of M.03.

### **6.86.03—Construction Methods:**

- (1) **Drainage Trench Excavation:** Drainage trench excavation and backfilling shall be performed in accordance with 2.86.03 and the requirements of the plans.

Where drainage pipe is to be laid below the surface, a drainage trench shall be excavated to the required depth, the bottom of which shall be graded to the elevation of the bottom of the bedding material.

Where drainage pipe is to be laid in a fill area, the embankment shall be placed and compacted to a minimum elevation 12 inches above the top of the proposed pipe, whereupon the drainage trench excavation shall be performed and the pipe installed.

- (2) **Rock in Drainage Trench Excavation:** When rock, as defined in 2.86.01-2, is encountered, work shall be performed in accordance with 2.86.03 and the requirements of the plans.

- (3) **Drainage Pipe Installation:** New or re-laid drainage pipes shall be installed on 4 inches of bedding material (12 inches if over rock in ledge formation), the details as shown on the plans, or as directed by the Engineer. Prior to placement of the drainage pipe, in accordance with the plans, bedding material shall be pre-shaped to 10% of the total height



of the pipe in order to keep the pipe in the center of the trench. Following placement of the drainage pipe, bedding material backfill shall be placed in accordance with the following table:

| <b>Internal Pipe Diameter</b>  | <b>Required Bedding Material Backfill</b> |
|--|---|
| < 48 inches *  | 25% of total height of the pipe           |
| ≥ 48 inches *  | 12 inches above the top of the pipe       |
| *Includes pipe arch of equivalent internal horizontal span<br>See Standard Drawing |   |

The placement of the drainage pipe shall start at the downstream end and progress upstream or as shown on the plans, or as directed by the Engineer. All drainage pipes shall be carefully laid in the center of the drainage trench, true to the lines and grades given. Bell ends shall face upgrade and all joints shall be tight.

Joints in concrete pipe shall be sealed with cold-applied bituminous sealer, preformed plastic gaskets or flexible, watertight, rubber-type gaskets. Portland cement mortar shall not be used for sealing pipe joints except with permission of the Engineer.

When cold-applied bituminous sealer is used, the bell and spigot ends shall be wiped clean and dry before applying the bituminous sealer to the pipe ends. Before the drainage pipes are placed in contact with each other, the spigot or tongue end shall be completely covered with bituminous sealer; then the pipe shall be laid to line and grade so the inside surface of all abutting pipes are flush. Additional bituminous sealer shall be applied to the joint after the connection has been made to ensure a water tight connection.

Where the end of an existing drainage pipe is not compatible with the end of a proposed concrete pipe, the Contractor shall align the inner diameters of the pipes being connected, butt the pipe ends together, and construct a cast-in-place concrete pipe connection, as shown in the plans. Incompatible bell/spigot or tongue/groove ends shall be cut off as required to ensure the interior drainage pipe walls are aligned to provide a smooth transition between the pipes.

Metal pipe and pipe arches shall be carefully joined and firmly clamped together by approved connecting bands, which shall be properly bolted in place before any backfill is placed.

Newly installed drainage pipe which is not in true alignment, or which shows any settlement or distortion, shall be reinstalled in accordance with 1.05.03.

When drainage pipe outside of proposed drainage trench limits is to be removed, it shall be removed to the limits shown on the plans and all remaining pipes shall be plugged with cement masonry.

Where shown on the plans or directed by the Engineer, the Contractor shall plug abandoned existing pipes with cement masonry.

- (4) **Drainage Pipe End Installation:** Reinforced concrete drainage pipe ends shall be placed on a prepared bed of the existing ground and accurately aligned as shown on the plans. The joints shall be sealed as specified in 6.86.03-3 and backfill shall be placed around both sides of the unit simultaneously to the elevation shown on the plans.

Metal drainage pipe ends shall be placed on a prepared bed of the existing ground and accurately aligned as shown on the plans. After the attachment of the drainage pipe end, backfill shall be placed around both sides of the unit up to the elevation shown on the plans, exercising caution to avoid displacement or deformation of the unit.

**6.86.04—Method of Measurement:** This work will be measured as follows:

**Drainage Trench Excavation**, in accordance with 2.86.04, will not be measured for payment.

**Rock in Drainage Trench Excavation** will be measured in accordance with 2.86.04.

**Bedding Material** will not be measured for payment.

**New and Re-laid Pipes and Pipe Arches** will be measured for payment by the actual number of linear feet of pipe or pipe arch of the various sizes and types, completed and accepted and measured in place along the invert. Coupling bands and fittings for pipes and pipe arches will not be measured for payment.

**Reinforced Concrete Drainage Pipe Ends and Metal Drainage Pipe Ends** will be measured for payment as separate units.

**Corrugated Metal Pipe Elbows** (of the Size and Type specified) will be measured for payment by the actual number of linear feet of pipe elbows completed and accepted, based on 6 linear feet per elbow, as shown on the plans. Coupling bands for elbows will not be measured for payment.

**Concrete Pipe Connection** will be measured for payment by the number of each concrete pipe connection constructed at locations where proposed concrete pipes tie into an existing pipe with an incompatible end, completed and accepted by the Engineer.

**Removal of drainage pipe** outside of drainage trench excavation limits, as defined in 2.86.03, will be measured for payment by the actual number of linear feet of drainage pipe removed.

There will be no measurement for plugging existing pipes with cement masonry.

**6.86.05—Basis of Payment:**

**Drainage Trench Excavation** for the installation of drainage pipes will not be paid separately but shall be included in the Contract unit price for the respective drainage pipe or pipe end item(s), in accordance with the provisions of 2.86.05.

**Rock in Drainage Trench Excavation** will be paid for in accordance with the provisions of 2.86.05.

**Bedding Material** necessary for the installation of drainage items described herein will be included in the Contract unit price for the respective drainage pipe or pipe end item(s). Bedding material required to fill voids when rock in drainage trench is encountered will not be measured for payment but shall be included in the Contract unit price for "Rock in Drainage Trench Excavation," in accordance with 2.86.05.

**New Pipes and Pipe Arches** will be paid for at the Contract unit price per linear foot for "(Size and Type) Pipe (Thickness) – 0' to 10' Deep," "(Size and Type) Pipe (Thickness) – 0' to 20' Deep," "(Size) Pipe Arch (Thickness) – 0' to 10' Deep" or "(Size) Pipe Arch (Thickness) – 0' to 20' Deep" complete in place, including materials, drainage trench excavation, bedding material, equipment, tools, and labor incidental thereto.

**Relaid Pipes and Pipe Arches** will be paid for at the Contract unit price per linear foot for "Relaid Pipe (Size and Type) – 0' to 10' Deep," "Re-laid Pipe (Size and Type) – 0' to 20' Deep," "Relaid Pipe Arch (Size and Type) – 0' to 10' Deep," or "Relaid Pipe Arch (Size and Type) – 0' to 20' Deep," complete in place, including all materials, drainage trench excavation, bedding material, equipment, tools, and labor incidental thereto.

**Reinforced Concrete Drainage Pipe Ends and Metal Drainage Pipe Ends** will be paid for at the Contract unit price for each drainage pipe end of the Size and Type specified, complete in place, including all excavation, materials, attachment systems, equipment, tools and labor incidental thereto.

**Corrugated Metal Pipe Elbows** will be paid for at the Contract unit price per linear foot for "(Size and Type) Corrugated Metal Pipe Elbow" including all materials, drainage trench excavation, bedding material, equipment, tools, and labor incidental thereto.

**Concrete Pipe Connection** will be paid for at the Contract unit price each for "Concrete Pipe Connection" complete in place, including all materials, equipment, tools and labor incidental thereto.

**Removal of drainage pipes** of all types and sizes, outside of drainage trench excavation limits, as defined in 2.86.03-1, will be paid for at the Contract unit price per linear foot for "Remove Existing Pipe – 0' to 10' Deep," or "Remove Existing Pipe – 0' to 20' Deep," which price shall include excavation, temporary trench protection, backfill, and all equipment, tools and labor incidental thereto.

There will be no direct payment for the plugging of existing drainage pipes, but the cost thereof shall be included in the respective drainage Contract item(s).

| Pay Item   | Pay Unit |
|--|----------|
| (Size and Type) Pipe (Thickness) – 0' to 10' Deep      | l.f.     |
| (Size and Type) Pipe (Thickness) – 0' to 20' Deep      | l.f.     |
| (Size and Type) Pipe Arch (Thickness) – 0' to 10' Deep | l.f.     |
| (Size and Type) Pipe Arch (Thickness) – 0' to 20' Deep | l.f.     |
| Relaid (Size and Type) Pipe– 0' to 10' Deep            | l.f.     |
| Relaid (Size and Type) Pipe– 0' to 20' Deep            | l.f.     |
| (Size and Type) Relaid Pipe Arch – 0' to 10' Deep      | l.f.     |
| (Size and Type) Relaid Pipe Arch – 0' to 20' Deep      | l.f.     |
| (Size) Reinforced Concrete Drainage Pipe End           | ea.      |
| (Size) Metal Drainage Pipe End                         | ea.      |
| (Size and Type) Corrugated Metal Pipe Elbow            | l.f.     |
| Concrete Pipe Connection                               | ea.      |
| Remove Existing Pipe – 0' to 10' Deep                  | l.f.     |
| Remove Existing Pipe – 0' to 20' Deep                  | l.f.     |

## **SECTION 10.00 - GENERAL CLAUSES FOR HIGHWAY ILLUMINATION AND TRAFFIC SIGNAL PROJECTS**

### **Article 10.00.03 – Plans:**

In the first paragraph, replace the 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> sentences with the following:

The Contractor shall digitally mark, in red, any changes on the plan(s) using a pdf program.

The Contractor shall submit the digital pdf file(s) to the City of New Britain and the Engineer, for Traffic Signals, prior to requesting the Functional Inspection.

Also prior to requesting the Functional Inspection, the Contractor shall deliver to the Engineer the following:

In the first paragraph, last sentence, in item no. 1, replace “Four (4)” with “Digital PDF Files and Five (5)” [paper prints of schematics and wiring diagrams...].

**Article 10.00.10 Section 3.** Functional Inspection, first paragraph after the 2<sup>nd</sup> sentence: Add the following:

The Contractor shall have a bucket truck with crew on site during the Functional Inspection to make any necessary aerial signal adjustments as directed by the City of New Britain or the Engineer.

**Article 10.00.12 - Negotiations with utility company:** Add the following:

The Contractor shall give notice to utility companies a minimum of 30 days prior to required work or services to the utility company. Refer to Section 1.07 – Legal Relations and Responsibilities for the list of utility companies and representatives the contractor shall use.

The Contractor shall perform all work in conformance with Rules and Regulations of Public Utility Regulatory Authority (PURA) concerning Traffic Signals attached to Public Service Company Poles. The Contractor is cautioned that there may be energized wires in the vicinity of the specified installations. In addition to ensuring compliance with NESC and OSHA regulations, the Contractor and/or its Sub-Contractors shall coordinate with the appropriate utility company for securing/protecting the site during the installation of traffic signal mast arms, span poles or illumination poles.

## **SECTION M.04 - BITUMINOUS CONCRETE MATERIALS**

Section M.04 is being deleted in its entirety and replaced with the following:

### **M.04.01—Bituminous Concrete Materials and Facilities**

### **M.04.02—Mix Design and Job Mix Formula (JMF)**

### **M.04.03—Production Requirements**

**M.04.01—Bituminous Concrete Materials and Facilities:** Each source of material, Plant, and laboratory used to produce and test bituminous concrete must be qualified on an annual basis by the Engineer. AASHTO or ASTM Standards noted with an (M) have been modified and are detailed in Table M.04.03-5.

Aggregates from multiple sources of supply must not be blended or stored in the same stockpile.

**1. Coarse Aggregate:** All coarse aggregate shall meet the requirements listed in M.01.

**2. Fine Aggregate:** All fine aggregate shall meet the requirements listed in M.01.

**3. Mineral Filler:** Mineral filler shall conform to the requirements of AASHTO M 17.

#### **4. Performance Graded (PG) Asphalt Binder:**

##### **(a) General:**

- i. PG asphalt binder shall be uniformly mixed and blended and be free of contaminants such as fuel oils and other solvents. Binder shall be properly heated and stored to prevent damage or separation.
- ii. The binder shall meet the requirements of AASHTO M 332 and shall be graded or verified in accordance with AASHTO R 29. The Contractor shall submit a Certified Test Report and bill of lading representing each delivery in accordance with AASHTO R 26(M). The Certified Test Report must also indicate the binder specific gravity at 77°F; rotational viscosity at 275°F and 329°F; and the mixing and compaction viscosity-temperature chart for each shipment.
- iii. The Contractor shall submit the name(s) of personnel responsible for receipt, inspection, and record keeping of PG binder. Contractor Plant personnel shall document specific storage tank(s) where binder will be transferred and stored until used and provide binder samples to the Engineer upon request. The person(s) shall assure that each shipment is accompanied by a statement certifying that the transport vehicle was inspected before loading was found acceptable for the material shipped and that the binder is free of contamination from any residual material, along with 2 copies of the bill of lading.
- iv. The blending or combining of PG binders in 1 storage tank at the Plant from different suppliers, grades, or additive percentages is prohibited.

**(b) Basis of Approval:** The request for approval of the source of supply shall list the location where the material will be manufactured, and the handling and storage methods, along with necessary certification in accordance with AASHTO R 26(M). Only suppliers/refineries that have an approved “Quality Control Plan for Performance Graded Binders” formatted in accordance with AASHTO R 26(M) may supply PG binders to Department projects.

##### **(c) Standard Performance Grade (PG) Binder:**

- i. Standard PG binder shall be defined as “Neat.” Neat PG binders shall be free from modification with: fillers, extenders, reinforcing agents, adhesion promoters,

thermoplastic polymers, acid modification and other additives such as re-refined motor oil, and shall indicate such information on each bill of lading and Certified Test Report.

- ii. The standard asphalt binder shall be PG 64S-22.

**(d) Modified Performance Grade (PG) Binder:** The modified asphalt binder shall be Performance Grade PG 64E-22 asphalt modified solely with a Styrene-Butadiene-Styrene (SBS) polymer. The polymer modifier shall be added at either the refinery or terminal and delivered to the bituminous concrete production facility as homogenous blend. The stability of the modified binder shall be verified in accordance with ASTM D7173 using the Dynamic Shear Rheometer (DSR). The DSR  $G^*/\sin(\delta)$  results from the top and bottom sections of the ASTM D7173 test shall not differ by more than 10%. The results of ASTM D7173 shall be included on the Certified Test Report. The binder shall meet the requirements of AASHTO M 332 (including Appendix X1) and AASHTO R 29.

**(e) Warm Mix Additive or Technology:**

- i. The warm mix additive or technology must be listed on the North East Asphalt User Producer Group (NEAUPG) Qualified Warm Mix Asphalt (WMA) Technologies List at the time of bid, which may be accessed online at <http://www.neaupg.uconn.edu>.
- ii. The warm mix additive shall be blended with the asphalt binder in accordance with the manufacturer's recommendations.
- iii. The blended binder shall meet the requirements of AASHTO M 332 and shall be graded or verified in accordance with AASHTO R 29 for the specified binder grade. The Contractor shall submit a Certified Test Report showing the results of the testing demonstrating the binder grade. In addition, it must include the grade of the virgin binder, the brand name of the warm mix additive, the manufacturer's suggested rate for the WMA additive, the water injection rate (when applicable), and the WMA Technology manufacturer's recommended mixing and compaction temperature ranges.

**5. Emulsified Asphalts:**

**(a) General:**

- i. The emulsified asphalt shall meet the requirements of AASHTO M 140(M) or AASHTO M 208 as applicable.
- ii. The emulsified asphalts shall be free of contaminants such as fuel oils and other solvents.
- iii. The blending at mixing Plants of emulsified asphalts from different suppliers is prohibited.

**(b) Basis of Approval:**

- i. The request for approval of the source of supply shall list the location where the material is manufactured, the handling and storage methods, and certifications in accordance with AASHTO R 77. Only suppliers that have an approved "Quality Control Plan for Emulsified Asphalt" formatted in accordance with AASHTO R 77 and that submit monthly split samples per grade to the Engineer may supply emulsified asphalt to Department projects.
- ii. Each shipment of emulsified asphalt delivered to the Project site shall be accompanied with the corresponding Certified Test Report listing Saybolt viscosity, residue by evaporation, penetration of residue, and weight per gallon at 77°F and Material Certificate.
- iii. Anionic emulsified asphalts shall meet the requirements of AASHTO M-140. Materials

used for tack coat shall not be diluted and meet grade RS-1 or RS-1h. When ambient temperatures are 80°F and rising, grade SS-1 or SS-1h may be substituted if permitted by the Engineer.

- iv. Cationic emulsified asphalt shall meet the requirements of AASHTO M-208. Materials used for tack coat shall not be diluted and meet grade CRS-1. The settlement and demulsibility test will not be performed unless deemed necessary by the Engineer. When ambient temperatures are 80°F and rising, grade CSS-1 or CSS-1h may be substituted if permitted by the Engineer.

#### **6. Reclaimed Asphalt Pavement (RAP):**

(a) General: RAP is a material obtained from the cold milling or removal and processing of bituminous concrete pavement. RAP material shall be crushed to 100% passing the 1/2 inch sieve and free from contaminants such as joint compound, wood, plastic, and metals.

(b) Basis of Approval: The RAP material will be accepted on the basis of one of the following criteria:

- i. When the source of all RAP material is from pavements previously constructed on Department projects, the Contractor shall provide a Materials Certificate listing the detailed locations and lengths of those pavements and that the RAP is only from those locations listed.
- ii. When the RAP material source or quality is not known, the Contractor shall request approval from the Engineer at least 30 calendar days prior to the start of the paving operation. The request shall include a Material Certificate and applicable test results stating that the RAP consists of aggregates that meet the specification requirements of M.04.01-1 through M.04.01-3 and that the binder in the RAP is substantially free of solvents, tars and other contaminants. The Contractor is prohibited from using unapproved material on Department projects and shall take necessary action to prevent contamination of approved RAP stockpiles. Stockpiles of unapproved material shall remain separate from all other RAP materials at all times. The request for approval shall include the following:
  - 1. A 50-lb. sample of the RAP to be incorporated into the recycled mixture.
  - 2. A 25-lb. sample of the extracted aggregate from the RAP.

#### **7. Crushed Recycled Container Glass (CRCG):**

(a) Requirements: The Contractor may propose to use clean and environmentally-acceptable CRCG in an amount not greater than 5% by weight of total aggregate.

(b) Basis of Approval: The Contractor shall submit to the Engineer a request to use CRCG. The request shall state that the CRCG contains no more than 1% by weight of contaminants such as paper, plastic, and metal and conforms to the following gradation:

| <b>CRCG Grading Requirements</b> |                        |
|----------------------------------|------------------------|
| <u>Sieve Size</u>                | <u>Percent Passing</u> |
| 3/8 inch                         | 100                    |
| No. 4                            | 35-100                 |
| No. 200                          | 0.0-10.0               |

The Contractor shall submit a Material Certificate to the Engineer stating that the CRCG complies with all the applicable requirements in this Section.

**8. Joint Seal Material:** Joint seal material must meet the requirements of ASTM D6690 - Type 2. The Contractor shall submit a Material Certificate in accordance with 1.06.07 certifying that the joint seal material meets the requirements of this Section.

**9. Recycled Asphalt Shingles (RAS):** RAS shall consist of processed asphalt roofing shingles from post-consumer asphalt shingles or from manufactured shingle waste. The RAS material under consideration for use in bituminous concrete mixtures must be certified as being asbestos-free and shall be entirely free of whole, intact nails. The RAS material shall meet the requirements of AASHTO MP 23.

The Producer shall test the RAS material to determine the asphalt content and the gradation of the RAS material. The Producer shall take necessary action to prevent contamination of RAS stockpiles.

The Contractor shall submit a Material Certificate to the Engineer stating that the RAS complies with all the applicable requirements in this Section.

**10. Plant Requirements:**

(a) General: The Plant producing bituminous concrete shall comply with AASHTO M 156.

(b) Storage Silos: The Contractor may use silos for short-term storage with the approval of the Engineer. A storage silo must have heated cones and an unheated silo cylinder if it does not contain a separate internal heating system. When multiple silos are filled, the Contractor shall discharge 1 silo at a time. Simultaneous discharge of multiple silos for the same Project is not permitted.

| Type of silo cylinder    | Maximum storage time for all classes (hr) |                      |
|--------------------------|---|----------------------|
|                          | <u>HMA</u>                                | <u>WMA/PMA</u>       |
| Open Surge               | 4   | Mfg Recommendations* |
| Unheated - Non-insulated | 8   | Mfg Recommendations* |
| Unheated - Insulated     | 18  | Mfg Recommendations* |
| Heated - No inert gas    | TBD by the Engineer                       | TBD by the Engineer  |

\*Not to exceed HMA limits

(c) Documentation System: The mixing Plant documentation system shall include equipment for accurately proportioning the components of the mixture by weight and in the proper order, controlling the cycle sequence, and timing the mixing operations. Recording equipment shall monitor the batching sequence of each component of the mixture and produce a printed record of these operations on each Plant ticket, as specified herein.

If recycled materials are used, the Plant tickets shall include their dry weight, percentage, and daily moisture content.

If a WMA Technology is added at the Plant, the Plant tickets shall include the actual dosage rate.

For drum Plants, the Plant ticket shall be produced at 5 minute intervals and maintained by the vendor for a period of 3 years after the completion of the Project.

For batch Plants, the Plant ticket shall be produced for each batch and maintained by the vendor for a period of 3 years after the completion of the Project. In addition, an asterisk (\*)



shall be automatically printed next to any individual batch weight(s) exceeding the following tolerances:

|                                   |  |
|-----------------------------------|--|
| Each Aggregate Component          | $\pm 1.5\%$ of individual or cumulative target weight for each bin |
| Mineral Filler                    | $\pm 0.5\%$ of the total batch                                     |
| Bituminous Material               | $\pm 0.1\%$ of the total batch                                     |
| Zero Return (Aggregate)           | $\pm 0.5\%$ of the total batch                                     |
| Zero Return (Bituminous Material) | $\pm 0.1\%$ of the total batch                                     |

The entire batching and mixing interlock cut-off circuits shall interrupt and stop the automatic batching operations when an error exceeding the acceptable tolerance occurs in proportioning.

The scales shall not be manually adjusted during the printing process. In addition, the system shall be interlocked to allow printing only when the scale has come to a complete rest. A unique printed character (m) shall automatically be printed on the truck and batch plant printout when the automatic batching sequence is interrupted or switched to auto-manual or full manual during proportioning.

(d) Aggregates: Aggregate stockpiles shall be managed to prevent segregation and cross contamination. For drum Plants only, the percent moisture content, at a minimum prior to production and half way through production, shall be determined.

(e) Mixture: The dry and wet mix times shall be sufficient to provide a uniform mixture and a minimum particle coating of 95% as determined by AASTO T 195(M).

Bituminous concrete mixtures shall contain no more than 0.5% moisture when tested in accordance with AASHTO T 329.

(f) RAP: RAP moisture content shall be determined a minimum of twice daily (prior to production and halfway through production).

(g) Asphalt Binder: A binder log shall be submitted to the Department's Central Lab on a monthly basis.

(h) Warm mix additive: For mechanically foamed WMA, the water injection rate shall be monitored during production and not exceed 2.0% by total weight of binder. For additive added at the Plant, the dosage rate shall be monitored during production.

(i) Testing Laboratory: The Contractor shall maintain a laboratory to test bituminous concrete mixtures during production. The laboratory shall have a minimum of 300 s.f., have a potable water source and drainage in accordance with the CT Department of Public Health Drinking Water Division, and be equipped with all necessary testing equipment as well as with a PC, printer, and telephone with a dedicated hard-wired phone line. In addition, the PC shall have a high speed internet connection and a functioning web browser with unrestricted access to <https://ctmail.ct.gov>. This equipment shall be maintained in working order at all times and be made available for use by the Engineer.

The laboratory shall be equipped with a heating system capable of maintaining a minimum temperature of 65°F. It shall be clean and free of all materials and equipment not associated with the laboratory. Sufficient light and ventilation must be provided. During summer months

adequate cooling or ventilation must be provided so the indoor air temperature shall not exceed the ambient outdoor temperature.

The laboratory testing apparatus, supplies, and safety equipment shall be capable of performing all the applicable tests in their entirety that are referenced in AASHTO R 35 and AASHTO M 323. The Contractor shall ensure that the Laboratory is adequately supplied at all times during the course of the Project with all necessary testing materials and equipment.

The Contractor shall maintain a list of laboratory equipment used in the acceptance testing processes including, but not limited to, balances, scales, manometer/vacuum gauge, thermometers, and gyratory compactor, clearly showing calibration and/or inspection dates, in accordance with AASHTO R 18. The Contractor shall notify the Engineer if any modifications are made to the equipment within the laboratory. The Contractor shall take immediate action to replace, repair, or recalibrate any piece of equipment that is out of calibration, malfunctioning, or not in operation.

#### **M.04.02—Mix design and Job Mix Formula (JMF)**

##### **1. Curb Mix:**

(a) Requirements: The Contractor shall use bituminous concrete that meets the requirements of Table M.04.02-1. RAP may be used in 5% increments by weight up to 30%.

(b) Basis of Approval: Annually, an approved JMF based on a mix design for curb mix must be on file with the Engineer prior to use.

The Contractor shall test the mixture for compliance with the submitted JMF and Table M.04.02-1. The maximum theoretical density (Gmm) will be determined by AASHTO T 209. If the mixture does not meet the requirements, the JMF shall be adjusted within the ranges shown in Table M.04.02-1 until an acceptable mixture is produced.

An accepted JMF from the previous operating season may be acceptable to the Engineer provided that there are no changes in the sources of supply for the coarse aggregate, fine aggregate, recycled material (if applicable) and the Plant operation had been consistently producing acceptable mixture.

Any change in component source of supply or consensus properties must be approved by the Engineer. A revised JMF shall be submitted prior to use.

**TABLE M.04.02-1:  
Control Points for Curb Mix Mixtures**

| Mix  | Curb Mix               | Production Tolerances<br>from JMF Target |
|--|------------------------|--|
| Grade of PG<br>Binder content %  | PG 64S-22<br>6.5 - 9.0 | 0.4                                      |
| Sieve Size   |                        |  |
| No. 200  | 3.0 - 8.0 (b)          | 2.0                                      |
| No. 50   | 10 - 30                | 4  |
| No. 30   | 20 - 40                | 5  |
| No. 8  | 40 - 70                | 6  |
| No. 4  | 65 - 87                | 7  |
| 1/4 inch   |                        |  |
| 3/8 inch   | 95 - 100               | 8  |
| 1/2 inch   | 100                    | 8  |
| 3/4 inch   |                        | 8  |
| 1 inch   |                        |  |
| 2 inch   |                        |  |
| Additionally, the fraction of material retained between any 2 consecutive<br>sieves shall not be less than 4%.   |                        |  |
| Mixture Temperature  |                        |  |
| Binder   | 325°F maximum          |  |
| Aggregate  | 280-350°F              |  |
| Mixtures   | 265-325°F              |  |
| Mixture Properties   |                        |  |
| Air Voids (VA) %   | 0 – 4.0 (a)            |  |
| Notes: (a) Compaction Parameter 50 gyrations (N <sub>des</sub> )<br>(b) The percent passing the No. 200 sieve shall not exceed the<br>percentage of bituminous asphalt binder. |                        |  |

## **2. Superpave Design Method – S0.25, S0.375, S0.5, and S1:**

(a) **Requirements:** All designated mixes shall be designed using the Superpave mix design method in accordance with AASHTO R 35. A JMF based on the mix design shall meet the requirements of Tables M.04.02-2 to M.04.02-5. Each JMF and component samples must be submitted no less than 7 days prior to production and must be approved by the Engineer prior to use. All JMFs expire at the end of the calendar year.

All aggregate component consensus properties and tensile strength ratio (TSR) specimens shall be tested at an AASHTO Materials Reference Laboratory (AMRL) by NETTCP Certified Technicians.

All bituminous concrete mixes shall be tested for stripping susceptibility by performing the TSR test procedure in accordance with AASHTO T 283(M) at a minimum every 36 months. The compacted specimens may be fabricated at the Plant and then tested at an AMRL accredited facility. A minimum of 45000 grams of laboratory or plant blended mixture and the

corresponding complete Form MAT-412s shall be submitted to the Division of Material Testing (DMT) for design TSR testing verification. The mixture submitted shall be representative of the corresponding mix design as determined by the Engineer.

- i. Superpave Mixtures with RAP: RAP may be used with the following conditions:
  - RAP amounts up to 15% may be used with no binder grade modification.
  - RAP amounts up to 20% may be used provided a new JMF is approved by the Engineer. The JMF submittal shall include the grade of virgin binder added. The JMF shall be accompanied by a blending chart and supporting test results in accordance with AASHTO M 323 Appendix X1, or by testing that shows the combined binder (recovered binder from the RAP, virgin binder at the mix design proportions, warm mix asphalt additive and any other modifier if used) meets the requirements of the specified binder grade.
  - Two (2) representative samples of RAP shall be obtained. Each sample shall be split, and 1 split sample shall be tested for binder content in accordance with AASHTO T 164 and the other in accordance with AASHTO T 308.
  - RAP material shall not be used with any other recycling option.
- ii. Superpave Mixtures with RAS: RAS may be used solely in HMA S1 mixtures with the following conditions:
  - RAS amounts up to 3% may be used.
  - RAS total binder replacement up to 15% may be used with no binder grade modification.
  - RAS total binder replacement up to 20% may be used provided a new JMF is approved by the Engineer. The JMF submittal shall include the grade of virgin binder added. The JMF shall be accompanied by a blending chart and supporting test results in accordance with AASHTO M 323 Appendix X1, or by testing that shows the combined binder (recovered binder from the RAP, virgin binder at the mix design proportions, warm mix asphalt additive and any other modifier if used) meets the requirements of the specified binder grade.
  - Superpave Mixtures with RAS shall meet AASHTO PP 78 design considerations.
- iii. Superpave Mixtures with CRCG: CRCG may be used solely in HMA S1 mixtures. One percent (1%) of hydrated lime, or other accepted non-stripping agent, shall be added to all mixtures containing CRCG. CRCG material shall not be used with any other recycling option.
- (b) Basis of Approval: The following information must be included in the JMF submittal:
  - i. Gradation, consensus properties and specific gravities of the aggregate, RAP or RAS.
  - ii. Average asphalt content of the RAP or RAS by AASHTO T 164.
  - iii. Source of RAP or RAS and percentage to be used.
  - iv. Warm mix Technology, manufacturer's recommended additive rate and tolerances, and manufacturer recommended mixing and compaction temperatures.
  - v. TSR test report and anti-strip manufacturer and recommended dosage rate if applicable.
  - vi. Mixing and compaction temperature ranges for the mix with and without the warm-mix technology incorporated.
  - vii. JMF ignition oven correction factor by AASHTO T 308.

With each JMF submittal, the following samples shall be submitted to the Division of Materials Testing:

- 4 - one (1) quart cans of PG binder, with corresponding Safety Data Sheet (SDS)
- 1 - 50 lbs. bag of RAP
- 2 - 50 lbs. bags of Plant-blended virgin aggregate

A JMF may not be approved if any of the properties of the aggregate components or mix do not meet the verification tolerances as described in the Department's current QA Program for Materials, Acceptance and Assurance Testing Policies and Procedures.

Any material based on a JMF, once approved, shall only be acceptable for use when it is produced by the designated Plant, it utilizes the same components, and the production of material continues to meet all criteria as specified in Tables M.04.02-2, M.04.02-3 and M.04.02-4. A new JMF must be submitted to the Engineer for approval whenever a new component source is proposed.

Only 1 mix with 1 JMF will be approved for production at a time. Switching between approved JMF mixes with different component percentages or sources of supply is prohibited.

**TABLE M.04.02-2: Superpave Master Range for Bituminous Concrete Mixture Design Criteria**

|                         | S0.25                                 |         | S0.375         |         | S0.5           |         | S1             |         |
|-------------------------|---------------------------------------|---------|----------------|---------|----------------|---------|----------------|---------|
| Sieve                   | Control Points                        |         | Control Points |         | Control Points |         | Control Points |         |
| inches                  | Min (%)                               | Max (%) | Min (%)        | Max (%) | Min (%)        | Max (%) | Min (%)        | Max (%) |
| 2.0                     | -                                     | -       | -              | -       | -              | -       | -              | -       |
| 1.5                     | -                                     | -       | -              | -       | -              | -       | 100            | -       |
| 1.0                     | -                                     | -       | -              | -       | -              | -       | 90             | 100     |
| 3/4                     | -                                     | -       | -              | -       | 100            | -       | -              | 90      |
| 1/2                     | 100                                   | -       | 100            | -       | 90             | 100     | -              | -       |
| 3/8                     | 97                                    | 100     | 90             | 100     | -              | 90      | -              | -       |
| No. 4                   | 72                                    | 90      | -              | 72      | -              | -       | -              | -       |
| No. 8                   | 32                                    | 67      | 32             | 67      | 28             | 58      | 19             | 45      |
| No. 16                  | -                                     | -       | -              | -       | -              | -       | -              | -       |
| No. 30                  | -                                     | -       | -              | -       | -              | -       | -              | -       |
| No. 50                  | -                                     | -       | -              | -       | -              | -       | -              | -       |
| No. 100                 | -                                     | -       | -              | -       | -              | -       | -              | -       |
| No. 200                 | 2.0                                   | 10.0    | 2.0            | 10.0    | 2.0            | 10.0    | 1.0            | 7.0     |
| VMA (%)                 | 16.5 ± 1                              |         | 16.0 ± 1       |         | 15.0 ± 1       |         | 13.0 ± 1       |         |
| VA (%)                  | 4.0 ± 1                               |         | 4.0 ± 1        |         | 4.0 ± 1        |         | 4.0 ± 1        |         |
| Gse                     | JMF value                             |         | JMF value      |         | JMF value      |         | JMF value      |         |
| Gmm                     | JMF ± 0.030                           |         | JMF ± 0.030    |         | JMF ± 0.030    |         | JMF ± 0.030    |         |
| Dust / effective binder | 0.6 - 1.2                             |         | 0.6 - 1.2      |         | 0.6 - 1.2      |         | 0.6 - 1.2      |         |
| TSR                     | ≥ 80%                                 |         | ≥ 80%          |         | ≥ 80%          |         | ≥ 80%          |         |
| T-283 Stripping         | Minimal as determined by the Engineer |         |                |         |                |         |                |         |

(c) Mix Status: Each facility will have each type of bituminous concrete mixture rated based on the results of the previous year of production. Mix status will be provided to each bituminous concrete Producer prior to the beginning of the paving season.

The rating criteria are based on compliance with Air Voids and Voids in Mineral Aggregate (VMA) as indicated in Table M.04.03-4 and are calculated as follows:

Criteria A: Percentage of acceptance test results with compliant air voids.

Criteria B: The average of the percentage of acceptance results with compliant VMA and the percentage of acceptance results with compliant air voids.

The final rating assigned will be the lower of the rating obtained with Criteria A or Criteria B.

Mix status is defined as:

“A” – Approved: Assigned to each mixture type from a production facility with a current rating of 70% or greater, or to each mixture type completing a successful PPT.

“PPT” – Pre-Production Trial: Temporarily assigned to each mixture type from a production facility when:

1. there are no compliant acceptance production test results submitted to the Department from the previous year;
2. there is a source change in one or more aggregate components;
3. there is a component percentage change of more than 5% by weight;
4. there is a change in RAP percentage;
5. the mixture has a rating of less than 70% from the previous season;
6. it is a new JMF not previously submitted; or
7. the average of 10 consecutive acceptance results for VFA, Density to  $N_{ini}$  or dust to effective binder ratio does not meet the criteria in tables M.04.02-2 and M.04.02-4.

Bituminous concrete mixtures rated with a “PPT” status cannot be used on Department projects. Testing shall be performed by the Producer with NETTCP certified personnel on material under this status. Test results must confirm that specification requirements in Tables M.04.02-2 through M.04.02-4 are met and the binder content (Pb) meets the requirements in Table M.04.03-2 before material can be used. One of the following methods must be used to verify the test results:

Option A: Schedule a day when a Department Inspector can be at the facility to witness testing

Option B: When the Contractor or their representative performs testing without being witnessed by an Inspector, the Contractor shall submit the test results and a split sample including 2 gyratory molds, 5,000 grams of boxed bituminous concrete, and 5,000 grams of cooled loose bituminous concrete for verification testing and approval

Option C: When the Contractor or their representative performs testing without being witnessed by a Department Inspector, the Engineer may verify the mix in the Contractor’s laboratory

Witnessing or verifying by the Department of compliant test results will change the mix’s status to “A”

The differences between the Department’s test results and the Contractor’s must be within the “C” tolerances included in the [Department’s QA Program for Materials, Acceptance and Assurance Testing Policies and Procedures](#) in order to be verified.

“U” – Not Approved: Status assigned to a type of mixture that does not have an approved JMF. Bituminous concrete mixtures with a “U” status cannot be used on Department projects.

**TABLE M.04.02-3:  
Superpave Consensus Properties Requirements for Combined Aggregate**

| <b>Traffic Level</b>  | <b>Design ESALs<br/>(80kN)<br/>Millions</b> | <b>Coarse Aggregate Angularity<sup>(1)</sup><br/><br/>ASTM D5821,<br/>Minimum %</b> | <b>Fine Aggregate Angularity<br/>AASHTO T 304,<br/>Method A<br/>Minimum %</b> | <b>Flat and Elongated Particles<sup>(2)</sup><br/>ASTM D4791,<br/>Maximum %</b> | <b>Sand Equivalent<br/>AASHTO T 176,<br/>Minimum %</b> |
|---|---|---|---|---|--|
| 1   | < 0.3                                       | 55/- -  | 40  | 10  | 40   |
| 2   | 0.3 to < 3.0                                | 75/- -  | 40  | 10  | 40   |
| 3   | ≥ 3.0                                       | 95/90   | 45  | 10  | 45   |
| Notes:<br><sup>(1)</sup> 95/90 denotes that a minimum of 95% of the coarse aggregate, by mass, shall have one fractured face and that a minimum of 90% shall have two fractured faces.<br><sup>(2)</sup> Criteria presented as maximum Percent by mass of flat and elongated particles of materials retained on the No. 4 sieve, determined at 5:1 ratio. |   |   |   |   |  |

**TABLE M.04.02-4: Superpave Traffic Levels and Design Volumetric Properties**

| <b>Traffic Level</b> | <b>Design ESALs</b> | <b>Number of Gyration by Superpave Gyratory Compactor</b> |                        |                        | <b>Percent Density of Gmm from HMA/WMA Specimen</b> |                        |                        | <b>Voids Filled with Asphalt (VFA) Based on Nominal Mix Size - Inch</b> |              |            |          |
|----------------------|---------------------|---|------------------------|------------------------|---|------------------------|------------------------|---|--------------|------------|----------|
|                      |                     | <b>N<sub>ini</sub></b>                                    | <b>N<sub>des</sub></b> | <b>N<sub>max</sub></b> | <b>N<sub>ini</sub></b>                              | <b>N<sub>des</sub></b> | <b>N<sub>max</sub></b> | <b>0.25</b>   | <b>0.375</b> | <b>0.5</b> | <b>1</b> |
| 1                    | <0.3                | 6   | 50                     | 75                     | ≤91.5   | 96.0                   | ≤98.0                  | 70-80   | 70-80        | 70-80      | 67-80    |
| 2                    | 0.3 to <3.0         | 7   | 75                     | 115                    | ≤90.5   | 96.0                   | ≤98.0                  | 65-78   | 65-78        | 65-78      | 65-78    |
| 3                    | ≥3.0                | 7   | 75                     | 115                    | ≤90.0   | 96.0                   | ≤98.0                  | 65-77   | 65-76        | 65-75      | 65-75    |



**TABLE M.04.02-5:**  
**Superpave Minimum Binder Content by Mix Type and Level**

| <b>Mix Type</b> | <b>Level</b> | <b>Binder Content Minimum</b> |
|-----------------|--------------|-------------------------------|
| S0.25           | 1            | 5.80                          |
| S0.25           | 2            | 5.70                          |
| S0.25           | 3            | 5.70                          |
| S0.375          | 1            | 5.70                          |
| S0.375          | 2            | 5.60                          |
| S0.375          | 3            | 5.60                          |
| S0.5            | 1            | 5.10                          |
| S0.5            | 2            | 5.00                          |
| S0.5            | 3            | 5.00                          |
| S1              | 1            | 4.60                          |
| S1              | 2            | 4.50                          |
| S1              | 3            | 4.50                          |

**M.04.03—Production Requirements:**

**1. Standard Quality Control Plan (QCP) for Production:** The QCP for production shall describe the organization and procedures, which the Contractor shall use to administer quality control. The QCP shall include the procedures used to control the production process, to determine when immediate changes to the processes are needed, and to implement the required changes. The QCP must detail the inspection, sampling and testing protocols to be used, and the frequency for each.

Control Chart(s) shall be developed and maintained for critical aspect(s) of the production process as determined by the Contractor. The control chart(s) shall identify the material property, applicable upper and lower control limits, and be updated with current test data. As a minimum, the following quality characteristics shall be included in the control charts:

- percent passing No. 4 sieve
- percent passing No. 200 sieve
- binder content
- air voids
- Gmm
- Gse
- VMA

The control chart(s) shall be used as part of the quality control system to document variability of the bituminous concrete production process. The control chart(s) shall be submitted to the Engineer the first day of each month.

The QCP shall also include the name and qualifications of a Quality Control Manager. The Quality Control Manager shall be responsible for the administration of the QCP, including compliance with the plan and any plan modifications.

The Contractor shall submit complete production testing records to the Engineer within 24 hours in a manner acceptable to the Engineer.

The QCP shall also include the name and qualifications of any outside testing laboratory performing any QC functions on behalf of the Contractor. The QCP must also include a list of sampling and testing methods and frequencies used during production, and the names of all Quality Control personnel and their duties.

Approval of the QCP does not imply any warranty by the Engineer that adherence to the plan will result in production of bituminous concrete that complies with these specifications. The Contractor shall submit any changes to the QCP as work progresses.

## **2. Acceptance Requirements:**

### **(a) General:**

A NETTCP HMA Paving Inspector certified Contractor representative shall obtain a field sample of the material placed at the project site in accordance with AASHTO T 168 using the procedure indicated in Section 5.2.3 or an alternate procedure approved by the Engineer. The field sample shall be quartered by the Contractor in accordance with AASHTO R 47 and placed in an approved container. The container shall be sealed with a security tape provided by the Department and labelled to include the project number, date of paving, mix type, lot and subplot numbers and daily tonnage. The minimum weight of each quartered sample shall be 14000 grams. The Contractor shall transport one of the containers to the Departments Central Laboratory in Rocky Hill, retain one of the containers for potential use in dispute resolution and test the remaining material for acceptance.

The Contractor shall submit all acceptance tests results to the Engineer within 24 hours or prior to the next day's production. All acceptance test specimens and supporting documentation must be retained by the Contractor and may be disposed of with the approval of the Engineer. All quality control specimens shall be clearly labeled and separated from the acceptance specimens.

Contractor personnel performing QC and acceptance testing must be present at the facility prior to, during, and until completion of production, and be certified as a NETTCP HMA Plant Technician or Interim HMA Plant Technician and be in good standing. Production of material for use on State projects must be suspended by the Contractor if such personnel are not present. Technicians found by the Engineer to be non-compliant with NETTCP policies and procedures or Department policies may be removed by the Engineer from participating in the acceptance testing process for Department projects until their actions can be reviewed.

Verification and dispute resolution testing will be performed by the Engineer in accordance with the Department's QA Program for Materials.

Should the Department be unable to validate the Contractor's acceptance test result(s) for a lot of material, the Engineer will use results from verification testing and re-calculate the pay adjustment for that lot. The Contractor may request to initiate the dispute resolution process in writing within 24 hours of receiving the adjustment and must include supporting documentation or test results to justify the request.

**(b) Curb Mix Acceptance Sampling and Testing Procedures:** Curb Mixes shall be tested by the Contractor at a frequency of 1 test per every 250 tons of cumulative production, regardless of the day of production.

When these mix designs are specified, the following acceptance procedures and AASHTO test methods shall be used:

**TABLE M.04.03-1: Curb Mix Acceptance Test Procedures**

| <b>Protocol</b> | <b>Reference</b>                     | <b>Description</b>  |
|-----------------|--------------------------------------|---|
| <b>1</b>        | <b>AASHTO T 30(M)</b>                | Mechanical Analysis of Extracted Aggregate  |
| <b>2</b>        | <b>AASHTO T 168</b>                  | Sampling of Bituminous Concrete   |
| <b>3</b>        | <b>AASHTO T 308</b>                  | Binder Content by Ignition Oven Method (adjusted for aggregate correction factor) |
| <b>4</b>        | <b>AASHTO T 209(M)<sup>(2)</sup></b> | Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures    |
| <b>5</b>        | <b>AASHTO T 312<sup>(2)</sup></b>    | <sup>(1)</sup> Superpave Gyratory Molds Compacted to N <sub>des</sub>             |
| <b>6</b>        | <b>AASHTO T 329</b>                  | Moisture Content of Hot-Mix Asphalt (HMA) by Oven Method                          |

**Notes:** <sup>(1)</sup> One (1) set equals 2 each of 6-inch molds. Molds to be compacted to 50 gyrations.  
<sup>(2)</sup> Once per year or when requested by the Engineer.

i. Determination of Off-Test Status:

1. Curb Mix is considered “off test” when the test results indicate that any single value for bitumen content or gradation are not within the tolerances shown in Table M.04.02-1 for that mixture. If the mix is “off test,” the Contractor must take immediate actions to correct the deficiency and a new acceptance sample shall be tested on the same day or the following day of production.
2. When multiple silos are located at 1 site, mixture supplied to 1 project is considered as coming from 1 source for the purpose of applying the “off test” status.
3. The Engineer may cease supply from the Plant when test results from 3 consecutive samples are not within the JMF tolerances or the test results from 2 consecutive samples not within the control points indicated in Table M.04.02-1 regardless of production date.

ii. JMF Revisions

1. If a test indicates that the bitumen content or gradation are outside the tolerances, the Contractor may make a single JMF revision as allowed by the Engineer prior to any additional testing. Consecutive test results outside the requirements of Table M.04.02-1 JMF tolerances may result in rejection of the mixture.
2. Any modification to the JMF shall not exceed 50% of the JMF tolerances indicated in Table M.04.02-1 for any given component of the mixture without approval of the Engineer. When such an adjustment is made to the bitumen, the corresponding production percentage of bitumen shall be revised accordingly.

(c) Superpave Mix Acceptance:

i. Sampling and Testing Procedures

Production Lot: The lot will be defined as one of the following types:

- Non-PWL Production Lot for total estimated Project quantities per mixture less than 3500 tons: All mixture placed during a single continuous paving operation.
- PWL Production Lot for total estimated Project quantities per mixture of 3500 tons or more: Each 3500 tons of mixture produced within 30 calendar days.

Production Sub Lot:

- For Non-PWL: As defined in Table M.04.03-2
- For PWL: 500 tons (The last sub lot may be less than 500 tons.)

Partial Production Lots (For PWL only): A Lot with less than 3500 tons due to:

- completion of the course;
- a Job Mix Formula revision due to changes in:
  - o cold feed percentages over 5%,
  - o target combined gradation over 5%,
  - o target binder over 0.15%,
  - o any component specific gravity; or
- a lot spanning 30 calendar days.

The acceptance sample(s) location(s) shall be selected using stratified - random sampling in accordance with ASTM D3665 based on:

- the total daily estimated tons of production for non-PWL lots, or
- the total size for PWL lots.

One (1) acceptance sample shall be obtained and tested per sub lot with quantities over 125 tons. The Engineer may direct that additional acceptance samples be obtained. For non-PWL lots, one (1) acceptance test shall always be performed in the last sub lot based on actual tons of material produced.

For non-PWL lots, quantities of the same mixture per Plant may be combined daily for multiple State projects to determine the number of sub lots.

The payment adjustment will be calculated as described in 4.06.

**TABLE M.04.03-2:**

**Superpave Acceptance Testing Frequency per Type/Level/Plant for Non-PWL Lots**

| <b>Daily Quantity<br/>Produced in Tons (Lot)</b> | <b>Number of Sub Lots/Tests</b>     |
|--|-------------------------------------|
| 0 to 125   | 0, Unless requested by the Engineer |
| 126 to 500                                       | 1                                   |
| 501 to 1,000                                     | 2                                   |
| 1,001 to 1,500                                   | 3                                   |
| 1,500 or greater                                 | 1 per 500 tons or portions thereof  |

The following test procedures shall be used for acceptance:

**TABLE M.04.03-3: Superpave Acceptance Testing Procedures**

| Protocol | Procedure       | Description   |
|----------|-----------------|---|
| 1        | AASHTO T 168    | Sampling of bituminous concrete   |
| 2        | AASHTO R 47     | Reducing samples to testing size  |
| 3        | AASHTO T 308    | Binder content by ignition oven method (adjusted for aggregate correction factor) |
| 4        | AASHTO T 30(M)  | Gradation of extracted aggregate for bituminous concrete mixture                  |
| 5        | AASHTO T 312    | <sup>(1)</sup> Superpave gyratory molds compacted to $N_{des}$                    |
| 6        | AASHTO T 166    | <sup>(2)</sup> Bulk specific gravity of bituminous concrete                       |
| 7        | AASHTO R 35     | <sup>(2)</sup> Air voids, VMA   |
| 8        | AASHTO T 209(M) | Maximum specific gravity of bituminous concrete (average of 2 tests)              |
| 9        | AASHTO T 329    | Moisture content of bituminous concrete   |

**Notes:** <sup>(1)</sup> One (1) set equals 2 each of 6-inch molds. Molds to be compacted to  $N_{max}$  for PPTs and to  $N_{des}$  for production testing. The first sub lot of the year shall be compacted to  $N_{max}$ .  
<sup>(2)</sup> Average value of 1 set of 6-inch molds.

If the average ignition oven corrected binder content differs by 0.3% or more from the average of the Plant ticket binder content in 5 consecutive tests regardless of the production date (moving average), the Contractor shall immediately investigate, determine an assignable cause, and correct the issue. When 2 consecutive moving average differences are 0.3% or more and no assignable cause has been established, the Engineer may require a new ignition oven aggregate correction factor to be performed or to adjust the current factor by the average of the differences between the corrected binder content and production Plant ticket for the last 5 acceptance results.

The Contractor shall perform TSR testing within 30 days after the start of production for all design levels of HMA- and PMA- S0.5 Plant-produced mixtures, in accordance with AASHTO T 283(M). The TSR test shall be performed at an AMRL certified laboratory by NETTCP certified technicians. The compacted specimens may be fabricated at the Plant and then tested at an AMRL accredited facility. A minimum of 45000 grams of plant blended mixture and the corresponding complete Form MAT-412s shall be submitted to the DMT for production TSR testing verification. The mixture submitted shall be representative of the corresponding mix design as determined by the Engineer. Additionally, the TSR test report and tested specimens shall be submitted to the Engineer for review. Superpave mixtures that require anti-strip additives (either liquid or mineral) shall continue to meet all requirements specified herein for binder and bituminous concrete. The Contractor shall submit the name, manufacturer, percent used, technical datasheet and SDS for the anti-strip additive (if applicable) to the Engineer.

i. Determination of Off-Test Status:

1. Superpave mixes shall be considered “*off test*” when any control point sieve, binder content, VA, VMA, and Gmm value is outside of the limits specified in Table M.04.03-4 or the target binder content at the Plant is below the minimum binder

content stated in Table M.04.02-5. Note that further testing of samples or portions of samples not initially tested for this purpose cannot be used to change the status.

2. Any time the bituminous concrete mixture is considered off-test:
  - A. The Contractor shall notify the Engineer when the Plant is “*off test*” for any mix design that is delivered to the Project in any production day. When multiple silos are located at 1 site, mixture supplied to 1 project is considered as coming from 1 source for the purpose of applying the “*off test*” determination.
  - B. The Contractor must take immediate actions to correct the deficiency, minimize “*off test*” production to the Project, and obtain an additional Process Control (PC) test after any corrective action to verify production is in conformance with the specifications. A PC test will not be used for acceptance and is solely for the use of the Contractor in its quality control process.

ii. Cessation of Supply for Superpave Mixtures in Non-PWL Lots:

A mixture **shall not be used** on Department projects when it is “off test” for:

1. four (4) consecutive tests in any combination of VA, VMA or Gmm, regardless of date of production, or
2. two (2) consecutive tests in the control point sieves in 1 production shift.

As a result of cessation of supply, the mix status will be changed to PPT

iii. JMF revisions:

JMF revisions are only permitted prior to or after a production shift. A JMF revision is effective from the time it was submitted and is not retroactive to the previous test(s).

JMF revisions shall be justified by a documented trend of test results.

Revisions to aggregate or RAP specific gravities are only permitted when testing is performed at an AMRL certified laboratory by NETTCP certified technicians.

A JMF revision is required when the Plant target RAP or bin percentage deviates by more than 5% or the Plant target binder content deviates by more than 0.15% from the active JMF.

**TABLE M.04.03-4: Superpave Mixture Production Requirements**

|                                | <b>S0.25</b>             |         | <b>S0.375</b>            |         | <b>S0.5</b>                 |         | <b>S1</b>                |         | Tolerances                      |
|--------------------------------|--------------------------|---------|--------------------------|---------|-----------------------------|---------|--------------------------|---------|---------------------------------|
| Sieve                          | Control Points           |         | Control Points           |         | Control Points              |         | Control Points           |         | From JMF Targets <sup>(2)</sup> |
| inches                         | Min (%)                  | Max (%) | Min (%)                  | Max (%) | Min (%)                     | Max (%) | Min (%)                  | Max (%) | +/- Tolerance                   |
| 1.5                            | -                        | -       | -                        | -       | -                           | -       | 100                      | -       |                                 |
| 1.0                            | -                        | -       | -                        | -       | -                           | -       | 90                       | 100     |                                 |
| 3/4                            | -                        | -       | -                        | -       | 100                         | -       | -                        | 90      |                                 |
| 1/2                            | 100                      | -       | 100                      | -       | 90                          | 100     | -                        | -       |                                 |
| 3/8                            | 97                       | 100     | 90                       | 100     | -                           | 90      | -                        | -       |                                 |
| No. 4                          | 72                       | 90      | -                        | 72      | -                           | -       | -                        | -       |                                 |
| No. 8                          | 32                       | 67      | 32                       | 67      | 28                          | 58      | 19                       | 45      |                                 |
| No. 16                         | -                        | -       | -                        | -       | -                           | -       | -                        | -       |                                 |
| No. 200                        | 2.0                      | 10.0    | 2.0                      | 10.0    | 2.0                         | 10.0    | 1.0                      | 7.0     |                                 |
| Pb                             | JMF value                |         | JMF value                |         | JMF value                   |         | JMF value                |         | 0.3 <sup>(3)</sup>              |
| VMA (%)                        | 16.5                     |         | 16.0                     |         | 15.0                        |         | 13.0                     |         | 1.0 <sup>(4)</sup>              |
| VA (%)                         | 4.0                      |         | 4.0                      |         | 4.0                         |         | 4.0                      |         | 1.0 <sup>(5)</sup>              |
| Gmm                            | JMF value                |         | JMF value                |         | JMF value                   |         | JMF value                |         | 0.030                           |
| Mix Temp. – HMA <sup>(6)</sup> | 265-325°F <sup>(1)</sup> |         | 265-325°F <sup>(1)</sup> |         | 265-325°F <sup>(1)</sup>    |         | 265-325°F <sup>(1)</sup> |         |                                 |
| Mix Temp. – PMA <sup>(6)</sup> | 285-335°F <sup>(1)</sup> |         | 285-335°F <sup>(1)</sup> |         | 285-335°F <sup>(1)</sup>    |         | 285-335°F <sup>(1)</sup> |         |                                 |
| Prod. TSR                      | N/A                      |         | N/A                      |         | ≥80%                        |         | N/A                      |         |                                 |
| T-283 Stripping                | N/A                      |         | N/A                      |         | Minimal TBD by the Engineer |         | N/A                      |         |                                 |

**Notes:** <sup>(1)</sup> 300°F minimum after October 15.

<sup>(2)</sup> JMF tolerances shall be defined as the limits for production compliance.

<sup>(3)</sup> 0.4 for PWL lots

<sup>(4)</sup> 1.3 for all PWL lots except S/P 0.25 mixes. 1.1 for S/P 0.25 Non-PWL lots. 1.4 for S/P 0.25 PWL lots

<sup>(5)</sup> 1.2 for PWL lots

<sup>(6)</sup> Also applies to placement

**Table M.04.03-5:  
Modifications to Standard AASHTO and ASTM Test Specifications and Procedures**

| <b>AASHTO Standard Method of Test</b>        |   |
|--|---|
| <b>Reference</b>                             | <b>Modification</b>   |
| <b>T 30</b>                                  | Section 7.2 through 7.4 Samples are not routinely washed for production testing   |
| <b>T 209</b>                                 | Section 7.2 The average of 2 bowls is used proportionally in order to satisfy minimum mass requirements.<br>8.3 Omit Pycnometer method.   |
| <b>T 283</b>                                 | When foaming technology is used, the material used for the fabrication of the specimens shall be cooled to room temperature, and then reheated to the manufacturer's recommended compaction temperature prior to fabrication of the specimens.  |
|  |   |
| <b>AASHTO Standard Recommended Practices</b> |   |
| <b>Reference</b>                             | <b>Modification</b>   |
| <b>R 26</b>                                  | <p>All laboratory technician(s) responsible for testing PG binders shall be certified or Interim Qualified by NETTCP as a PG Asphalt Binder Lab Technician.<br/>All laboratories testing binders for the Department are required to be accredited by the AMRL.</p> <p>Sources interested in being approved to supply PG binders to the Department by use of an "in-line blending system" must record properties of blended material and additives used.</p> <p>Each source of supply of PG binder must indicate that the binders contain no additives used to modify or enhance their performance properties. Binders that are manufactured using additives, modifiers, extenders, etc., shall disclose the type of additive, percentage and any handling specifications or limitations required.</p> <p>All AASHTO M 320 references shall be replaced with AASHTO M 332.</p> <p>Once a month, 1 split sample and test results for each asphalt binder grade and each lot shall be submitted by the PG binder supplier to the Department's Central Lab. Material remaining in a certified lot shall be re-certified no later than 30 days after initial certification. Each April and September, the PG binder supplier shall submit test results for 2 BBR tests at 2 different temperatures in accordance with AASHTO R 29.</p> |



## **ITEM #0201001A – CLEARING AND GRUBBING**

Work under this item shall conform to the requirements of Section 2.01 of the Standard specifications amended as follows:

Article 2.01.03 – Construction Methods:

Add the following:

All fences, mailboxes, sign posts, bollards, railings, stumps, shrubs, hedges, plantings, stone fences, etc., ornamental and utilitarian domestic accessories within the slope limit lines, shall be removed and reset (or disposed of) as directed by the Engineer.

## **ITEM # 0202451A - TEST PIT EXCAVATION**

### **DESCRIPTION**

The work covered under this Section of the Specifications includes furnishing of all plant, labor, equipment, appliances, materials and incidentals and performing all operations in connection with excavating and backfilling by machine and/or by hand, exploratory test pits at locations indicated or directed and approved in advance by the Engineer.

The purpose of test pits is for examining soils, ground water, and rock and for determining the location of drains, pipes, utilities, structures, foundations and/or any other obstacles or objects in the vicinity of the work contemplated under this Contract.

The work shall include removal of all materials including pavement within the limits of the test pit, dewatering as necessary; stockpiling and disposal of surplus pavement as required.

### **MATERIALS**

Paving materials (if required) shall be Class 2 bituminous concrete conforming to CT DOT Form 817 Section M.04.

### **CONSTRUCTION METHODS**

The Contractor shall notify the Engineer when test pits will be done.

Unless otherwise specified, the Contractor shall dig the test pits indicated on the drawings (if any) or requested by the Engineer and notify the Engineer of the results prior to the start of any excavation work. The Contractor shall notify the Engineer of any conflicts uncovered which may require design revisions, relocations and/or adjustment. No work shall be started within these areas of conflict until authorized by the Engineer.

The Contractor shall measure the size, configuration, exact horizontal and vertical location of all utilities, pipes or other obstacles uncovered in the various pits dug under this item. Excavation of test pits shall be accomplished by such means as are required to ensure that any underground utilities or structures as may be encountered are not damaged. It shall be the Contractor's sole responsibility for any damages incurred during the excavation operations. Any such damages shall be repaired or replaced by the Contractor (if permitted) to the satisfaction of the Engineer at the Contractor's own expense. Where the repair and/or replacement must be done by the Engineer, any and all costs thereof shall be borne by the Contractor; however, the Contractor shall be paid for all test pits based on his unit bid price.

When the location of the pit is within the roadway and will never be incorporated into any excavation being dug for proposed work under this Contract, the excavation shall be backfilled with material conforming CT DOT Form 817 Article M.02.01 – Gradation "A". All backfill shall be placed in layers of not more than 6 inches deep after compaction and shall be thoroughly compacted by means of mechanical rammers or vibrators or by pneumatic tampers. Hand tampers shall be used only upon written permission of the Engineer. The dry density after compaction shall not be less than 95% of the dry density for that soil when tested in accordance with AASHTO T 180, Method D. Each layer of the backfill shall be compacted at optimum moisture content. No subsequent layer shall be placed until the specified compaction is obtained for the previous layer.

A 2-inch thickness of temporary bituminous concrete pavement (Class 2) shall be installed in any street area where a test pit has been dug.

### **METHOD OF MEASUREMENT**

If the item “Test Pit Excavation” appears in the Bid Proposal, excavation for test pits will be measured for payment by the Engineer, and shall be the actual length, width and depth of the excavation within the limits ordered/approved by the Engineer. Water removed is never measured for payment.

Test pits will only be measured for payment where:

- a) The location of the pit is such that said pit will never be incorporated into any excavation being dug for proposed work under this Contract.
- b) The test pit will ultimately be within the limits of an excavation required for proposed work under this Contract, but said pit must be backfilled for safety or other reasons, as approved by the Engineer, prior to the excavation reaching the location of the pit.

If any pit is not backfilled and subsequently incorporated into the excavation, said pit will not be measured for payment under the Item “Test Pit” but will be measured under the appropriate excavation item.

Test pits dug by the respective utility owner will not be measured for payment.

### **BASIS OF PAYMENT**

If the item “Test Pit Excavation” appears in the Bid Proposal, payment for the “Test Pit Excavation” shall be made at the contract unit price per cubic yard for “Test Pit Excavation”, which price shall include the excavation of all materials as required. Included in the unit price bid for Test Pit will be excavation, sheeting, shoring, dewatering, backfill, compacting and the restoration of the surface of the “Test Pit” including temporary and permanent pavement replacement and all other materials, equipment, tools, labor and work incidental to or necessary for the completion of the Item.

**ITEM #0202503A – REMOVAL OF CONCRETE CURBING**

Work under this item shall conform to the requirements of Section 2.02, amended as follows:

**2.02.01-Description:** Add the following:

Concrete Curbing shall be removed and disposed of where shown on the contract plans, generally in areas of Placing Topsoil and Turf Establishment or as ordered by the Engineer. Removal of Concrete Curbing will not be measured for payment in areas of proposed Concrete Sidewalk, Concrete Curb or Granite Curb.

**2.02.03-Construction Methods:** Add the following:

Wherever Concrete Curbing is to be removed, such removals shall be made to existing joints except when directed by the Engineer.

**2.02.04-Method of Measurement:** Add the following:

The work of removing concrete curbing shall be measured for payment by the number of linear feet of concrete curbing removed.

**2.02.05-Basis of Payment:** Add the following:

The removal of concrete curbing will be paid for at the contract unit price per linear foot for “Removal of Concrete Curbing” which price shall include all materials, equipment, tools and labor incidental thereto and all disposal costs.

**Pay Item**

Removal of Concrete Curbing

**Pay Unit**

LF

**ITEM #0202513A – REMOVAL OF CONCRETE SIDEWALK**

Work under this item shall conform to the requirements of Section 2.02, amended as follows:

**2.02.01-Description:** Add the following:

Existing concrete sidewalk shall be removed and disposed of where shown on the contract plans, generally areas not included in “Concrete Sidewalk” or as ordered by the Engineer.

**2.02.03-Construction Methods:** Add the following:

Wherever existing concrete sidewalk is to be removed, such removals shall be made to existing joints except when directed by the Engineer.

**2.02.04-Method of Measurement:** Add the following:

The work of removing concrete sidewalk shall be measured for payment by the number of square yards of concrete sidewalk removed.

**2.02.05-Basis of Payment:** Add the following:

The removal of concrete sidewalk will be paid for at the contract unit price per square yard for “Removal of Concrete Sidewalk” which price shall include all materials, equipment, tools and labor incidental thereto and all disposal costs.

**Pay Item**

Removal of Concrete Sidewalk

**Pay Unit**

SY

**ITEM #0202522A – REMOVAL OF BITUMINOUS CONCRETE PAVEMENT**

Work under this item shall conform to the requirements of Section 2.02, amended as follows:

**2.02.01-Description:** Add the following:

Existing bituminous concrete pavement shall be removed and disposed of where shown on the contract plans, generally areas between existing curb and the proposed back of walk where the road is being narrowed or as ordered by the Engineer. Removal of bituminous concrete pavement under concrete sidewalk or brick paver sidewalk is included in those respective items.

**2.02.04-Method of Measurement:** Add the following:

The work of removal of bituminous concrete pavement shall be measured for payment by the number of square yards of bituminous concrete pavement removed.

**2.02.05-Basis of Payment:** Add the following:

The removal of bituminous concrete pavement will be paid for at the contract unit price per square yard for "Removal of Bituminous Concrete Pavement" which price shall include all materials, equipment, tools and labor incidental thereto and all disposal costs.

**Pay Item**

Removal of Bituminous Concrete Pavement

**Pay Unit**

SY

## **ITEM #0202575A – FURNISH AND INSTALL CONCRETE MONUMENT**

**7.01.01 – Description:** Under this item the Contractor shall place and install standard New Britain concrete survey monuments including a monument disk at locations that do not fall on concrete sidewalk or as ordered by the Engineer.

**7.01.02 – Materials:** The monuments shall be made with reinforced concrete and shall be in accordance with the City standard detail for the same.

The standard bronze monument disk will be supplied by the City of New Britain.

Epoxy shall be Colma-Dur-LV as manufactured by the Sika Chemical Corporation or approved equal.

**7.01.03 - Construction Methods:** The Contractor shall be responsible for having a Connecticut licensed Land Surveyor tie down the location of the monuments at locations shown on the plans or as directed by the engineer. The standard monument shall be set to finished grade, allowed to settle and the licensed Land Surveyor will drill the new reference point into the face of the disc in the monument.

The Licensed Land Surveyor will layout the location for the disc and drill the proper hole and epoxy the monument disc in place. After hardening of the epoxy, the Licensed Land Surveyor shall drill the new reference point into the face of the disc.

The Colma-Dur-LV compound shall be installed in accordance with the manufacturers recommendations. The Contractor shall clean all excess epoxy material.

**7.01.04/05 - Method of Measurement and Basis of Payment:** This item shall be paid for at the contract unit price bid for each monument or monument disc complete and approved in place which price shall include all materials, labor, excavation, processed stone furnish and place the monument or monument disc, locate the monument, equipment to drill the hole in the monument as specified.

Pay Item  
Furnish and Install Concrete Monument

Pay Unit  
EA

### **ITEM #0213100A – GRANULAR FILL**

Work under this item shall conform to the requirements of Section 2.13 of the Standard Specifications amended as follows:

#### **2.13.02 – Materials:** *Replace the paragraph with the following:*

All materials for this work shall meet the requirements of M.02.01 with the following conditions/exceptions:

Reclaimed Miscellaneous Aggregate will not be accepted.

Granular fill used within 1 foot of pipe shall conform to Grading 'C'.



## **ITEM #0219011A – SEDIMENT CONTROL SYSTEM AT CATCH BASIN**

### **Description**

This work shall consist of installing, maintaining, and removing the sediment control filters for all existing and proposed drainage structures shown in the contract documents.

Inlet and gutter filters shall be installed to control sedimentation at new and existing inlet drainage structures. Inlet filters of geotextile fabric alone shall be installed to prevent silt, sediment and construction debris from entering the existing and newly constructed inlet drainage structures.

### **Materials**

The materials used to construct the sediment control filters as shown in the details and in the contract documents shall meet the requirements of the following:

For Curb Opening Structures: The sediment control filter unit shall consist of a sewn geotextile fabric unit enclosing a porous structure in the form of a cylindrical tube placed in front and extending beyond the inlet opening on both sides and have a geotextile fabric sack attached designed to fit the opening of the catch basin and to hang underneath the grate and into the catch basin.

For Curb-less Structures: The sediment control filter unit shall consist of a sewn geotextile fabric sack designed to fit the opening of the catch basin and to hang underneath the grate and into the catch basin.

The geotextile fabric shall conform to the requirements specified in Section 7.55.

The sediment control filters shall have lifting straps to allow removal of the unit and manual inspection of the storm water system.

### **Construction Methods**

All construction of the sediment control filters shall be done in accordance with the manufacturer's recommendations, specifications, details and as ordered by the Engineer.

The installation of the sediment control filters shall be done as soon as any excavation is started on the job that could result in erosion runoff into the existing or proposed drainage system and as ordered by the Engineer.

It shall be the Contractor's responsibility to inspect the basins weekly and after each rainfall. The Contractor shall be required to clean all sediment that is accumulated in the sediment control filter. The filtering system shall be cleaned by using methods approved by the Engineer.

The sediment material that is removed from the drainage grate shall be removed from the site. All material that accumulates shall be disposed of by the Contractor in accordance with any State and Federal requirements at the time of removal. The silt protection screening shall then be

reinstalled in the same basin unless ordered to be disposed of by the Engineer. In the event that any part of the silt protection screening is determined unusable, the Contractor shall reconstruct or refurbish the silt protection at no additional cost to the City.

### Method of Measurement

The work will be measured as the number of inlet filter sediment control units that are installed.

### Basis of Payment

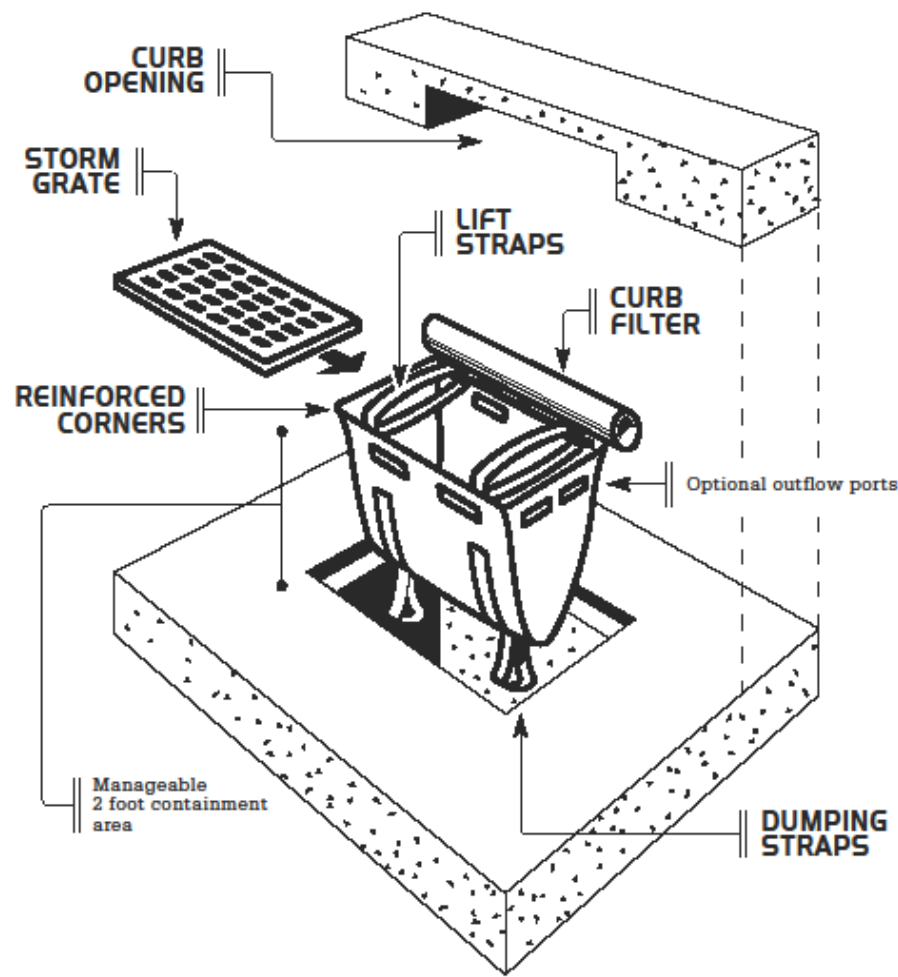
The unit price bid for each inlet filter sediment control unit shall include the cost of equipment, labor, materials, installation, cleaning and removal necessary to complete the work. Contractor will be paid 50% of the bid price upon the installation of the silt protection screening units and the remaining 50% upon the removal of the units when no longer needed as determined by the Engineer.

#### Pay Item

Sedimentation Control System  
At Catch Basin

#### Pay Unit

Each



**ITEM #0404100A—BITUMINOUS CONCRETE PATCHING – FULL DEPTH**

**ITEM #0404102A—BITUMINOUS CONCRETE PATCHING – FULL DEPTH – STATE**

**Description:** This work shall consist of installing full depth bituminous concrete patching in areas identified on the plans or areas of failed bituminous concrete pavement as follows:

- a) Sawcutting, removal and proper disposal of pavement and granular base,
- b) Grading and compacting remaining subbase or subgrade,
- c) Furnishing, installation and compaction of processed aggregate base,
- d) Application of tack coat on the vertical edges of the patch, and
- e) Placement of Hot-Mix Asphalt (HMA), as detailed on the plans.

**Materials:** Materials for this work shall consist of the following:

- a) Processed Aggregate Base shall meet the requirements of Article M.05.01.
- b) HMA S0.5 shall meet the requirements of Section M.04. All HMA shall be Traffic Level 2 unless indicated otherwise on the plans.
- c) Tack coat shall meet the requirements of Section M.04.

**Construction Methods:**

Equipment: Equipment for this work shall include pavement cutting, removal, material handling, and compaction equipment to perform all patching operations. Compaction equipment shall include steel-wheeled roller, vibratory plate compactor and jumping jack compactor, capable of compacting granular and HMA, materials to specified requirements. The Contractor shall also provide a 10-foot straightedge.

1. In areas not identified on the plans, the Engineer will mark areas for patching, which will extend a minimum of 1 foot beyond all edges of failed pavement wherever possible. The minimum length and width dimension of any area to be patched shall be 24 inches; the minimum depth shall be 18 inches.
2. Sawcut the existing pavement at the marked areas, excavate and remove all bituminous and granular layers to the depth indicated on the plans.
3. Once the existing bituminous concrete and granular material is removed, grade and compact the remaining subbase or subgrade. A minimum of 4 passes, or coverages, must be made by any one compaction device.
4. Install and compact processed aggregate base in accordance with Article 3.04.03, to the depth shown on the plans (minimum 18 inches).
5. The cut sides of the excavated areas shall be wiped or swept clean, tack coat shall be applied covering the entire area of the vertical bituminous concrete faces and allowed to cure.
6. HMA shall be placed in accordance with applicable details as shown in the plans. Pavement placement shall also be in accordance with Subarticle 4.06.03-6. The Contractor shall

confirm that the surface elevation of the finished patch matches the elevation of the surrounding pavement surface to within 1/4 inch using the 10-foot straightedge.

7. All excavated materials shall be properly disposed of at the end of the work shift.

**Method of Measurement:** This work will be measured by the number of square yards of accepted patched areas.

**Basis of Payment:** This work will be paid for at the Contract unit price per square yard for “Bituminous Concrete Patching - Full Depth - xx,” complete and accepted. The price shall include all tools, materials, labor, and equipment including, pavement excavation, removal and disposal, grading, compacting, backfilling, processed aggregate, tack coat application, joint sealing and HMA. Sawcutting will be paid for at the lineal foot price for Cut Bituminous Concrete Pavement.

| Pay Item  | Pay Unit |
|---|----------|
| Bituminous Concrete Patching – Full Depth         | s.y.     |
| Bituminous Concrete Patching – Full Depth – State | s.y.     |

**ITEM #406171A – HMA S0.50**

Work under this item shall conform to the requirements of Section 4.06 of the Standard Specifications amended as follows:

**4.06.03 – Construction Methods:** Modify as follows:

Cores will not be required for density and there will be no bituminous concrete adjustment costs paid on this project.

**ITEM #0406275A - FINE MILLING OF BITUMINOUS CONCRETE (0 TO 4 INCHES)**

**Description:** This work shall consist of the milling, removal, and disposal of existing bituminous concrete pavement.

**Construction Methods:** The Contractor shall remove the bituminous concrete material using means acceptable to the Engineer. The pavement surface shall be removed to the line, grade, and existing or typical cross-section shown on the plans or as directed by the Engineer.

The bituminous concrete material shall be disposed of offsite by the Contractor at an approved disposal facility unless otherwise stated in the Contract.

Any milled surface, or portion thereof, that is exposed to traffic shall be paved within five (5) calendar days unless otherwise stated in the plans or Contract.

The equipment for milling the pavement surface shall be designed and built for milling bituminous concrete pavements. It shall be self propelled with sufficient power, traction, and stability to maintain depth and slope and shall be capable of removing the existing bituminous concrete pavement.

The milling machine shall be equipped with a built-in automatic grade averaging control system that can control the longitudinal profile and the transverse cross-slope to produce the specified results. The longitudinal controls shall be capable of operating from any longitudinal grade reference, including string line, contact ski (30 feet minimum), non-contact ski (20 feet minimum), or mobile string line (30 feet minimum). The transverse controls shall have an automatic system for controlling cross-slope at a given rate. The Engineer may waive the requirement for automatic grade or slope controls where the situation warrants such action.

The machine shall be able to provide a 0 to 4 inch deep cut in one pass. The rotary drum of the machine shall use carbide or diamond tipped tools spaced not more than  $\frac{5}{16}$  inch apart. The forward speed of the milling machine shall be limited to no more than 45 feet/minute. The tools on the revolving cutting drum must be continually maintained and shall be replaced as warranted to provide a uniform pavement texture.

The machine shall be equipped with an integral pickup and conveying device to immediately remove material being milled from the surface of the roadway and discharge the millings into a truck, all in one operation. The machine shall also be equipped with a means of effectively limiting the amount of dust escaping from the milling and removal operation.

When milling smaller areas or areas where it is impractical to use the above described equipment, the use of a lesser equipped milling machine may be permitted when approved by the Engineer.

Protection shall be provided around existing catch basin inlets, manholes, utility valve boxes, and any similar structures. Any damage to such structures as a result of the milling operation is the Contractor's responsibility and shall be repaired at the Contractor's expense.

To prevent the infiltration of milled material into the storm drainage system, the Contractor shall take special care to prevent the milled material from falling into the inlet openings or inlet grates. Any milled material that has fallen into inlet openings or inlet grates shall be removed at the Contractor's expense.

**Surface Tolerance:** The milled surface shall provide a satisfactory riding surface with a uniform textured appearance. The milled surface shall be free from gouges, longitudinal grooves and ridges, oil film, and other imperfections that are a result of defective equipment, improper use of equipment, or poor workmanship. The Contractor, under the direction of the Inspector, shall perform random spot-checks with a Contractor supplied ten-foot straightedge to verify surface tolerances at a minimum of five (5) locations per day. The variation of the top of two ridges from the testing edge of the straightedge, between any two ridge contact points, shall not exceed  $\frac{1}{4}$  inch. The variation of the top of any ridge to the bottom of the groove adjacent to that ridge shall not exceed  $\frac{1}{4}$  inch. Any unsatisfactory surfaces produced are the responsibility of the Contractor and shall be corrected at the Contractor's expense and to the satisfaction of the Engineer.

The depth of removal will be verified by taking measurements every 250 feet per each pass of the milling machine, or as directed by the Engineer. These depth measurements shall be used to monitor the average depth of removal.

Where a surface delamination between bituminous concrete layers or a surface delamination of bituminous concrete on Portland cement concrete causes a non-uniform texture to occur, the depth of milling shall be adjusted in small increments to a maximum of  $\pm \frac{1}{2}$  inch to eliminate the condition.

When removing bituminous concrete pavement entirely from an underlying Portland cement concrete pavement, all of the bituminous concrete pavement shall be removed leaving a uniform surface of Portland cement concrete, unless otherwise directed by the Engineer.

Any unsatisfactory surfaces produced by the milling operation are the Contractor's responsibility and shall be corrected at the Contractor's expense and to the satisfaction of the Engineer.

No vertical faces, transverse or longitudinal, shall be left exposed to traffic unless the requirements below are met. This shall include roadway structures (catch basins, manholes, utility valve boxes, etc.). If any vertical face is formed in an area exposed to traffic, a temporary paved transition shall be established according to the requirements shown on the plans. If the milling machine is used to form a temporary transition, the length of the temporary transition shall conform to Special Provision Section 4.06 –Bituminous Concrete, "Transitions for Roadway Surface," the requirements shown on the plans, or as directed by the Engineer. At all

permanent limits of removal, a clean vertical face shall be established by saw cutting prior to paving.

Roadway structures shall not have a vertical face of greater than one (1) inch exposed to traffic as a result of milling. All structures within the roadway that are exposed to traffic and greater than one (1) inch above the milled surface shall receive a transition meeting the following requirements:

For roadways with a posted speed limit of 35 mph or less\*:

1. Round structures with a vertical face of greater than 1 inch to 2.5 inches shall be transitioned with a hard rubber tapered protection ring of the appropriate inside diameter designed specifically to protect roadway structures.
2. Round structures with a vertical face greater than 2.5 inches shall receive a transition of bituminous concrete formed at a minimum 24 to 1 (24:1) taper in all directions.
3. All rectangular structures with a vertical face greater than 1 inch shall receive a transition of bituminous concrete formed at a minimum 24 to 1 (24:1) taper in all directions.

\*Bituminous concrete tapers at a minimum 24 to 1 (24:1) taper in all directions may be substituted for the protection rings if approved by the Engineer.

For roadways with a posted speed limit of 40, 45 or 50 mph:

1. All structures shall receive a transition of bituminous concrete formed at a minimum 36 to 1 (36:1) taper in the direction of travel. Direction of travel includes both the leading and trailing side of a structure. The minimum taper shall be 24 to 1 (24:1) in all other directions.

For roadways with a posted speed limit of greater than 50 mph:

1. All structures shall receive a transition of bituminous concrete formed at a minimum 60 to 1 (60:1) taper in the direction of travel. Direction of travel includes both the leading and trailing side of a structure. The minimum taper shall be 24 to 1 (24:1) in all other directions.

All roadway structure edges and bituminous concrete tapers shall be clearly marked with fluorescent paint. The paint shall be maintained throughout the exposure to traffic.

The milling operation shall proceed in accordance with the requirements of the “Maintenance and Protection of Traffic” and “Prosecution and Progress” specifications, or other Contract requirements. The more stringent specification shall apply.

Prior to opening an area which has been milled to traffic, the pavement shall be thoroughly swept with a sweeper truck. The sweeper truck shall be equipped with a water tank and be capable of removing the millings and loose debris from the surface. The sweeper truck shall operate at a forward speed that allows for the maximum pickup of millings from the roadway surface. Other



sweeping equipment may be provided in lieu of the sweeper truck where acceptable by the Engineer.

Any milled area that will not be exposed to live traffic for a minimum of 48 hours prior to paving shall require a vacuum sweeper truck in addition to, or in lieu of, mechanical sweeping. The vacuum sweeper truck shall have sufficient power and capacity to completely remove all millings from the roadway surface including any fine particles within the texture of the milled surface. Vacuum sweeper truck hose attachments shall be used to clean around pavement structures or areas that cannot be reached effectively by the main vacuum. Compressed air may be used in lieu of vacuum attachments if approved by the Engineer.

**Method of Measurement:** This work will be measured for payment by the number of square yards of area from which the milling of asphalt has been completed and the work accepted. No area deductions will be made for minor unmilled areas such as catch basin inlets, manholes, utility boxes and any similar structures.

**Basis of Payment:** This work will be paid for at the Contract unit price per square yard for "Fine Milling of Bituminous Concrete (0 to 4 Inches)." This price shall include all equipment, tools, labor, and materials incidental thereto.

No additional payments will be made for multiple passes with the milling machine to remove the bituminous surface.

No separate payments will be made for cleaning the pavement prior to paving; providing protection and doing handwork removal of bituminous concrete around catch basin inlets, manholes, utility valve boxes and any similar structures; repairing surface defects as a result of the Contractors negligence; providing protection to underground utilities from the vibration of the milling operation; removal of any temporary milled or paved transition; removal and disposal of millings; furnishing a sweeper truck and sweeping after milling. The costs for these items shall be included in the Contract unit price.

Pay Item  
Fine Milling of Bituminous Concrete (0 to 4 Inches)

Pay Unit  
S.Y.

**ITEM #0811001A – CONCRETE CURBING**

**ITEM #0921001A – CONCRETE SIDEWALK**

**ITEM #0921005A – CONCRETE SIDEWALK RAMP**

**ITEM #0924006A – CONCRETE DRIVEWAY RAMP**

**Description:** The work covered in this section consists of all equipment, labor, and materials necessary for constructing concrete curbing, sidewalk, driveway ramps, and pedestrian ramps in conformance with the lines and grades shown on the plans, and the thicknesses, cross sections, and details of the standard drawings or as established by the City Engineer. All work must be completed under the supervision of and to the satisfaction of the Board of Public Works and the City Engineer.

**Materials:** Material shall be furnished in accordance with the requirements of NB Standard Specifications Sections 4.01 and 4.02 except as hereinafter amended, supplemented, or restricted.

A) General

- 1) Concrete type shall be Class “F”, as defined in CTDOT Standard Specifications, Section M.03. Minimum concrete compressive strength shall be 1800 psi at seven days and 4400 psi at twenty-eight days.
- 2) Preformed Expansion Joint Material shall conform to the requirements of CTDOT Standard Specifications, Section M.03-7.
- 3) Welded Wire Fabric shall be 6x6 W1.4.
- 4) Processed Aggregate Base shall conform to the requirements of CTDOT Standard Specifications Section M.05.01.
- 5) Paint shall conform with the requirements of CTDOT Standard Specifications, Section M.07.20.
- 6) Detectable Warning Surface shall comply with current ADA requirements.

B) Cement - only type II Portland Cement shall be used in batching the concrete for these items.

C) Construction Testing - Unless otherwise agreed to in writing or amended by City of New Britain Contract Special Conditions, a reasonable amount of testing shall be ordered on an “as needed” basis by the City Engineer. This testing will be performed at the City’s expense. If initial testing results indicate that the specifications have not been met, additional testing will be ordered by the City Engineer. This additional testing shall be at the Contractor’s expense and shall be continued until such time as the test results indicate conformance is being achieved.

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At the request of the City Engineer, the Contractor shall be required, at his expense, to submit certified test reports in accordance with CTDOT Standard Specifications, Section 1.06.07 for any materials incorporated into the work. Failure or refusal to comply shall be deemed as grounds for immediate removal of subject materials and replacement with materials for which such reports and certificates can be provided, all at the Contractor's expense.

The City reserves the right to perform, at any time with its own forces and at its own expense, such additional testing as it may deem necessary.

**Construction Methods:** Construction methods shall conform with Section 4.01.03 of the NB Standard Specifications except as hereinafter amended, supplemented, or restricted.

A) All Items of Work

1) Excavation and Grading

- a) The subgrade shall be excavated or filled with suitable material to the required grades and lines. Filled sections shall be compacted and extend a minimum of one foot (1') outside the form lines. The subgrade shall be compacted to a dry density of at least 90% of maximum dry density as determined by AASHTO T-180, Method D. The finished surface of the subgrade shall be smooth, free from surface irregularities and true to line and grade as established by grade hubs or pins.
- b) Where spongy, organic or otherwise unsuitable material is encountered, which, in the opinion of the City Engineer, is unsuitable for subgrade, such unsuitable material shall be removed to the depth specified by the City Engineer and replaced with acceptable material. All such replacement material shall be compacted to a dry density of at least 90% of maximum dry density for the material used as determined by AASHTO T-180, Method D. Any boulders encountered shall be removed for one foot laterally and six inches vertically below all concrete. In no case shall concrete be placed on a saturated base/subgrade or if free water is standing on the base/subgrade.
- c) The correct cross sections of the base/subgrade shall be checked before the concrete is placed by testing with a template of wood or metal, the bottom surface of which conforms to the desired contour. Any irregularities thus indicated shall be corrected.
- d) The contractor shall, upon removing traffic signs to facilitate sidewalk installation, note the exact locations of the signs and the number of poles supporting each sign. During construction of the sidewalk, the contractor shall install galvanized steel or PVC (Schedule 40) pipe having a minimum 3 ½" inner diameter (ID) and a maximum 4" ID at the sign pole locations. The top of the pipe shall be flush with sidewalk grade and shall extend a minimum of 3" to a maximum of 5" into the processed gravel base. Construction joints shall be made in the concrete at 90-degree increments around the pipe run perpendicular and parallel to the curbing line and extending until they intersect with another construction joint or an expansion joint. The poles shall not be cemented in place.

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## 2) Setting Forms

- a) All forms shall be of wood or metal, straight, free from warp and of sufficient strength when staked to resist the pressure of the concrete without springing, and the upper edge shall form a true line. All forms shall be cleaned thoroughly and greased or oiled before concrete is placed against them. Forms that have become worn, bent, or broken shall not be used.
- b) Sufficient support shall be given to the form to prevent movement in any direction during concrete placement or as a result of the weight of the concrete. Forms shall not be set until the base/subgrade has been prepared in accordance with these specifications and compacted within one inch (1") of the established grade. When set, the top of the form shall not depart from grade more than one-quarter inch (1/4") when checked with a ten-foot (10') straightedge. The alignment shall not vary more than one-half inch (1/2") in ten feet (10'). Immediately prior to placing the concrete, forms shall be carefully inspected for proper grading, alignment and rigid construction. Adjustments and repairs as needed shall be completed before placing concrete.
- c) The Contractor shall provide an approved metal straight edge, ten (10) feet in length for use in checking the alignment of the forms prior to placing the concrete and also to check the concrete surface during the finishing operation.
- d) On short radii curves, steel plates or wood which can be readily formed to the desired radii shall be used. Face forms, if used, shall be preshaped to the proper radii. Care shall be exercised to insure conformance with the required cross-section around the entire radius during concrete placement and curing operations.

## 3) Placing

### a) General

Concrete may be placed by an approved slip form/extrusion machine, by the formed method, or by a combination of these methods.

### b) Formed Method

- i) Before the concrete is placed, the base/subgrade shall be thoroughly dampened so that it is moist throughout, but without puddles of water.
- ii) The concrete shall be placed only on a moist base. Concrete shall not be placed on a soft, muddy or frozen base.
- iii) Concrete shall be placed as near to its final position as practicable. Precautions shall be taken not to overwork the concrete while it is still plastic.
- iv) The concrete shall be thoroughly spaded along the forms to eliminate voids or honeycombs at the edges.

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- v) The rate of concrete placement shall not exceed the rate at which the various placing and finishing operations can be performed in accordance with these specifications.
  - vi) The concrete shall be properly placed in forms which are securely set to line and grade and shall at no time deviate more than ¼" from an accurate straight edge ten (10) feet in length. The operations of depositing and compacting the concrete shall be so conducted that the concrete shall be smooth and dense, free from honeycomb and free from pockets of segregated aggregate. At the end of the day, or in case of an unavoidable interruption of more than thirty (30) minutes, a transverse construction joint shall be placed at the point of stopping work, provided that the section on which work has been suspended is not less than the minimum length for that particular item or work. Sections less than the minimum length shall be removed. Concrete shall not be placed when weather is stormy, dusty, or otherwise inclement to the point that it precludes good workmanship. Air temperature shall be a minimum of 40 degrees F. and rising when the pour is started unless specific provisions are made for cold weather concreting in accordance with Section 4.01.
- c) Machine Method

The slip form/extrusion machine approved shall be so designed as to place, spread, consolidate, screed, and finish the concrete in one complete pass in such a manner that a minimum of hand finishing will be necessary to provide a dense and homogeneous concrete section. The machine shall shape, vibrate, and/or extrude the concrete for the full width and depth of the concrete section being placed. It shall be operated with as nearly a continuous forward movement as possible. All operations of mixing, delivery, and spreading concrete shall be so coordinated as to provide uniform progress, with stopping and starting of the machine held to a minimum.

#### 4) Jointing

- a) Expansion joints shall be constructed straight, plumb, and shall extend through the entire section from top to bottom and from edge to back. Preformed expansion joint filler, one-half inch thick, meeting the requirements of Section 4.01, shall be used to form transverse expansion joints. Expansion joints shall be constructed at the intersection with any existing unyielding structures, concrete or stone structure, at the tangent point of curbing radii, and at intermediate intervals as specified for the item of work.
- b) Expansion joints in slip formed curbing or walk shall be constructed with an appropriate hand tool by raking or sawing through partially set concrete for the full depth and width of the section. The cut shall be only wide enough to permit a snug fit for the joint filler.
- c) After the filler is placed, open areas adjacent to the filler shall be filled with concrete and then troweled and edged.

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- d) Alternately, an expansion joint may be installed by removing a short section of freshly extruded curbing and gutter immediately, installing temporary holding forms, placing the expansion joint filler, and replacing and reconsolidating the concrete that was removed. Contaminated concrete shall be discarded.
- e) As required at the end of day's run, construction joints shall be made at right angles to the longitudinal axis and shall be located at the regular spacing designated for block joints unless otherwise specifically permitted by the City Engineer. In no case shall any length of walk be less than five (5) feet between joints or any length of curbing less than six (6) feet.

#### 5) Finishing

- a) No finishing operation shall be performed while free water is present. Finishing operations shall be delayed until all water and water sheen has left the surface and the concrete has started to stiffen.
- b) After water sheen has disappeared, edging operations, where required, shall be completed.
- c) After edging and jointing operations, the surface shall be floated with either a wood or a magnesium float.
- d) If necessary, tooled joints and edges shall be rerun after floating to maintain uniformity.
- e) All honeycombed areas or small defects discovered while concrete is still fresh and has not "set" shall be properly pointed up with 1:2 mix mortar.
- f) Face forms, if used, shall be left in place until the concrete has hardened sufficiently so that they can be removed without injury to the curbing. The exposed surfaces shall then be finished smooth and even by means of a moist wood float or a moist brick.
- g) Any person who shall construct curbing or walks shall stamp his company name and date of construction at the beginning and end of each days pour so that it shall be legible and visible. Similar stamps should appear in each pedestrian ramp or driveway apron when done by separate pour.

#### 6) Stripping Forms

- a) Forms shall remain in place at least twelve (12) hours after concrete has been placed against them or for a longer period if so directed by the City Engineer. Crowbars or other heavy tools shall not be used against green concrete in removing the forms.
- b) Forms may be removed at such time as the concrete is sufficiently set that removal will be without danger of chipping or spalling. When forms are removed before the expiration of the curing period, the edges of the concrete shall be protected with moist earth or sprayed with curing compound. All forms shall be cleaned, oiled and be examined for defects before they are used again.

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- c) Honeycomb, voids, and surface irregularities are unacceptable and must be corrected by removal of the defective work and replacement. The Contractor may propose correction of the deficient work by means other than removal and replacement. Any attempt at alternative correction must be approved and authorized by the City Engineer, who shall set the specific terms under which the corrective work will be allowed.

#### 7) Backfilling

- a) In areas where lawns exist or as shown on the plans, the top four inches (4") of backfill shall be black loam or good topsoil which is suitable for the growth of lawns. It shall be placed out from the sidewalk or driveway a sufficient distance and in amount to replace turf or lawn removed during installation. Backfill shall be completed by grading to match the existing lawn and the level of the top of the adjacent sidewalk, driveway, or curbing. Disturbed areas shall be seeded or sodded and maintained.
- b) Where lawns do not exist, the top four inches (4") of backfill shall be tamped earth and shall be placed to conform with the typical sections shown on the plans.
- c) Backfill shall be compacted to prevent settlement and the surface shall be leveled off to a neat appearing and free draining surface.

#### B) Additional Requirements for Curbing

##### 1) Placing

###### a) General

Concrete may be placed by an approved slip form/extrusion machine, by the formed method, or by a combination of these methods.

##### 2) Jointing

###### a) Formed or Slip Formed Curbing

Curbing constructed by the formed method or slip form machine shall be constructed in sections not less than 6 feet and not more than 20 feet. Non-protruding expansion joints ½ inch thick by the width and depth of the curbing shall be placed at a maximum of 20 feet apart. Only the non-extruding expansion joint of the specified type shall be used and shall be placed so the top of the joint will be flush with the top of the concrete.

###### b) Jointing New and Existing Curbing Sections

Where the new curbing sections will join existing curbing with a different cross-section, a minimum six (6) foot long transition section shall be constructed. An expansion joint shall be placed at both ends of the transition section.

##### 3) Backfilling

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- a) After the concrete has set sufficiently and prior to pavement repair, if any, the spaces in back of curbing shall be refilled with suitable material to the required elevations. The fill material shall be thoroughly tamped in maximum 6" thick layers.
- b) During backfill and paving, the Contractor must keep curbing aligned and protected from damage. No extra payment will be made for realignment or for replacement of cracked or otherwise damaged curbing.
- c) On all pavement repair, the base shall be satisfactorily compacted by tamping or rolling; and the surface course shall be compacted to a smooth even surface, flush with the adjacent pavement with an approved roller. Prior to placing the bituminous concrete, the edges of the existing bituminous shall be satisfactorily brushed or mopped with a liberal application of hot liquid asphalt or emulsified asphalt. After placing and compaction of the bituminous concrete, the joint between the existing and the new bituminous concrete shall be satisfactorily coated and sealed with hot liquid asphalt or emulsified asphalt and dusted with fine sand to prevent tracking.

#### C) Additional Requirements for Sidewalk, Driveway Ramps and Pedestrian Ramps

##### 1) Excavation and Grading

The concrete shall be placed on a six (6) inch thickness of processed aggregate compacted to 95% of the maximum dry density at optimum moisture as determined by AASHTO T-180, Method D.

##### 2) Reinforcing Steel

Welded wire fabric ends and sides shall overlap no less than one mesh and shall be fastened by wires at intervals not to exceed one foot.

##### 3) Jointing

- a) All concrete walks under 7 feet in width must be laid in sections not to exceed 20 feet in length and shall be separated with a strip of non-protruding expansion joint ½" thick and the full depth of the concrete set flush with the finished surface.
- b) All concrete walks over 7 feet wide must be laid in sections not to exceed 15 feet in length and shall be separated with a strip of non-protruding expansion joint ½" thick and the full depth of the concrete set flush with finished surface.
- c) All walks shall be marked with construction joints in 5-foot blocks with each section marked so as to give the appearance of separate blocks. These construction joints shall have a uniform depth one quarter of the thickness of the concrete.
- d) In full concrete walks between the curbing and any building there shall be placed a strip of expansion joint filler ½" thick (¼" for granite curbing) and the full depth of the concrete set flush with the finished surface on or about the street line.

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- e) All saw cuts shall be in neat straight lines where proposed meets existing construction or as directed by the City Engineer. Place an expansion joint at each saw cut. Saw cut shall be completely through the concrete.
- 4) Detectable Warning Surface shall consist of raised truncated domes with a diameter of nominal 0.9 in, a height of nominal 0.2 in and a center-to-center spacing of nominal 2.35 in and shall contrast visually with adjoining surfaces, either light-on-dark, or dark-on-light. Installation shall comply with current ADA requirements.

5) Finishing

a) Broomed Finish

The surface of concrete shall be finished true to the lines and grades shown on the plans. Concrete shall be worked until the coarse aggregate is forced down into the body of the concrete and no coarse aggregate is exposed. Concrete that is adjacent to forms and formed joints shall be edged with a suitable edging tool to the dimensions shown on the plans. The surface shall then be floated with a wooden or other suitable float to a smooth and uniform surface. If necessary, tooled joints and edges shall be rerun after floating to maintain uniformity. When the concrete has hardened sufficiently, the surface shall be given a broom finish using a soft-bristled, long handled push broom. The strokes shall be square across the concrete from edge to edge with adjacent strokes overlapped. Strokes shall be made without tearing the concrete. The broomed finish shall produce regular corrugations not over one-eighth inch (1/8") in depth.

6) Backfilling

After the forms have been removed suitable fill material shall be placed along the edge of the walk and tamped by either hand or mechanical tampers to a density at least equal to that of the adjacent ground. The finish grade and section shall be as indicated on the drawings and to the satisfaction of the City Engineer.

D) Protection

The Contractor shall always have materials available to protect the surface of the plastic concrete against rain. These materials shall consist of waterproof paper or plastic sheeting. For slip form construction, materials such as wood planks or forms to protect the edges shall also be required.

Upon completion, all items of work under this specification shall be protected from travel and/or adjacent construction operations (e.g. paving) for a time sufficient to insure they are not damaged, but in no case for less than 72 hours.

E) Tolerances

The work shall be performed in a manner which results in the item being constructed true to line and grade, uniform in appearance and structurally sound. Items found with unsightly

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bulges, ridges, low spots or other defects shall be removed and replaced at the Contractor's expense if the City Engineer considers them to be irreparable. When checked with a ten-foot (10') straightedge, grade shall not deviate by more than one-quarter inch (1/4") and alignment shall not vary by more than one-half inch (1/2").

#### F) Warranty

All concrete sidewalks, curbing, driveway ramps and pedestrian ramps constructed shall be guaranteed for a period of one (1) year, said period to commence at the time of official acceptance.

**Method of Measurement:** Concrete Sidewalks, Driveway Ramps and Pedestrian Ramps: This work will be measured for payment by the actual number of square feet of completed and accepted concrete sidewalks, driveway ramps or pedestrian ramps. This measurement should not include the curbing area, for either separate or monolithic sidewalk or driveway ramp.

Concrete Curbing: This work will be measured for payment by the actual number of linear feet of completed and accepted concrete curbing. This measurement should include the curbing, either separate or monolithic, along sidewalk or driveway ramps.

#### **Basis of Payment:**

##### A) General

- 1) The unit prices for all items of work shall include the cost of all saw cuts to meet existing concrete sidewalk, the cost of removing and disposing of all surplus material including but not limited to existing sidewalk, curb and bituminous concrete pavement, excavation, preparation of subgrade and base, base material, concrete (including additives), formwork, welded wire fabric, jointing, shoring, backfill, restoration of adjacent grassed areas, painting and cross walk adjustment, and all other labor, equipment, and material incidental or necessary to complete the item in accordance with the plans and specifications. The cost of sawcutting bituminous concrete pavement will be paid for under Cut Bituminous Concrete Pavement and the cost of adjacent pavement restoration will be paid for under Bituminous Concrete Patching – Full Depth.
- 2) Unless otherwise specified, there will be no direct payment for adjusting to grade monuments, valve boxes, manhole frames and covers, hatchways, or other existing surface structures in any new or reconstructed walk, the cost of this work being considered to be included in the unit price for the item of work.
- 3) Openings in walk for tree wells and planters shall be determined prior to the start of construction. No additional payment for extra formwork, etc. occasioned by these features shall be made, the cost of this work being considered to be included in the unit price for the item of work.

##### B) Sidewalk

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Standard concrete walk, including monolithic walk, shall be paid for at the contract unit price per square foot for “Concrete Sidewalk”, which price shall include the cost of all scoring and joints, as specified. When the walk is poured contiguous with concrete curbing, the top width of the curbing (8”) shall not be used to compute the payment area of the walk.

C) Curbing

Concrete shall be paid for at the contract unit price per linear foot for “Concrete Curbing”. Curbing shall include the New Britain standard curbing, recessed curbing, recessed curbing in driveway aprons, and the curbing in monolithic walks and pedestrian ramps.

D) Pedestrian Ramps

Concrete sidewalk pedestrian ramps, shall be paid for at the contract unit price per square foot for “Concrete Sidewalk Ramp”, which price shall include the cost of all scoring and joints, as specified. When the walk is poured contiguous with concrete curbing, the top width of the curbing (8”) shall not be used to compute the payment area of the ramp. The price shall also include furnishing and installing an ADA compliant detectable warning surface.

E) Driveway Ramps

Driveway ramps shall be paid for at the contract unit price per square foot for “Concrete Driveway Ramp”, as measured along the exposed face of the curbing from the P.C. of the driveway radius. The top width of the recessed curbing (8”) shall not be used to compute the payment area of the driveway.

Pay Item

Pay Unit

|                        |    |
|------------------------|----|
| Concrete Curbing       | LF |
| Concrete Sidewalk      | SF |
| Concrete Sidewalk Ramp | SF |
| Concrete Driveway Ramp | SF |

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**ITEM #0813021A – 6” GRANITE STONE CURBING**

**ITEM #0813031A – 6” GRANITE CURVED STONE CURBING**

This work shall conform to Section 8.13, supplemental as follows:

**Article 8.13.02 Materials**

Add the following:

Base material for granite curbing shall be processed stone or subbase, as shown on the plans, and conform to the appropriate specification sections.

Class "C" Concrete shall conform to City of New Britain Standard Specifications Sections 4.01 and 4.02.

**Article 8.13.03 Construction Methods**

Add the following:

Class "C" Concrete shall be placed at each joint for straight curbing, and continuously for curved curbing and curbing at sidewalk ramps, as shown on the plans.

**Article 8.13.05 Basis of Payment**

Replace in its entirety with the following:

Payment for this work will be made at the Contract unit price per linear foot for “6” Granite Stone Curbing” or “6” Granite Curved Stone Curbing,” of the type and size specified, complete and accepted in place, which price shall include all excavation (including but not limited to removal and disposal of existing curbing of any material and bituminous concrete pavement) materials, equipment, tools, backfilling, disposal of surplus material, and labor incidental thereto.

Payment for this work shall also include furnishing and placing of Class "C" Concrete, as described herein, and any additional cutting of stone curbing required for proper curb placement on and around existing vaults, structures, planting beds, etc.

There will be no direct payment for furnishing, placing and compacting base material, beveling or rounding the ends of the curbing and pointing the joints with mortar, but the cost of this work shall be considered as included in the general cost of the work.

The cost of sawcutting bituminous concrete pavement will paid for under Cut Bituminous Concrete Pavement and the cost of adjacent pavement restoration will be paid for under Bituminous Concrete Patching – Full Depth.

**Pay Item**

6" Granite Stone Curbing  
6" Granite Curved Stone Curbing

**Pay Unit**

LF  
LF

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## **ITEM #0913984A – TEMPORARY PROTECTIVE FENCE**

Work under this item shall conform to the requirements of Section 9.13 supplemented and amended as follows:

### **Description:**

Work under this item shall consist of furnishing temporary protective fence to delineate pedestrian walkways and to isolate work zones from pedestrians in accordance with the item “MAINTENANCE AND PROTECTION OF TRAFFIC”, as shown on the plans and as ordered by the Engineer.

### **Materials:**

Fencing materials shall be chainlink, wood or other suitable material in accordance with the latest edition of the MUTCD for a pedestrian channelizing device with a minimum height of 1.8m and with a continuous detectable edging.

Where fencing is to be located on permanent paved or concrete surfaces, such fencing shall be self-supporting without the need for anchorage into the bituminous or concrete surface. Fence sections shall be ballasted as necessary to secure individual fence sections from inadvertent movement.

The materials used shall be new or in good condition, if previously used.

### **Construction Methods:**

The Contractor shall have, available on the project, a sufficient length of temporary fence to provide adequate control of pedestrian movement as required by the plans and in accordance with the item “MAINTENANCE AND PROTECTION OF TRAFFIC”.

### **Method of Measurement:**

This work will be measured for payment by the number of linear feet of temporary protective fence furnished and used on the project for protection and control of pedestrian movements.

Temporary fencing installed by the Contractor to secure construction laydown areas but otherwise not required for channelizing pedestrian movements shall not be measured for payment under this item but shall be considered incidental to the general cost of construction.

### **Basis of Payment:**

This item will be paid for at the contract unit price per linear foot for “Temporary Protective Fence”, which price shall include furnishing the temporary protective fencing required for the project as shown on the plans and as ordered by the Engineer. Temporary protective fence will be paid for once, regardless of the number of times or locations it is used on the project.

### **Pay Item**

Temporary Protective Fence

### **Pay Unit**

LF

## **ITEM #0914015A – ORNAMENTAL FENCE**

### **DESCRIPTION:**

Work under this item shall consist of furnishing and installing decorative metallic-coated-steel tubular picket fences of the type and height specified where indicated on the plans or as ordered and in conformity with these specifications.

### **Submittals:**

Submit Shop Drawings, Manufacturer's Product Data and Installation Instructions for ornamental fencing including brackets and hardware to mount the fence to the existing concrete foundation.

### **MATERIALS:**

#### **Manufacturer:**

The fence system shall conform to Monumental Iron Works, Imperial Style E, 4-rail design sold by Master Halco, Inc, Irving Texas or approved equal. The manufacturer shall supply this total Riveted Ornamental Steel Fence system in compliance with the requirements of ASTM F2408.

#### **Material:**

Steel material for fence framework shall be galvanized prior to forming in accordance with the requirements of ASTM A653/A653M, with minimum yield strength of 45,000 psi (310 MPa). The steel shall be hot-dip galvanized to meet the requirements of ASTM A653/A653M with a minimum zinc coating weight of 0.90 oz/ft<sup>2</sup>, Coating Designation G-90 for rails; 0.60 oz/ft<sup>2</sup>, Coating Designation G-60 for pickets and posts.

Material for pickets shall be a minimum of 3/4" x 16ga tubing. The cross-sectional shape of the rails shall conform to the manufacturer's U-channel design with outside cross-section dimensions of 1.375" x 1.5" and a minimum thickness of 11 Ga. Picket holes in the U-channel rail shall be spaced 4.687" on center. Picket to channel connection shall be 1/4" diameter aluminum drive rivet. Fence posts shall be a minimum of 2.5" x 2.5" x 16 ga tubing.

#### **Fabrication:**

Pickets, rails and posts shall be pre-cut to specified lengths. U-channel rails shall be pre-punched to accept pickets. Pickets shall be pre-drilled to accept rivets.

Industrial drive rivets of sufficient length shall attach pickets to rails in a secure fashion to minimize picket movement. Rivet shall have a minimum of 1100 lbs. holding power and a shear strength of 1500 lbs.

Pro-Arc Rail End Brackets: Brackets shall be die cast zinc (ZAMAK #3 alloy) per ASTM B86-83Z 33521. Ball and socket design capable of 30° swivel (up/down-left/right). Bracket to fully encapsulate rail end with snap fit top cap for complete security. Bracket shall be secured to the rail by a #4 Drive Rivet.

The manufactured galvanized framework shall be subjected to the PermaCoat® thermal stratification coating process (high-temperature, in-line, multi-stage, multi-layer) including, as a minimum, a six-stage pretreatment/wash (with zinc phosphate), an electrostatic spray application of an epoxy base, and a separate electrostatic spray application of a polyester finish. The base coat shall be a thermosetting epoxy powder coating (gray in color) with a minimum thickness of 2 mils (0.0508mm). The topcoat shall be a "no-mar" TGIC polyester powder coat finish with a minimum thickness of 2 mils (0.0508mm). The color shall be Black. The stratification-coated framework shall be capable of meeting the performance requirements for each quality characteristic shown in Table below.

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| Quality Characteristics | ASTM Test Method              | Performance Requirements  |
|-------------------------|-------------------------------|---|
| Adhesion                | D3359 – Method B              | Adhesion (Retention of Coating) over 90% of test area (Tape and knife test).  |
| Corrosion Resistance    | B117, D714 & D1654            | Corrosion Resistance over 1,000 hours (Scribed per D1654; failure mode is accumulation of 1/8" coating loss from scribe or medium #8 blisters). |
| Impact Resistance       | D2794                         | Impact Resistance over 60 inch lb. (Forward impact using 0.625" ball).  |
| Weathering Resistance   | D822 D2244, D523 (60° Method) | Weathering Resistance over 1,000 hours (Failure mode is 60% loss of gloss or color variance of more than 3 delta-E color units).                |

#### **Miscellaneous Materials:**

Concrete: Normal-weight, air-entrained, ready-mix concrete with a minimum 28-day compressive strength of 3000 psi, 3-inch slump, and 1-inch maximum aggregate size.

### **CONSTRUCTION METHODS:**

#### **Examination:**

Examine areas and conditions, with Installer present, for compliance with requirements for site clearing, earthwork, pavement work, construction layout, and other conditions affecting performance of the Work. Do not begin installation before final grading is completed unless otherwise permitted by Engineer. Proceed with installation only after unsatisfactory conditions have been corrected.

#### **Preparation:**

Stake locations of fence lines and terminal posts. Do not exceed intervals of 500 feet or line of sight between stakes. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.

#### **Ornamental Fence Installation in Round Concrete Footings or on Existing Concrete Foundation where present:**

Install fences according to manufacturer's written instructions.

**Post Excavation:** Drill or hand-excavate holes for posts in firm, undisturbed soil. Excavate holes to a diameter of not less than 4 times post size and a depth of not less than 42 inches.

**Post Setting:** Set posts in concrete at indicated spacing into firm, undisturbed soil. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or mechanical devices.

**Concrete Fill:** Place concrete around posts and vibrate or tamp for consolidation. Protect aboveground portion of posts from concrete splatter.

**Concealed Concrete:** Top 2 inches below grade to allow covering with surface material. Slope top surface of concrete to drain water away from post.

**Posts Set in Concrete:** Extend post to within 6 inches of specified excavation depth, but not closer than 3 inches to bottom of concrete.

Where fence is proposed on existing concrete foundation, the fence shall be bolted to the existing concrete. Shop drawings for brackets and hardware to mount the fence to the existing concrete foundation shall be submitted.

**METHOD OF MEASUREMENT:**

This work will be measured for payment by the number of linear feet of completed and accepted ornamental fence of the height specified, measured from the outside to outside of terminal posts.

**BASIS OF PAYMENT:**

This work will be paid for at the contract price per linear foot for "Ornamental Fence" of the height specified, complete and in place, which price shall include all materials, equipment, tools, excavation, backfill, disposal of surplus material, concrete, mounting brackets, hardware, and labor incidental thereto. Payment will be made under:

**Pay Item**

Ornamental Fence

**Pay Unit**

LF



## **ITEM #0921025A – BRICK PAVER SIDEWALK**

### **DESCRIPTION:**

The work of this item includes furnishing all materials, equipment, supplies, accessories, incidentals, labor and supervision, and performing all operations required to furnish and install brick paver sidewalk as shown on the drawings, as specified herein, and as is additionally required to properly complete the work, including all sawcuts to meet existing facilities, the removing and disposal of all surplus materials, excavation, concrete sidewalks or driveway ramps removal and disposal, removal and disposal of existing miscellaneous foundations of any size and volume as directed by engineer except existing light pole and traffic signal foundations, furnishing and installing the concrete base slab, sidewalk ramp base slab, bituminous/sand setting bed, neoprene-modified asphalt setting adhesive, brick pavers, accent brick pavers, aluminum edge restraints, joint sand and expansion joints.

### **Submittals:**

Submit sample units of each paver type representative of size, shape, color and finish, indicating color variation and texture range expected in finished installation. Submit minimum of ½ pallet of 4"x8" brick pavers, and submit minimum of twelve 8"x8" accent brick pavers. Lay out pavers on site or where directed for the Engineer's approval. Do not order brick for project until Engineer's approval of the sample units.

Submit five (5) copies of Manufacturer's Product Data and Installation Instructions for the following items:

1. Brick pavers
2. Accent brick pavers
3. Polymeric sand joint filler mixture
4. Neoprene-modified asphalt setting adhesive
5. Bituminous setting bed

Submit five (5) copies of the test report of brick pavers and accent brick pavers indicating ASTM C-902 compliance as applicable. Testing shall be done by a qualified independent testing laboratory. Test procedures shall conform to ASTM C-67-03 methods, as applicable. Test report shall indicate, as a minimum, the following:

1. Compressive strength, psi
2. Absorption, 5 hr. submersion in cold water.
3. Absorption, 24 hr. submersion in cold water.
4. Maximum saturation coefficient.
5. Initial rate of absorption (suction).
6. Abrasion index.
7. Freeze-thaw.
8. Tolerance to saline conditions.
9. Efflorescence.

### **Installer Qualifications:**

Installer shall have not less than three years experience with at least 75-100,000 square feet installed. Successful completion of five similar clay brick paver installations similar in design which are to be documented. Installer shall include the specified product(s) in their bid and shall have read and understand the contents of ASTM C 902 and/or C 1272 whichever is applicable.

**Source Limitations:**

Obtain each type of unit paver, joint material, and setting material from single source with resources to provide materials and products of consistent quality in appearance and physical properties.

**Dimensional Uniformity:**

The entire order for all material including waste must be ordered and blended at the manufacturer's plant at one time, so that they can be supplied from one production run or sequential production runs to ensure reasonable dimensional uniformity. The manufacturer shall earmark the plant-blended pavers ordered for this Contract.

**Inspections:**

Inspect all materials upon delivery. Colors and size within a given shipment may vary slightly due to subtle changes in clay composition and kiln firing temperatures. Pavers are sealed with a siloxane-based penetrating sealer/water proofer.

**Preinstallation Meetings:**

Conduct pre-installation meeting one week prior to commencing work of this Section to verify project requirements, substrate condition, coordination with other trades, installation instructions, and warranty requirements. Preinstallation meeting shall include the Contractor, Installer, Engineer, Distributor and/or Manufacturer's Representative, and other interested parties as appropriate.

**Mockup:**

Construct a mockup of not less than 12' x 12' to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution. The Mockup shall include the running bond "sidewalk" pattern, the herringbone "plaza" pattern, soldier course banding, brick accent pavers, and granite paver banding. Use mock-up(s) to determine pre-compaction setting bed level, joint sizes, lines, laying patterns, color and texture range, and workmanship. Do not start work until Engineer has approved mock-up. Remove mock-up and dispose of materials at the completion of the work or as directed by Engineer.

**MATERIALS:****Brick Pavers:**

The brick pavers shall be light-traffic paving brick; ASTM C 902, Class SX, Type I. 4"x8" brick pavers shall be Application PX. Provide brick without frogs or cores in surfaces exposed to view in the completed work.

The brick paver shall be 4 inches x 8 inches x 2 ¼ inches Whitacre-Greer dry-pressed beveled and lugged pavers. The color blend shall be 60 percent No. 36 "Red Sunset", 20 percent No. 32 "Antique", and 20 percent No. 33 "Dark Antique".

The accent brick paver shall be 8 inches x 8 inches x 2 ¼ inches Whitacre-Greer dry-pressed beveled and lugged pavers. The color blend shall be 60 percent No. 36 "Red Sunset", 20 percent No. 32 "Antique", and 20 percent No. 33 "Dark Antique".

All brick pavers and accent brick pavers shall be rated "not effloresced" when tested according to ASTM C 67.

**Bituminous Setting-Bed:**

Primer for Base shall be ASTM D 2028, cutback asphalt, grade as recommended by brick paver manufacturer.

Asphalt cement to be used in the bituminous setting bed shall be Performance Grade binder PG 64-28.

Fine aggregate to be used in the bituminous setting bed shall be clean, hard sand with durable particles and free from adherent coatings, lumps of clay, alkali salts, and organic matter. Aggregate shall be ASTM D 1073, No. 2 or No. 3.

Fine aggregate shall be dried and shall be combined with hot asphalt cement, and the mix shall be heated to approximately 300 degrees F at the asphalt plant. The approximate proportion of materials shall be 7% asphalt cement and 93% fine aggregate.

**Neoprene-Modified Asphalt Setting Adhesive:**

Neoprene modified asphalt setting adhesive shall meet paving manufacturer's standard adhesive consisting of oxidized asphalt combined with 2 percent neoprene and 10 percent long-fibered mineral fibers containing no asbestos.

**Concrete Base Slab:**

Conform to Section 0921001A of these specifications with the following additions:

All concrete base slabs will receive wire mesh reinforcing 2 inches below the top of the slab. Wire mesh reinforcing shall be plain finish welded steel, W1.4 x W 1.4 wire spaced 6" x 6" both ways meeting ASTM specifications A-185-02. The mesh shall be lapped 6" and tied together with wire spaced not over 12" on center to prevent displacement set.

**Sand for Joints:**

High Performance Polymeric Jointing Sand for pavers. Color to be selected by Engineer and conform to the ASTM C-144 requirements for joint sand.

1. Mixture of polymer binders and calibrated sand.
2. Water resistant after 90 minutes
3. For surface exposed to heavy foot traffic
4. Applied dry- hardens after being misted
5. Inhibits weed growth
6. Deters ants and other insect infestations
7. Resists erosion – water, frost heaving, wind, power washing, etc.
8. Stabilizes pavers – strengthens interlocking pavers

**Pea Stone:**

Crushed stone conforming to CDOT Form 817-2016, Article M.03.01-1 Coarse Aggregate. Do not use rounded gravel or reclaimed concrete aggregate. All stone materials shall be washed with less than 1% passing the No. 200 sieve.

Conforming to gradation as shown in Table below:

#### No. 8 Aggregate Grading Requirements

| Sieve Size | Percent Passing |
|------------|-----------------|
| 1/2-inch   | 100             |
| 3/8-inch   | 85 to 100       |
| No. 4      | 10 to 30        |
| No. 8      | 0 to 10         |
| No. 16     | 0 to 5          |

#### **Cork Joint Filler:**

Preformed strips complying with ASTM D 1752, Type II.

#### **Aluminum Edge Restraints:**

4000 Series Heavy Duty "L" Shaped Aluminum Edge Restraint: 2" high x 2" base with Deco-Black Finish (.0008 to .0012 inch thick) electrostatic enamel acrylic in 8' sections as manufactured by Curv-Rite Inc., Wayland MI or approved equal. Sections to be aluminum alloy 6061 with a T-6 hardness. A 3" aluminum splicer inserted 1-1/2" into each adjoining section shall be used to create an uninterrupted edging system that has a continuous support surface on both sides of the vertical wall. Edging base shall have holes 4" apart along its length of section for receiving 3/4-inch to 1-inch long powder-actuated concrete nails.

#### **CONSTRUCTION METHODS:**

##### **Delivery, Storage, and Handling:**

Store pavers on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied.

Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

Store asphalt cement and other bituminous materials in tightly closed containers.

##### **Project Conditions:**

Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace unit paver work damaged by frost or freezing.

Weather Limitations for Bituminous Setting Bed:

1. Install bituminous setting bed only when ambient temperature is above 40 deg F and when base is dry.
2. Apply asphalt adhesive only when ambient temperature is above 50 deg F and when temperature has not been below 35 deg F for 12 hours immediately before application. Do not apply when setting bed is wet or contains excess moisture.

##### **Protection of Finished Surfaces:**

Finished surfaces adjacent to the paving work shall be adequately protected from soiling, staining, and other damage during construction.

##### **Excavation:**

Work under this item shall consist of removing and disposing of existing sidewalk and foundation to a full depth. Wherever portions of concrete sidewalks or concrete driveway ramps are to be removed, such

removals shall be made to neat lines. Partial removals shall generally be to existing joints except when a location other than a joint is identified on the plans or set by the Engineer due to construction staging limits. At removal limits where a joint is not present, the Contractor shall sawcut the concrete full depth to create a neat line. The bottom of the excavation shall be graded smooth and thoroughly compacted to a firm, even surface using a roller weighing not less than five tons or a motor driven vibratory compactor.

Work under this item shall also consist of removing and disposing of existing miscellaneous foundations as directed by engineer.

Work under this item shall include removal of existing brick pavers installed during previous phases of New Britain Downtown Streetscape construction, as required for the purpose of maintaining consistent brick patterns across phase limit lines without interruption. This work shall include repairs to bituminous setting beds due to paver removal operations. Clean and undamaged pavers may be reused at these locations if approved by the Engineer.

**Concrete Base Slab:**

Concrete installation shall conform to Section 0921001A of these specifications. Additional requirements for concrete slab are as follows:

All concrete base slabs shall receive 6 x 6 – W1.4 x W1.4 welded wire mesh reinforcing 2 inches below the top of the slab. Wire mesh reinforcing shall be plain finish welded steel, W1.4 x W1.4 wire spaced 6" x 6" both ways meeting ASTM specifications A-185-02. The mesh shall be lapped 6" and tied together with wire spaced not over 12" on center to prevent displacement set.

**Preparation:**

Core-drill weep holes in concrete substrates at 24-inch centers at lowest elevations, and against curbs, walls, and other permanent structures. Fill holes with washed pea gravel and install temporary plugs to prevent ingress of setting bed material or neoprene adhesive during construction. Remove plugs when paving adjacent to weep holes.

Sweep concrete substrates to remove dirt, dust, debris, and loose particles.

**Bituminous Setting Bed:**

Bituminous setting bed shall be installed over the fully cured concrete base. Apply primer to concrete slab or binder course immediately before placing setting bed.

Control bars ¾" deep shall be placed approximately 11 feet apart and parallel to one another, to serve as guides for striking board. Adjust bars to subgrades required for accurate setting of paving units to finished grades indicated.

Place bituminous setting bed where indicated, in panels, by spreading bituminous material between control bars. Spread mix at a minimum temperature of 250 deg F. Strike setting bed smooth, firm, even, and not less than ¾ inch thick. Add fresh bituminous material to low, porous spots after each pass of striking board. After each panel is completed, advance first control bar to next position in readiness for striking adjacent panels. Carefully fill depressions that remain after removing depth-control bars.

The setting bed shall be rolled with a power roller to a nominal depth of ¾" while still hot. The thickness of the setting bed shall be adjusted so that when the bricks are placed and rolled, the top surface of the pavers will be at the required finished grade.

Apply neoprene-modified asphalt adhesive to cold setting bed by squeegeeing or troweling to a uniform thickness of 1/16 inch. Proceed with setting of paving units only after adhesive is tacky and surface is dry to touch.

**Aluminum Edge Restraints:**

Provide aluminum edge restraints wherever brick pavers abut lawns and other non-structural edges. Install edge restraints before placing brick pavers. Install edge restraints to comply with manufacturer's written instructions. Anchor with 3/4-inch to 1-inch powder-actuated concrete nails at 4-inches to 12-inches on center spacing to hold edge restraints in place during and after paver installation.

**Brick Pavers:**

Do not use brick pavers with chips, cracks, voids, discolorations, or other defects that might be visible or cause staining in finished work.

Cut brick pavers with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.

Place pavers carefully by hand in straight courses, maintaining accurate alignment and uniform top surface. Protect newly laid pavers with plywood panels on which workers can stand. Advance protective panels as work progresses, but maintain protection in areas subject to continued movement of materials and equipment to avoid creating depressions or disrupting alignment of pavers. If additional leveling of paving is required, and before treating joints, roll paving with power roller after sufficient heat has built up in the surface from several days of hot weather.

Pavers shall be set true to the required lines and grades in the pattern detailed on the Drawings. Lay full pavers first and adjust pavers to form straight bond lines and appropriate joint widths. Provide 1/16" to 3/16" sand filled joints between pavers. Do not exceed 1/8-inch unit-to-unit offset from flush (lippage) nor 3/8 inch in 10 feet from level, or indicated slope, for finished surface of paving.

String lines or chalk lines must be used to keep paver bond lines straight and true. The straight and true bond lines shall not deviate more than +/- 1/2" at the end of 50 feet. Establish a center line working outward setting parallel string lines or chalk lines every 2 to 6 feet, depending on the area, to continuously check and adjust paver bond lines.

Roll or compact bituminous-set pavers to achieve full bond with the setting bed, reduce lippage and improve the overall flatness of the surface. Fill the spaces between pavers in conformance with the polymeric sand producer's installation instructions and recommendations as soon as possible after the pavers have been placed. Clean joints of all debris with power air blowers or vacuums to ensure full penetration of the jointing sand. Sweep dry joint filling sand over surface of paving until all joints are completely filled. Once the initial filling of the joints is completed, roll the surface of the pavers to fully compact the pavers into place. Utilize a light rubber-tired roller with sufficient pressure to achieve a full bond to the setting bed or a 4-5000 LBF plate tamper with a protective mat attached. Do not operate the roller in a vibrating mode, as this may cause cracking of the pavers. Protect the surface with plywood or other suitable materials to prevent damage to the edges of the pavers. Perform rolling at the warmest part of the day, but prior to final set of the adhesive, taking care to ensure that the alignment is not altered. After rolling, add dry sand to the joints as necessary to ensure that the sand has penetrated to the bottom of the joints. Do not vibrate the pavers after they or the sand have been placed on the setting bed. Roll the surface when the sand shows no sign of further settlement. Add additional sand as necessary. Mist

and rinse in conformance with the polymeric sand producer's installation instructions and recommendations.

Do not permit traffic, including construction equipment, on pavers before joint filling. Disturbed areas of pavers should be taken up, the setting bed re-rolled and pavers re-laid. Remove cracked or damaged pavers and replace with new units. Protect areas where joints have not been filled with waterproof covering overnight.

Completed brick paver areas within the path of travel of any construction equipment shall be protected with steel road plates.

Discontinue laying operations when weather conditions are such that pavement performance may be compromised. On laying operations commencement, verify acceptable setting bed condition before further pavers are laid.

**METHOD OF MEASUREMENT:**

Brick Paver Sidewalk will be measured on a per square foot basis, complete, in-place, as shown on the Drawings, as specified herein, and as directed by the Engineer. Price shall include all materials, equipment, tools and labor incidental thereto including all sawcuts to meet existing and proposed facilities, the removing and disposal of all surplus materials, excavation, concrete sidewalks or driveway ramps removal and disposal, removal and disposal of existing miscellaneous foundations as directed by engineer, furnishing and installing the process aggregate base, concrete base slab, sidewalk ramp base slab, aluminum edge restraints, bituminous/sand setting bed, neoprene-modified asphalt setting adhesive, joint sand, brick pavers, accent brick pavers, and expansion joints.

**BASIS OF PAYMENT:**

The brick paver sidewalk will be paid for at the contract unit price per square foot for "BRICK PAVER SIDEWALK" which price shall include all materials, equipment, tools and labor incidental thereto including all sawcuts to meet existing facilities, the removing and disposal of all surplus materials, excavation, bituminous concrete pavement, concrete sidewalks or driveway ramps removal and disposal; removal, disposal, and backfilling of existing miscellaneous foundations except existing traffic signal and light pole foundations as directed by engineer; furnishing and installing the process aggregate base, concrete base slab, sidewalk ramp base slab, aluminum edge restraints, bituminous/sand setting bed, neoprene-modified asphalt setting adhesive, joint sand, brick pavers, accent brick pavers, and expansion joints.

Unless otherwise indicated, all areas of brick pavers, including but not limited to the running bond "sidewalk" pattern, the herringbone "plaza" pattern, the soldier course banding, the brick accent pavers, and the brick pavers within Sidewalk Ramps will be paid under this Item.

The cost of detectable warning pavers in sidewalk ramps will be paid for under the Item "Detectable Warning Cast Iron Paver".

The cost of removing existing traffic signal foundations will be paid for under the item, "Removal and/or Relocation of Traffic Signal Equipment".

The unit prices for all items of work shall include the cost of all saw cuts to meet existing facilities, the cost of removing and disposing of all surplus material; excavation, removal, backfilling, and disposal of existing miscellaneous foundations except existing traffic signal and light pole foundations as directed by engineer; preparation of subgrade and base, base material, concrete (including additives), formwork,

welded wire fabric, jointing, shoring, backfill, restoration of adjacent pavement and grassed areas, painting and cross walk adjustment, and all other labor, equipment, and material incidental or necessary to complete the item in accordance with the plans and specifications.

Unless otherwise specified, there will be no direct payment for adjusting to grade monuments, valve boxes, manhole frames and covers, hatchways, vaults, or other existing surface structures in any new or reconstructed walk, the cost of this work being considered to be included in the unit price for the item of work.

There will be no direct payment for removal of existing brick pavers and repair of existing bituminous setting beds across phase limit lines, the cost of this work being considered to be included in the unit price for the item of work.

Openings in walk for tree wells and planters shall be determined prior to the start of construction.

No additional payment for extra formwork, etc. occasioned by these features shall be made, the cost of this work being considered to be included in the unit price for the item of work.

**Pay Item**

Brick Paver Sidewalk

**Pay Unit**

SF



## **ITEM #0921050A – DETECTABLE WARNING CAST IRON PAVER**

**DESCRIPTION:** The work of this item includes furnishing all materials, equipment, supplies, accessories, incidentals, labor and supervision, and performing all operations required to furnish and install Detectable Warning Cast Iron Paver as shown on the drawings, as specified herein, and as is additionally required to properly complete the work, including the removing and disposal of all surplus materials, excavation, furnishing and installing the concrete base slab, detectable warning iron pavers, and expansion joints.

### **Submittals:**

Detectable Warning Cast Iron Paver

1. Samples: Submit manufacturer's samples of materials and finishes.
2. Product Data: Submit manufacturer's product data, storage and handling requirements and recommendations and installation methods.
3. Shop Drawings: Submit manufacturer's shop drawings, including plans and elevations, indicating overall dimensions.
4. Warranty: Manufacturer's standard warranty.

### **Quality Assurance:**

Detectable Warning Cast Iron Paver

1. Manufacturer's Qualifications: Manufacturer regularly engaged in manufacture of tactile warning strips for more than 5 years.
2. Product Support: Products are supported with complete engineering drawings and design patents.

### **MATERIALS:**

**Detectable Warning Cast Iron Paver:** The Detectable Warning Cast Iron Pavers, for new construction, shall be cast iron, 24-inch x 24-inch paver as shown on plans. Straight and radial detectable warning cast iron paver plates shall be ADA / ABA compliant, with slip resistant surface. Plate shall be heavy duty gray iron, compliant with ASTM A48 CL35B. The detectable warning cast iron paver shall have a 24-inch width of tactile warning strip for dimensioned lengths, unless otherwise indicated on plan. Detectable warning cast iron paver shall be manufactured with integral anchor lugs to ensure solid attachment to cast-in-place concrete. The detectable warning cast iron paver coating shall be undipped.

**Concrete Base Slab:** Conform to Section 0921024A of these specifications with the following additions:

All concrete base slabs will receive wire mesh reinforcing 2 inches below the top of the slab. Wire mesh reinforcing shall be plain finish welded steel, W1.4 x W 1.4 wire spaced 6" x 6" both ways meeting ASTM specifications A-185-02. The mesh shall be lapped 6" and tied together with wire spaced not over 12" on center to prevent displacement set.

### **CONSTRUCTION METHODS:**

#### **Protection of Finished Surfaces:**

Finished surfaces adjacent to the paving work shall be adequately protected from soiling, staining, and other damage during construction.

**Delivery, Storage, and Handling:****Detectable Warning Cast Iron Paver**

1. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product names and manufacturer.
2. Storage: Store materials in clean, dry area in accordance with manufacturer's instructions. Keep materials in manufacturer's original, unopened containers and packaging until installation.
3. Handling: Protect materials and finish during handling and installation to prevent damage.

**Excavation:** Work under this item shall consist of removing and disposing of existing sidewalk and foundation to a full depth. Wherever portions of concrete sidewalks or concrete driveway ramps are to be removed, such removals shall be made to neat lines. Partial removals shall generally be to existing joints except when a location other than a joint is identified on the plans or set by the Engineer due to construction staging limits. At removal limits where a joint is not present, the Contractor shall sawcut the concrete full depth to create a neat line. The bottom of the excavation shall be graded smooth and thoroughly compacted to a firm, even surface using a roller weighing not less than five tons or a motor driven vibratory compactor.

**Concrete Base Slab:** Concrete installation shall conform to Section 0921024A of these specifications. Additional requirements for concrete slab are as follows:

All concrete base slabs shall receive 6 x 6 – W1.4 x W1.4 welded wire mesh reinforcing 2 inches below the top of the slab. Wire mesh reinforcing shall be plain finish welded steel, W1.4 x W1.4 wire spaced 6" x 6" both ways meeting ASTM specifications A-185-02. The mesh shall be lapped 6" and tied together with wire spaced not over 12" on center to prevent displacement set.

**Detectable Warning Cast Iron Paver:** Install detectable warning cast iron paver in accordance with manufacturer's instructions at locations indicated on the drawings. Any cutting required to fit detectable warning to an abutting piece, shall be done making every effort that cut line does not bisect the tactile domes, but falls between them. If cuts do bisect a dome, then the edge of the cut dome must be ground to meet ADA requirements for change in vertical grades. Cut pieces shall be dry fitted to ensure tight butt joint between plates prior to placing tactile warning in wet concrete. Set plates in wet concrete at final position. Keep wet concrete off of the top surface of the plates at all times. Press tiles into wet concrete to final elevation. Finish brick paving around assembled plates. Plates must be flush with abutting surface and flush curbing.

**METHOD OF MEASUREMENT:** Detectable Warning Cast Iron Paver will be measured on a per square foot basis, complete, in-place, as shown on the Drawings, as specified herein, and as directed by the Engineer. Price shall include all materials, equipment, tools and labor incidental thereto including the removing and disposal of all surplus materials, excavation, furnishing and installing the concrete base slab, detectable warning cast iron pavers, and expansion joints.

**BASIS OF PAYMENT:** The detectable warning iron paver will be paid for at the contract unit price per square foot for "DETECTABLE WARNING CAST IRON PAVER" which price shall include all materials, equipment, tools and labor incidental thereto including the removing and disposal of all surplus materials, excavation, furnishing and installing the concrete base slab, detectable warning iron pavers, and expansion joints.

**Pay Item**

Detectable Warning Cast Iron Paver

**Pay Unit**

SF

## **ITEM #0921099A – FLEXI-PAVE PAVEMENT AT NEW TREE**

### **DESCRIPTION:**

The work of this Item includes furnishing all materials, equipment, supplies, accessories, incidentals, labor and supervision, and performing all operations required to install Flexi-Pave Pavement at new trees as shown on the drawings, as specified herein, and as is additionally required to properly complete the work, including all sawcuts to meet existing facilities, the removing and disposal of all surplus materials, excavation, concrete sidewalks removal and disposal, furnishing and installing filter fabric, clean coarse aggregate stone, biobarrier root control fabric, Planting Mixture No. 1, KBI flexi-pave, and KBI flexi-stone.

### **Quality Assurance:**

Qualifications of installing contractor: The work of this section should be performed by a contracting firm which has a minimum of five years' experience.

KBI Flexi®-Pave can be installed by K.B. Industries, Inc. Certified installers having the KBI certification number.

### **MATERIALS:**

#### **Planting Mixture No. 1:**

Planting Mixture No. 1 shall conform to the specification for Items 0949727A et al of these Special Provisions.

#### **Biobarrier Root Control Fabric:**

Root control fabric shall be 19.5" wide biobarrier root control fabric.

#### **Supplemental Irrigation:**

4" Rigid Polyvinyl Chloride Plastic Perforated Drain Pipe with filter sleeve, fittings, and slotted drain cap.

#### **Filter Fabric:**

Subsurface Drainage Geotextile: Nonwoven needle-punched geotextile, manufactured for subsurface drainage applications, made 100% Spunbonded Polypropylene; with elongation greater than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:

1. Tensile Strength: 73(lbs)
2. Puncture Strength (lbs): 23
3. Air Opening Size (equivalent sieve): 30/40
4. Air Opening Size (mm): 0.52
5. Trap Tear (lbs): 35
6. Air Permeability (cm/sec): 10x10<sup>-2</sup>
7. Flux (gal/ft<sup>2</sup>/min): 200
8. Permittivity (sec<sup>-1</sup>): 3.0
9. Color: Black

#### **3/4-Inch Stone:**

Crushed stone conforming to Form 817 Article M.03.01-1 Coarse Aggregate. Do not use rounded gravel or reclaimed concrete aggregate. All stone materials shall be washed with less than 1% passing the No. 200 sieve.

Conforming to gradation as shown in Table below:

**No. 6 Aggregate Grading Requirements**

| Sieve Size | Percent Passing |
|------------|-----------------|
| 1-inch     | 100             |
| 3/4-inch   | 90 to 100       |
| 1/2-inch   | 20 to 55        |
| 3/8-inch   | 0 to 15         |
| No. 4      | 0 to 5          |

**KBI Flexi-Pave:**

KBI Flexi®-Pave HD1500 is a 1½” sub layer of a constructional paving material made from Recycled Passenger Tires and Aggregate bound together with a proprietary binding agent: XFP75 as manufactured by KB Industries, Inc. 28100 US Highway 19N, Suite 410 Clearwater, FL 33761, Tel: 727-726-2700, Toll Free: 877-826-8600, Fax: 727-726-2800.

**KBI Flexi-Stone:**

KBI Flexi®-Stone HDS2000 is a ½” layer consisting of a nominal 3/8” aggregate size. Which is bound together with KBI’s proprietary binding agent, XFP75. KBI Flexi®-Stone is designed for the aggregate surface finish and is available as manufactured by KB Industries, Inc. 28100 US Highway 19N, Suite 410 Clearwater, FL 33761, Tel: 727-726-2700, Toll Free: 877-826-8600, Fax: 727-726-2800. Color: Tan

**CONSTRUCTION METHODS:**

**Mockup:**

Construct an 6’ x 8’ display panel size, color, and finish specimen in this Item to illustrate component application including pattern and edge details. Do not start work until Engineer has approved mock-up. Remove mock-up and dispose of materials at the completion of the work or as directed by Engineer.

**Protection of Finished Surfaces:**

Finished surfaces adjacent to the paving work shall be adequately protected from soiling, staining, and other damage during construction.

**Excavation:**

Work under this item shall consist of removing and disposing of existing sidewalk and foundation to a full depth. Wherever portions of concrete sidewalks or concrete driveway ramps are to be removed, such removals shall be made to neat lines. Partial removals shall generally be to existing joints except when a location other than a joint is identified on the plans or set by the Engineer due to construction staging limits. At removal limits where a joint is not present, the Contractor shall sawcut the concrete full depth to create a neat line. The bottom of the excavation shall be graded smooth and tamped to a firm, even surface.

**Supplemental Irrigation:**

Shall be installed at the line and grade as indicated on the drawings.

**Biobarrier Root Control Fabric:**

Biobarrier root control fabric shall be installed where indicated on the drawings and per manufacturer’s recommendations.

**Planting Procedures, Balled and Burlapped Planting:**

Shall conform to the specification for Items 0949727A et al of these Special Provisions.

**Planting Mixture No. 1:**

Conform to the specification for Items 0949727A et al of these Special Provisions.

**Filter Fabric:**

Install as shown on the drawings per manufacturers recommendations.

**Clean Coarse Aggregate Stone:**

Install as shown on the drawings compact to 95% compaction per AASHTO T-180.

**KBI Flexi-Pave:**

1. KBI Flexi®-Pave can be installed from 45°F degree to 95°F degree temperatures. Important: When curing, the temperature should not fall below 35°F.
2. KBI Flexi®-Pave can be installed by K.B. Industries, Inc. CERTIFIED INSTALLERS having the KBI CERTIFICATION NUMBER.
3. Install as shown on the drawings per manufacturers recommendations.

**KBI Flexi-Stone:**

1. KBI Flexi®-Stone HDS2000 can be installed from 45°F to 95°F temperatures. Important: When curing, the temperature should not fall below 35°F.
2. KBI Flexi®-Stone can be installed by K.B. Industries, Inc. CERTIFIED INSTALLERS having the KBI CERTIFICATION NUMBER.
3. KBI Flexi®-Stone HDS2000 is a construction paving material that is dynamic in its physical construction which is mixed directly at the installation site.
4. Install as shown on the drawings per manufacturers recommendations.

**METHOD OF MEASUREMENT:**

Flexi-Pave Pavement at New Tree will be measured on a per square foot basis, complete, in-place, as shown on the Drawings, as specified herein, and as directed by the Engineer. Price shall including all sawcuts to meet existing facilities, the removing and disposal of all surplus materials, excavation, concrete sidewalks removal and disposal, furnishing and installing the Planting Mixture No. 1, filter fabric, clean coarse aggregate stone, biobarrier root control fabric, KBI flexi-pave, and KBI flexi-stone.

**BASIS OF PAYMENT:**

Flexi-Pave Pavement at New Tree will be paid for at the contract unit price per square foot for "FLEXI-PAVE PAVEMENT AT NEW TREE (TYPE 1) or (TYPE 2)" complete, in-place, as shown on the Drawings, as specified herein, and as directed by the Engineer. Price shall include all sawcuts to meet existing facilities, the removing and disposal of all surplus materials, excavation, concrete sidewalks removal and disposal, furnishing and installing the Planting Mixture No. 1, filter fabric, clean coarse aggregate stone, biobarrier root control fabric, KBI flexi-pave, and KBI flexi-stone, excluding Tree Planting which will be paid under a separate item.

**Pay Item**

Flexi-Pave Pavement at New Tree

**Pay Unit**

SF

## **ITEM #0922002A – TEMPORARY BITUMINOUS CONCRETE SIDEWALK**

### **DESCRIPTION**

Under this section of the specifications, the contractor shall install temporary bituminous concrete sidewalk at the locations and to the general requirements shown on the contract drawings or as directed by the Engineer.

### **MATERIALS**

The materials to be used in the construction of temporary sidewalk shall be those indicated on the plans and in the details or ordered by the Engineer.

Bituminous Concrete shall conform to the requirements of CT DOT Form 817 Article M.04.01.

### **CONSTRUCTION METHODS**

The methods employed in placing the bituminous sidewalk and all equipment, tools, machinery and other plant equipment used in handling materials and executing any part of the work shall conform to all requirements of CT DOT Form 817 Article 4.06.03. The completed and compacted temporary sidewalk shall match the adjacent grade and meet or surpass the uniformity of the adjacent surface and its roughness or riding quality. Replacement of the temporary sidewalk will be required at no additional cost to the Town where the sidewalk surface is not smooth or the compacted thickness of the bituminous concrete is deficient by more than ½”.

It shall be the responsibility of the Contractor to maintain and repair temporary bituminous sidewalk surfaces until such time as the temporary sidewalks have been replaced with the construction of permanent sidewalks. The Contractor shall at all times maintain the permanent and temporary sidewalks in a safe and satisfactory condition and all maintenance and repairs of permanent and temporary sidewalks shall be provided by the Contractor at no additional expense to the Town.

The Contractor shall perform and complete the construction work in a continuous manner and so that sidewalk replacement work may proceed without delay. The Contractor shall install the temporary sidewalk as soon as practical.

All curbing, street fixtures and such other appurtenant work damaged or displaced as a result of the Contractor's operations shall be repaired or replaced and restored by the Contractor in a manner satisfactory to the Engineer at no additional cost to the Town.

### **METHOD OF MEASUREMENT**

This work will be measured for payment by the square yards of temporary sidewalk surface to the limits shown on the plans or ordered by the Engineer.

### **BASIS OF PAYMENT**

The temporary sidewalk will be paid for at the contract unit price per square yard for “Temporary Bituminous Concrete Sidewalk” complete in place and approved which price shall include all materials including but not limited to processed aggregate base, tools, equipment and labor incidental thereto.

No separate payments will be made for the saw cutting of existing sidewalk and processed aggregate base. The costs for these items shall be included in the contract unit price.

#### **Pay Item**

Temporary Bituminous Concrete Sidewalk

#### **Pay Unit**

SY

## **ITEM #0944101A – FURNISHING AND PLACING TOPSOIL**

### **DESCRIPTION:**

The Work shall consist of furnishing and placing topsoil; including testing, screening, amending, placing and finish grading all imported topsoil as shown on the Drawings and specified herein. Provide all imported topsoil and compost and amendments necessary to properly complete all turf establishment operations. Provide specified depth of topsoil in all turf establishment lawn areas.

### **Quality Assurance:**

Topsoil Testing: Representative samples of borrow topsoil and stockpiled topsoil shall be subject to testing analysis to determine: Nutrient analysis using the Modified Morgan extractant for soil available P, K, Ca, and Mg; Soil pH; organic content determined by loss of weight on ignition; and particle size analysis of sand, silt, and clay percentages using the hydrometer or pipette methods of particle size analysis with size fractions based upon size limits established by USDA.

Topsoil testing shall be the contractor's responsibility and performed as directed by Engineer.

### **Submittals:**

Submit topsoil for testing/analysis and subsequent or conditional approval based on results.

Submit materials certificates and product data for compost and soil amendments, clearly marked, to indicate proposed materials. Printed data shall state application rates and amount of product to be added, if applicable.

Submit delivery tickets for the soil amendments, compost and processed sand, indicating the trade name, the supplier/distributor's name and the amount of product delivered to the contracting firm/project site.

Submit materials certificate and certified test report for processed sand and gravel.

### **Product Handling:**

Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and compliance with state and Federal laws if applicable.

### **Bulk Materials:**

1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
3. Do not move or handle materials when they are wet or frozen.
4. Accompany each delivery of bulk fertilizers and soil amendments with appropriate certificates.

### **Project Conditions:**

Stockpile existing topsoil as required. Review quantity/quality of existing topsoil with Engineer. Verify that storm sewerage system and dry wells are complete and fully functional prior to beginning work of this Section. Protect storm sewerage system and dry wells from failure.

## **MATERIALS:**

### **Topsoil:**

Borrow Topsoil shall be clean, fertile, friable, and well draining; not to contain materials harmful to plant life. All topsoil to be free of any subsoil earth clods, sods, stones over 3/4" in any dimension, sticks, roots, weeds, litter and other deleterious material. Topsoil shall be uniform in quality and texture and contain specified organic matter and mineral elements necessary for sustaining healthy plant growth. Topsoil shall have a pH of 5.5 to 6.5. Topsoil shall have an Organic Matter Content of 5 to 8%. Nutrient levels shall be achieved by the Contractor's addition of amendments to the topsoil to meet the optimum nutrient levels specified in the testing laboratory report. A single source of all import topsoil is required. Topsoil shall meet the USDA Soils Textural Classification percentage of sand, silt and clay for "sandy loam" or "fine sandy loam" classifications. Topsoil shall be free of any toxic chemical, waste or any material or condition that would prevent the establishment of a suitable lawn. Import topsoil shall be from local sources. All textural classes of topsoil with greater than 80% sand content will be rejected.

The Contractor shall notify the Engineer of the location of the topsoil at least 15 calendar days prior to delivery. The topsoil and its source shall be inspected and approved by the Engineer before the material is delivered to the project. Any material delivered to the project, which does not meet specifications or which has become mixed with undue amounts of subsoil during any operation at the source or during placing and spreading, will be rejected and shall be replaced by the Contractor with acceptable material.

### **Amendments:**

Soil Amendments shall be as recommended by the Topsoil Test Report.

### **Compost:**

Compost shall be derived from organic wastes such as food and agricultural residuals, animal manures, mixed solid wastes and biosolids (treated sewage sludge) that meet all State Environmental Agency requirements. The product shall be well composted, free of viable weed seeds and contain material of a generally humus nature capable of sustaining growth of vegetation, with no materials toxic to plant growth. Compost generator shall also provide minimum available nitrogen and other macro and micro nutrients to determine fertilizer requirements. Compost shall have the following properties:

| <u>Parameters</u>      | <u>Range</u>          |
|------------------------|-----------------------|
| pH                     | 5.5 – 7.0             |
| Moisture Content       | 35% - 55%             |
| Soluble Salts          | 4.0 mnhos (dS)        |
| C:N ratio              | 15 – 30:1             |
| Particle Size          | <1"                   |
| Organic Matter Content | >50%                  |
| Bulk Density           | <1000 lbs./cubic yard |
| Foreign Matter         | <1% (dry weight)      |

### **Sand:**

Sand shall meet ASTM C33 Fine Aggregate.

## **CONSTRUCTION METHODS:**

### **Topsoil Preparation:**

Determine quantity of imported topsoil scheduled to be placed. Provide imported topsoil to complete the work of this Section. Based on topsoil testing reports, provide amendments and conditioners to topsoil to



bring it in compliance with project requirements. Bulk mix to produce a homogeneous product.

**Shaping and Grading of Subsoil at Lawn Areas:**

At completion of rough grading, shape and grade subgrade areas to lines and levels as noted on the drawings. All approved topsoil is to be spread. Shape subgrade areas to allow placement of uniform depth of topsoil. Provide all shaping adjustments at no additional cost to the owner. Harrow or otherwise loosen the subgrade soil to a depth of 4 inches. Remove all sticks, stones, or foreign material two (2) inches or greater in dimension from surface. Remove debris and stone off-site.

**Spreading Topsoil and Topsoil/Compost Mixes:**

Do not apply topsoil materials to the scarified subgrade without approval of Engineer. No vehicular traffic or rubber tired equipment shall be allowed on finished subgrades. Topsoil materials shall not be spread until topsoil has been amended as required. Topsoil materials shall not be delivered or worked in a frozen or muddy condition. Uniformly distribute and spread topsoil materials over all graded lawn areas to conform smoothly to the lines, grades, and elevations shown or otherwise required. Maintain consistent depths of material throughout the project area. Manually supply topsoil around all trees to remain. Avoid damage to root systems. Depth of topsoil around existing trees to be determined by Engineer.

Place topsoil in layers that will provide the scheduled thickness after natural settlement and light rolling. Spread topsoil from edges inward toward the middle of areas being topsoiled. Do not allow equipment directly on the loosened subgrade. Do not overcompact the topsoil. Do not allow rubber-tired equipment on topsoiled areas. Use lightest weight equipment practicable. Sequence operations to minimize the number of equipment passes required. Track topsoiled slopes parallel to the fall line. Place topsoil materials only when it can be immediately followed by seeding operations. Resupply and place topsoil to eroded, settled or damaged areas until all lawn areas are stabilized. Care shall be taken not to damage grass or pavement areas in the replacement to topsoil.

**Protection:**

Remove weeds prior to lawn development operations. No weeds shall be allowed to go to seed. Keep heavy equipment, trucks, etc. off topsoiled areas at all times. If compaction occurs, harrow to the full depth of the topsoil and regrade topsoil.

**METHOD OF MEASUREMENT:**

This work will be measured for payment by the number of cubic yards of topsoil furnished and placed, completed and accepted.

**BASIS OF PAYMENT:**

This work will be paid for at the contract unit price per cubic yard of "PLACING TOPSOIL", completed and accepted, including all equipment, testing, material, tools, labor and incidental expenses thereto.

**Pay Item**

Furnishing and Placing Topsoil

**Pay Unit**

CY

## **TREES**

### **ITEM #0949071A – PYRUS CALLERYANA ‘CHANTICLEER FLOWERING PEAR’ 2 ½ - 3” CAL**

### **ITEM #0949799A – PLATANUS ACERFOLIS ‘BLOODGOOD LONDON PLANETREE’ 2 ½ - 3” CAL**

### **ITEM #0949837A – ACER RUBRUM ‘OCTOBER GLORY RED MAPLE’ 2½ -3” CAL**

## **MULCH**

### **ITEM #0949000A – WOOD CHIP MULCH**

#### **DESCRIPTION:**

Provide all labor, materials, necessary equipment and services to furnish and install plant materials as shown on the Drawings and as specified herein including source inspection; plant pit excavation and preparation and installation of all backfill mixtures; planting all trees, shrubs, perennials, and groundcovers, including finishing operations; mulch for all plant bed and saucer areas; and protection, maintenance and replacement of plant material and related items.

#### **Quality Assurance:**

All plants shall meet or exceed the specifications of Federal, State and County laws requiring inspection for plant disease and insect control. Quality, size and ball container size shall conform with the current edition of "American Standard and Nursery Stock" by the American Nursery and Landscape Association and its amendments (ANSI Z60.1). All plants shall be certified true to name by the nursery source. Sealed certificates from the nursery source shall be submitted prior to any plant material installation. One plant of each species shall be tagged with the name and size of the plant in accordance with the standards of practice of the American Association of Nurserymen. Botanical names shall take precedence over common names.

Qualifications of Installers: Provide at least one person who shall be thoroughly familiar with the type of materials being installed and shall direct all work performed under this section.

#### **Nursery Coordination:**

Each specific plant type shall be provided from a single nursery source unless otherwise approved.

#### **Submittals:**

Submit product data for the following items, clearly marked, to indicate proposed materials. Printed data shall state application rates and amounts of product to be added, if applicable.

1. Soil conditioners
2. Water management polymer
3. Fertilizers
4. Anti-Desiccant
5. Steel Edging
6. Weed Barrier Fabric

Submit delivery receipts for the following items, indicating the trade name, the supplier/distributor's name and the amount of product delivered to the contracting firm/project site.

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#0949000A

1. Water management polymer
2. Fertilizers
3. Soil conditioners

Topsoil: Testing reports/analysis, as per Section 0944001, must be submitted prior to preparation of planting mixtures.

Percolation Test: Test for percolation shall be done to determine positive drainage of plant pits and beds. Soil and drainage conditions detrimental to the growth of plant material shall be identified and a proposal correcting the conditions shall be submitted.

**Nursery Source Inspection:**

All plant material(s) are to be inspected and accepted by Engineer at the nursery source or place of growth. Do not dig plant material until inspected, tagged, and approved by Engineer. Contractor must provide all transportation and shall accompany Engineer for all source inspections. All trees are to be flagged on the north side prior to digging. (Flagged side of tree (north side) to be located to north orientation when planted on site. See Item 3.02 A. 4.)

All plant material when inspected at the nursery source by Engineer is not to be "heeled-in" or "out-ground". Stockpiled material is not acceptable unless otherwise approved by the Engineer.

All plant material is also subject to reinspection and approval by Engineer once the plant material has been delivered to the project site. All plant material shall arrive at the site with Engineer's permanent tags. Any plant material rejected by Engineer shall be immediately removed from the project site and replaced with acceptable plant material at no additional cost.

All plant material must be accompanied by nursery inspection certificates, as required by State or Federal Regulations.

**Product Handling:**

Deliver all items to the job site in their containers with all labels intact and legible at the time of inspection. Root balls shall not be cracked or broken. Notify the Owner's Representative of delivery schedule at least two (2) days in advance so plant material may be inspected upon arrival at job site. Remove unacceptable plant material immediately from job site. Do not prune plants prior to delivery.

Use all means necessary to protect plant materials before, during, and after installation and to protect the work and materials of all other trades.

Replacements: In the event of damage, immediately make all repairs and replacements necessary to no additional cost to the Owner.

Delivery: Deliver fertilizer to site in original unopened containers bearing manufacturer's guaranteed chemical analysis, name, trade name, and conformance to state law.

**Planting Season:**

Progress with planting only under favorable weather conditions. Planting will not be permitted when ground is frozen or excessively moist. Time of planting is at the discretion of the Contractor except as noted.

Planting Schedule: Contractor shall submit planting scheduling indicating proposed nursery source and

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anticipated installation schedule for review and approval. Coordinate with approved nurseries to secure and confirm installation dates of all plant material after acceptance of planting schedule.

**Job Conditions:**

Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected. Coordinate work with other related site work that is not included in this contract. Maintain proper sequencing of operations. Commencement of work implies acceptance by Contractor of preparatory work by others.

The Contract drawings show the approximate locations of utility structures in the area of proposed landscape development. Exercise care when digging in these areas. The Contractor is responsible for any damage and shall replace or repair any damage at the Contractor's expense. Changes in the locations of plant material due to utility obstructions shall not be cause for extra compensation.

Notify Engineer at least 2 days prior to commencing any of the planting operations included in this Section.

Plant Locations on the Drawings are approximate and are to be used only as a guide. Contractor shall provide all field engineering services to accurately stake out locations for all plants and outlines of plant beds. Do not begin excavation until Engineer has approved specific layout. Relocate the planting, without extra compensation if directed prior to final installation.

Upon Completion of Planting: remove from the site all excess soil, mulch, materials, and debris resulting from work operations of this Section. Restore to original conditions all damaged pavements, structures and lawn areas resulting from landscaping operations. Broom clean all walks and pavements. Dispose of all debris off-site in a satisfactory legal manner.

Maintain the site area in a neat and clean condition at all times.

**One-Year Establishment Period:**

All plant material shall be subject to a One-Year Establishment Period. During this time, the Contractor shall use currently accepted horticultural practices to keep all plant material installed in a healthy, vigorous growing condition at the date of final acceptance. The date of final acceptance shall be one full calendar year following the satisfactory completion of the planting activities as confirmed by the Engineer.

An inspection will be held one year from the date of installation with the Contractor and Engineer to determine the acceptability of the plant establishment. An inventory of losses and rejected materials will be made and corrective and necessary clean up measures will be determined at the plant inspection.

**MATERIALS:**

**Trees, shrubs, ground cover, and perennials:**

Plant varieties shall be nursery grown or plantation grown stock; hardy under climatic conditions similar to those in the locality of the project. The plant material source shall not exceed a 250 mile radius from the project site. Plants shall be typical of their species or variety, with a normal habit of growth. Sound, healthy and vigorous. Well-branched and densely foliated when in leaf, free of disease, harmful insects, eggs, or larvae. Shall have healthy well-developed root systems. All trees shall have straight single trunks with their main leader intact unless otherwise stated. Plants shall be free from sunscald injury, disfigurement and abrasion.

Substitutions will be permitted only upon approval Engineer.

Sizes shall conform to the measurement specified on the Drawings. Plants larger than specified on the Drawings may be used if approved Engineer. Use of such plants shall not increase the Contract price.

Height of Branching: Unless otherwise noted on the planting schedule, shade/street trees shall be free of branches to a height of 7 feet, ornamental/flowering trees shall be free of branches to a height of 6 feet.

Quantities: If there is a discrepancy between plants shown on the drawings and quantities given, the greater number will prevail. Discrepancies will not entitle the Contractor to an extra.

Perennial plants shall have been growing in the specified size container for at least one full year prior to installation. Root mass shall completely fill container.

**Plant Pit Backfill Mixtures:**

Provide mixtures as required. Bulk mix on-site, no off-site mixing allowed.

Planting Mixture No. 1 - for Trees and Shrubs:

- 1 part dehydrated cow manure

- 2 parts peat moss

- 5 parts topsoil

- Water Management polymers - at manufacturer's rate for specific tree and Shrub size.

Planting Mixture No. 2 - for Perennial and Groundcover Plants.

- 1 part dehydrated cow manure

- 2 parts peat moss

- 4 parts topsoil

- Water Management polymers - at manufacturer's rates for specific plant size.

**Topsoil:**

As per Section 0944101A.

**Fertilizers:**

Deliver fertilizers in unimpaired condition, in sealed containers fully labeled according to applicable State Law.

Bonemeal shall be finely ground commercial raw bonemeal having a minimum analysis of one (1) percent nitrogen and eleven (11) percent phosphoric acid.

Plant fertilizers shall be a complete plant food with a guaranteed analysis of 10.10.10 unless otherwise approved by Engineer. Fertilizer shall contain 50% slow release nitrogen and 50% quick release nitrogen.

**Peat:**

Conform to Form 817, Article M.13.07.13.

**Dehydrated Cow Manure:**

“Bovung” with a guaranteed analysis of 2:1:1 or approved equal.

**Water Management Polymer:**

Terrasorb AG as distributed by Industrial Services International, Inc., Bradenton, Fla., or approved equal.

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#0949000A

**Mulch:**

Shall be fine double shredded bark mulch. Sample to be approved.

**Anti-Desiccant:**

Conform to Form 817, Article M.13.07.14(g).

**Upright Stakes:**

Conform to Form 817, Article M.13.07.14(b).

**Guy Wire for Staking:**

Conform to Form 817, Article M.13.07.14(d).

**Tree Tie Webbing:**

UV-Resistant polypropylene or nylon webbing with brass grommets.

**Tree Wrapping Material:**

Conform to Form 817, Article M.13.07.14(h).

**CONSTRUCTION METHODS:****Planting Mixture:**

Provide planting mixtures for specific plants, shrubs, groundcover, as specified. Thoroughly mix all amendments to topsoil prior to commencing planting operations. Provide planting mixture for backfilling continuously excavated plant beds.

**Planting Procedures, Balled and Burlapped Planting:**

Verify the location of underground utilities. When obstructions below ground or poor drainage affect the planting operation, proposed adjustments to plant location, type of plant, and planting method or drainage correction shall be submitted. Stake all plant locations in the field as per the planting plan. Obtain Engineer approval of all plant locations and orientation.

Excavate plant pits as detailed, remove excess excavated material. Scarify bottom and sides of each plant pit. Tree pits minimum 24" greater in diameter than the plant ball, and 6" deeper except as detailed. Shrub excavations shall be minimum 12" greater in diameter than ball and 6" deeper.

All plant pits must be free draining. Notify Engineer if positive drainage does not exist.

Set all plants in the center of plant pits, plumb and straight and as detailed on the drawings. The side of the trees flagged "North Side" shall be oriented due North prior to backfilling.

Handle balled and burlapped plants from the ball only.

Face plants other than trees to give best appearance and as accepted by Engineer.

Carefully remove only surplus bindings and synthetic materials that do not readily decompose. Fold burlap away from top one third of root ball. Remove portions of any wire baskets, if present.

Backfill all pits 2/3 their depth with prepared plant backfill mixture, water thoroughly and allow to settle, then tamp around to fill all voids and air pockets. Complete backfilling to conform to required elevation

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after settlement.

Form saucer and install mulch over entire plant pit and saucer area as detailed.

**Continuous Excavation:**

All perennial and shrub plant beds are to be continuously excavated to depths required to allow installation of specified backfill mixture. Backfill completely with specified Plant Mix. Protect groundcover and perennial plants from the sun. Soak roots for several hours prior to planting. Remove from container and gently break apart any container-bound root mass. Install plants as specified in this Section.

**Fertilizers for Plant Pit Saucers:**

Conform to Form 817, Article 9.49.03.9.

**Finishing Operations:**

Staking Trees: Conform to Form 817, Article 9.49.03.11.

Wrapping: Conform to Form 817, Article 9.49.03.12.

Mulching: Conform to Form 817, Article 9.49.03.15.

Anti-Desiccant: Conform to Form 817, Article 9.49.03.14.

Watering Plants: Conform to Form 817, Article 9.49.03.10.

Pruning: Conform to Form 817, Article 9.49.03.13.

**Repair of Lawn Areas:**

Repair all lawn areas damaged/disturbed during all planting operations. Provide sediment and erosion control measures as required to protect un-established areas from erosion.

**Maintenance of Plantings:**

Period required begins immediately after planting and includes all transplanted material. Continue until the end of the guarantee period.

Maintenance Requirements: Maintenance responsibilities include cultivating, spraying, weeding, watering, tightening guys, pruning, fertilizing, mulching and any other operations necessary to properly maintain plant viability. Correct defective work as soon as possible. Correct dangerous conditions immediately.

**METHOD OF MEASUREMENT:**

**Planting:**

The quantity for which payment will be made will be the number of each size and kind of plants counted in place, planted and accepted.

**Mulching:**

This work will be measured for payment by the number of square yards surface measurement of the specified thickness for the area on which mulch has been completed and accepted.

**BASIS OF PAYMENT:**

**Planting:**

Payment for this work will be made at the contract unit price each for the kind and size of plant and method of planting, as the case may be, completed and accepted in place. The unit prices shall include all materials,

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equipment, tools, labor, transportation, operations and all work incidental thereto, including source inspection; plant pit excavation and preparation and installation of all backfill mixtures; planting all trees, shrubs, perennials, and groundcovers, including finishing operations; mulch for all plant bed and saucer areas; mineral mulch, steel edging and weed barrier fabric for maintenance strip; steel edging for shrub, perennial and groundcover beds; protection, maintenance and replacement of plant material and related items; and the removal of guy wires, hose and tree support stakes after the initial establishment period

**Mulching:**

This work will be paid for at the contract unit price per square yard for mulch complete in place.

**Pay Item**

**Pay Unit**

|   |    |
|---|----|
| Pyrus Calleryana 'Chanticleer Flowering Pear' 2 1/2-3" Cal.   | EA |
| Platanus Acerfolis 'Bloddgood London Planetree' 2 1/2-3" Cal. | EA |
| Acer Rubrum 'October Glory Red Maple' 2 1/2-3" Cal.           | EA |
| Wood Chip Mulch   | SY |



**ITEM #0950005A- TURF ESTABLISHMENT**

**9.50.02—Materials:** Delete and replace with the following

Unless otherwise specified by the Engineer, the seed mixture shall conform to the following:

| <u>Variety</u>              | <u>Proportion by<br/>Weight Percent</u> | <u>Min. Purity<br/>Percent</u> | <u>Min. Germination<br/>Percent</u> |
|-----------------------------|---|--------------------------------|-------------------------------------|
| A 34 Kentucky               | 25                                      | 90                             | 30                                  |
| Georgetown Kentucky         | 25                                      | 90                             | 30                                  |
| Touchdown Kentucky          | 25                                      | 90                             | 30                                  |
| Palmer Perennial Ryegrass   | 8.33                                    | 90                             | 90                                  |
| Pennfine Perennial Ryegrass | 8.33                                    | 90                             | 90                                  |
| Fiesta Perennial Ryegrass   | 8.33                                    | 90                             | 90                                  |

Other improved seed varieties of similar type may be substituted upon approval of the Superintendant of Parks for the City of New Britain. All seed shall be subject to the testing provisions of the Association of Official Seed Analysts.

**Pay Item**

Turf Establishment

**Pay Unit**

SY

**ITEM #0970006A - TRAFFICPERSON (MUNICIPAL POLICE OFFICER)**  
**ITEM #0970007A - TRAFFICPERSON (UNIFORMED FLAGGER)**

**9.70.01—Description:** Under this item the Contractor shall provide the services of Trafficpersons of the type and number, and for such periods, as the Engineer approves for the control and direction of vehicular traffic and pedestrians. Traffic persons requested solely for the contractor's operational needs will not be approved for payment.

**9.70.03—Construction Method:** Prior to the start of operations on the project requiring the use of Trafficpersons, a meeting will be held with the Contractor, Trafficperson agency or firm, Engineer, and State Police, if applicable, to review the Trafficperson operations, lines of responsibility, and operating guidelines which will be used on the project. A copy of the municipality's billing rates for Municipal Police Officers and vehicles, if applicable, will be provided to the Engineer prior to start of work.

On a weekly basis, the Contractor shall inform the Engineer of their scheduled operations for the following week and the number of Trafficpersons requested. The Engineer shall review this schedule and approve the type and number of Trafficpersons required. In the event of an unplanned, emergency, or short term operation, the Engineer may approve the temporary use of properly clothed persons for traffic control until such time as an authorized Trafficperson may be obtained. In no case shall this temporary use exceed 8 hours for any particular operation.

If the Contractor changes or cancels any scheduled operations without prior notice of same as required by the agency providing the Trafficpersons, and such that Trafficperson services are no longer required, the Contractor will be responsible for payment at no cost to the Department of any show-up cost for any Trafficperson not used because of the change. Exceptions, as approved by the Engineer, may be granted for adverse weather conditions and unforeseeable causes beyond the control and without the fault or negligence of the Contractor.

Trafficpersons assigned to a work site are to only take direction from the Engineer.

Trafficpersons shall wear a high visibility safety garment that complies with OSHA, MUTCD, ASTM Standards and the safety garment shall have the words "Traffic Control" clearly visible on the front and rear panels (minimum letter size 2 inches (50 millimeters). Worn/faded safety garments that are no longer highly visible shall not be used. The Engineer shall direct the replacement of any worn/faded garment at no cost to the State.

A Trafficperson shall assist in implementing the traffic control specified in the Maintenance and Protection of Traffic contained elsewhere in these specifications or as directed by the Engineer. Any situation requiring a Trafficperson to operate in a manner contrary to the Maintenance and Protection of Traffic specification shall be authorized in writing by the Engineer.

Trafficpersons shall consist of the following types:

**1. Uniformed Law Enforcement Personnel:** Law enforcement personnel shall wear the high visibility safety garment provided by their law enforcement agency. If no high visibility safety

garment is provided, the Contractor shall provide the law enforcement personnel with a garment meeting the requirements stated for the Uniformed Flaggers' garment.

Law Enforcement Personnel may be also be used to conduct motor vehicle enforcement operations in and around work areas as directed and approved by the Engineer.

**Municipal Police Officers:** Uniformed Municipal Police Officers shall be sworn Municipal Police Officers or Uniformed Constables who perform criminal law enforcement duties from the Municipality in which the project is located. Their services will also include an official Municipal Police vehicle when requested by the Engineer. Uniformed Municipal Police Officers will be used on non-limited access highways. If Uniformed Municipal Police Officers are unavailable, other Trafficpersons may be used when authorized in writing by the Engineer. Uniformed Municipal Police Officers and requested Municipal Police vehicles will be used at such locations and for such periods as the Engineer deems necessary to control traffic operations and promote increased safety to motorists through the construction sites.

**2. Uniformed Flagger:** Uniformed Flaggers shall be persons who have successfully completed flagger training by the American Traffic Safety Services Association (ATSSA), National Safety Council (NSC) or other programs approved by the Engineer. A copy of the Flagger's training certificate shall be provided to the Engineer before the Flagger performs any work on the project. Uniformed Flaggers shall conform to Chapter 6E, Flagger Control, in the Manual of Uniformed Traffic Control Devices (MUTCD) and shall wear high-visibility safety apparel, use a STOP/SLOW paddle that is at least 18 inches (450 millimeters) in width with letters at least 6 inches (150 millimeters) high. The paddle shall be mounted on a pole of sufficient length to be 6 feet (1.8 meters) above the ground as measured from the bottom of the sign.

Uniformed Flaggers will only be used on non-limited access highways to control traffic operations when authorized in writing by the Engineer.

**9.70.04—Method of Measurement:** Services of Trafficpersons will be measured for payment by the actual number of hours for each person rendering services approved by the Engineer. These services shall include, however, only such trafficpersons as are employed within the limits of construction, project right of way of the project or along detours authorized by the Engineer to assist the motoring public through the construction work zone. Services for continued use of a detour or bypass beyond the limitations approved by the Engineer, for movement of construction vehicles and equipment, or at locations where traffic is unnecessarily restricted by the Contractor's method of operation, will not be measured for payment.

Trafficpersons shall not work more than twelve hours in any one 24 hour period. In case such services are required for more than twelve hours, additional Trafficpersons shall be furnished and measured for payment. In cases where the Trafficperson is an employee on the Contractor's payroll, payment under the item "Trafficperson (Uniformed Flagger)" will be made only for those hours when the Contractor's employee is performing Trafficperson services.

Travel time will not be measured for payment for services provided by Uniformed Municipal Police Officers or Uniformed Flaggers.

Mileage fees associated with Trafficperson services will not be measured for payment.

Safety garments and STOP/SLOW paddles will not be measured for payment.

**9.70.05—Basis of Payment:** Trafficpersons will be paid in accordance with the schedule described herein.

There will be no direct payment for safety garments or STOP/SLOW paddles. All costs associated with furnishing safety garments and STOP/SLOW paddles shall be considered included in the general cost of the item.

**1. Uniformed Law Enforcement Personnel:** The sum of money shown on the Estimate and in the itemized proposal as "Estimated Cost" for this work will be considered the bid price even though payment will be made as described below. The estimated cost figure is not to be altered in any manner by the bidder. Should the bidder alter the amount shown, the altered figures will be disregarded and the original price will be used to determine the total amount for the contract.

The Department will pay the Contractor its actual costs for "Trafficperson (Municipal Police Officer)" plus an additional 5% as reimbursement for the Contractor's administrative expense in connection with the services provided.

The invoice must include a breakdown of each officer's actual hours of work and actual rate applied. Mileage fees associated with Trafficperson services are not reimbursable expenses and are not to be included in the billing invoice. The use of a municipal police vehicle authorized by the Engineer will be paid at the actual rate charged by the municipality. Upon receipt of the invoice from the municipality, the Contractor shall forward a copy to the Engineer. The invoice will be reviewed and approved by the Engineer prior to any payments. *Eighty (80%) of the invoice will be paid upon completion of review and approval. The balance (20%) will be paid upon receipt of cancelled check or receipted invoice, as proof of payment.* The rate charged by the municipality for use of a uniformed municipal police officer and/or a municipal police vehicle shall not be greater than the rate it normally charges others for similar services.

**2. Uniformed Flagger:** Uniformed flaggers will be paid for at the contract unit price per hour for "Trafficperson (Uniformed Flagger)", which price shall include all compensation, insurance benefits and any other cost or liability incidental to the furnishing of the trafficpersons ordered.

**Pay Item**

Trafficperson (Municipal Police Officer)  
Trafficperson (Uniformed Flagger)

**Pay Unit**

est.  
Hr.

## **ITEM No. 0971001A – MAINTENANCE AND PROTECTION OF TRAFFIC**

### **Article 9.71.01 – Description is supplemented by the following:**

The Contractor shall maintain and protect traffic as described by the following and as limited in the Special Provision "Prosecution and Progress":

#### **Columbus Boulevard, Chestnut Street and Herald Square**

The Contractor shall maintain and protect a minimum of one lane of traffic in each direction, each lane on a paved travel path not less than 11 feet in width.

Excepted therefrom will be those periods, during the allowable periods, when the Contractor is actively working, at which time the Contractor shall maintain and protect at least an alternating one-way traffic operation, on a paved travel path not less than 11 feet in width. The length of the alternating one-way traffic operation shall not exceed 300 feet and there shall be no more than one alternating one-way traffic operation within the project limits without prior approval of the Engineer.

The Contractor shall maintain and protect the existing number of on-street parking spaces. Excepted therefrom will be those periods, during the allowable periods, at which time the Contractor will be allowed to close up to ten (10) parking spaces, at the same time, to perform construction activities. Parking spaces removed from service shall be clearly closed by use of approved traffic drums, cones or barricades. All Contractor vehicles parked on-street will be included in the above mentioned parking calculation. Adjacent parking meters shall be bagged or removed while the parking spaces are not in service.

#### **Commercial and Residential Driveways**

The Contractor shall maintain access to and egress from all commercial and residential driveways throughout the project limits. The Contractor will be allowed to close said driveways to perform the required work during those periods when the businesses are closed, unless permission is granted from the business owner to close the driveway during business hours. If a temporary closure of a residential driveway is necessary, the Contractor shall coordinate with the owner to determine the time period of the closure.

### **Article 9.71.03 - Construction Method is supplemented as follows:**

#### **General**

Unpaved travel paths will only be permitted for areas requiring full depth and full width reconstruction, in which case, the Contractor will be allowed to maintain traffic on processed aggregate for a duration not to exceed 2 calendar days. The unpaved section shall be the full width of the road and perpendicular to the travel lanes.

The Contractor is required to delineate any raised structures within the travel lanes, so that the structures are visible day and night, unless there are specific contract plans and provisions to temporarily lower these structures prior to the completion of work.

When the installation of all intermediate courses of bituminous concrete pavement is completed for the entire roadway, the Contractor shall install the final course of bituminous concrete pavement.

If applicable, when an existing sign is removed, it shall be either relocated or replaced by a new sign during the same working day.

The Contractor shall not store any material on-site which would present a safety hazard to motorists or pedestrians (e.g. fixed object or obstruct sight lines).

The field installation of a signing pattern shall constitute interference with existing traffic operations and shall not be allowed, except during the allowable periods.

### **Signing Patterns**

The Contractor shall erect and maintain all signing patterns in accordance with the traffic control plans contained herein. Proper distances between advance warning signs and proper taper lengths are mandatory.

### **Pavement Markings -Non-Limited Access Multilane Roadways Secondary and Local Roadways**

During construction, the Contractor shall maintain all pavement markings on paved surfaces on all roadways throughout the limits of the project.

### **Interim Pavement Markings**

The Contractor shall install painted pavement markings, which shall include centerlines, shoulder edge lines, lane lines (broken lines), lane-use arrows, and stop bars, on each intermediate course of bituminous concrete pavement and on any milled surface by the end of the work day/night. If the next course of bituminous concrete pavement will be placed within seven days, shoulder edge lines are not required. The painted pavement markings will be paid under the appropriate items.

If the Contractor will install another course of bituminous concrete pavement within 24 hours, the Contractor may install Temporary Plastic Pavement Marking Tape in place of the painted pavement markings by the end of the work day/night. These temporary pavement markings shall include centerlines, lane lines (broken lines) and stop bars; shoulder edge lines are not required. Centerlines shall consist of two 4 inch wide yellow markings, 2 feet in length, side by side, 4 to 6 inches apart, at 40-foot intervals. No passing zones should be posted with signs in those areas where the final centerlines have not been established on two-way roadways. Stop bars may consist of two 6 inch wide white markings or three 4 inch wide white markings placed side by side. The Contractor shall remove and dispose of the Temporary Plastic Pavement Marking Tape when another course of bituminous concrete pavement is installed. The cost of furnishing, installing and removing the Temporary Plastic Pavement Marking Tape shall be at the Contractor's expense.

If an intermediate course of bituminous concrete pavement will be exposed throughout the winter, then Epoxy Resin Pavement Markings should be installed unless directed otherwise by the Engineer.

### **Final Pavement Markings**

The Contractor should install painted pavement markings on the final course of bituminous concrete pavement by the end of the work day/night. If the painted pavement markings are not installed by the end of the work day/night, then Temporary Plastic Pavement Marking Tape shall be installed as described above and the painted pavement markings shall be installed by the end of the work day/night on Friday of that week.

If Temporary Plastic Pavement Marking Tape is installed, the Contractor shall remove and dispose of these markings when the painted pavement markings are installed. The cost of furnishing, installing and removing the Temporary Plastic Pavement Marking Tape shall be at the Contractor's expense.

The Contractor shall install permanent Epoxy Resin Pavement Markings in accordance with Section 12.10 entitled "Epoxy Resin Pavement Markings, Symbols, and Legends" after such time as determined by the Engineer.

## **TRAFFIC CONTROL DURING CONSTRUCTION OPERATIONS**

The following guidelines shall assist field personnel in determining when and what type of traffic control patterns to use for various situations. These guidelines shall provide for the safe and efficient movement of traffic through work zones and enhance the safety of work forces in the work area.

### **TRAFFIC CONTROL PATTERNS**

Traffic control patterns shall be used when a work operation requires that all or part of any vehicle or work area protrudes onto any part of a travel lane or shoulder. For each situation, the installation of traffic control devices shall be based on the following:

- Speed and volume of traffic
- Duration of operation
- Exposure to hazards

Traffic control patterns shall be uniform, neat and orderly so as to command respect from the motorist.

In the case of a horizontal or vertical sight restriction in advance of the work area, the traffic control pattern shall be extended to provide adequate sight distance for approaching traffic.

If a lane reduction taper is required to shift traffic, the entire length of the taper should be installed on a tangent section of roadway so that the entire taper area can be seen by the motorist.

Any existing signs that are in conflict with the traffic control patterns shall be removed, covered, or turned so that they are not readable by oncoming traffic.

When installing a traffic control pattern, a Buffer Area should be provided and this area shall be free of equipment, workers, materials and parked vehicles.

Typical traffic control plans 19 through 25 may be used for moving operations such as line striping, pot hole patching, mowing, or sweeping when it is necessary for equipment to occupy a travel lane.

Traffic control patterns will not be required when vehicles are on an emergency patrol type activity or when a short duration stop is made and the equipment can be contained within the shoulder. Flashing lights and appropriate trafficperson shall be used when required.

Although each situation must be dealt with individually, conformity with the typical traffic control plans contained herein is required. In a situation not adequately covered by the typical traffic control plans, the Contractor must contact the Engineer for assistance prior to setting up a traffic control pattern.

### **PLACEMENT OF SIGNS**

Signs must be placed in such a position to allow motorists the opportunity to reduce their speed prior to the work area. Signs shall be installed on the same side of the roadway as the work area. On multi-lane divided highways, advance warning signs shall be installed on both sides of the highway. On directional roadways (on-ramps, off-ramps, one-way roads), where the sight distance to signs is restricted, these signs should be installed on both sides of the roadway.

### **ALLOWABLE ADJUSTMENT OF SIGNS AND DEVICES SHOWN ON THE TRAFFIC CONTROL PLANS**

The traffic control plans contained herein show the location and spacing of signs and devices under ideal conditions. Signs and devices should be installed as shown on these plans whenever possible.

The proper application of the traffic control plans and installation of traffic control devices depends on actual field conditions.

Adjustments to the traffic control plans shall be made only at the direction of the Engineer to improve the visibility of the signs and devices and to better control traffic operations. Adjustments to the traffic control plans shall be based on safety of work forces and motorists, abutting property requirements, driveways, side roads, and the vertical and horizontal curvature of the roadway.

The Engineer may require that the traffic control pattern be located significantly in advance of the work area to provide better sight line to the signing and safer traffic operations through the work zone.



Table I indicates the minimum taper length required for a lane closure based on the posted speed limit of the roadway. These taper lengths shall only be used when the recommended taper lengths shown on the traffic control plans cannot be achieved.

**TABLE I – MINIMUM TAPER LENGTHS**

| POSTED SPEED LIMIT<br>MILES PER HOUR | MINIMUM TAPER LENGTH IN FEET FOR<br>A SINGLE LANE CLOSURE |
|--------------------------------------|---|
| 30 OR LESS                           | 180   |
| 35                                   | 250   |
| 40                                   | 320   |
| 45                                   | 540   |
| 50                                   | 600   |
| 55                                   | 660   |
| 65                                   | 780   |

## **SECTION 1. WORK ZONE SAFETY MEETINGS**

- 1.a) Prior to the commencement of work, a work zone safety meeting will be conducted with representatives of DOT Construction, Connecticut State Police (Local Barracks), Municipal Police, the Contractor (Project Superintendent) and the Traffic Control Subcontractor (if different than the prime Contractor) to review the traffic operations, lines of responsibility, and operating guidelines which will be used on the project. Other work zone safety meetings during the course of the project should be scheduled as needed.
- 1.b) A Work Zone Safety Meeting Agenda shall be developed and used at the meeting to outline the anticipated traffic control issues during the construction of this project. Any issues that can't be resolved at these meetings will be brought to the attention of the District Engineer and the Office of Construction. The agenda should include:
  - Review Project scope of work and time
  - Review Section 1.08, Prosecution and Progress
  - Review Section 9.70, Trafficpersons
  - Review Section 9.71, Maintenance and Protection of Traffic
  - Review Contractor's schedule and method of operations.
  - Review areas of special concern: ramps, turning roadways, medians, lane drops, etc.
  - Open discussion of work zone questions and issues
  - Discussion of review and approval process for changes in contract requirements as they relate to work zone areas

## **SECTION 2. GENERAL**

- 2.a) If the required minimum number of signs and equipment (i.e. one High Mounted Internally Illuminated Flashing Arrow for each lane closed, two TMAs, Changeable Message Sign, etc.) are not available; the traffic control pattern shall not be installed.

- 2.b) The Contractor shall have back-up equipment (TMAs, High Mounted Internally Illuminated Flashing Arrow, Changeable Message Sign, construction signs, cones/drums, etc.) available at all times in case of mechanical failures, etc. The only exception to this is in the case of sudden equipment breakdowns in which the pattern may be installed but the Contractor must provide replacement equipment within 24 hours.
- 2.c) Failure of the Contractor to have the required minimum number of signs, personnel and equipment, which results in the pattern not being installed, shall not be a reason for a time extension or claim for loss time.
- 2.d) In cases of legitimate differences of opinion between the Contractor and the Inspection staff, the Inspection staff shall err on the side of safety. The matter shall be brought to the District Office for resolution immediately or, in the case of work after regular business hours, on the next business day.

### **SECTION 3. INSTALLING AND REMOVING TRAFFIC CONTROL PATTERNS**

- 3.a) Lane Closures shall be installed beginning with the advance warning signs and proceeding forward toward the work area.
- 3.b) Lane Closures shall be removed in the reverse order, beginning at the work area, or end of the traffic control pattern, and proceeding back toward the advance warning signs.
- 3.c) Stopping traffic may be allowed:
  - As per the contract for such activities as blasting, steel erection, etc.
  - During paving, milling operations, etc. where, in the middle of the operation, it is necessary to flip the pattern to complete the operation on the other half of the roadway and traffic should not travel across the longitudinal joint or difference in roadway elevation.
  - To move slow moving equipment across live traffic lanes into the work area.
- 3.d) Under certain situations when the safety of the traveling public and/or that of the workers may be compromised due to conditions such as traffic volume, speed, roadside obstructions, or sight line deficiencies, as determined by the Engineer and/or State Police, traffic may be briefly impeded while installing and/or removing the advance warning signs and the first ten traffic cones/drums only. Appropriate measures shall be taken to safely slow traffic. If required, traffic slowing techniques may be used and shall include the use of Truck Mounted Impact Attenuators (TMAs) as appropriate, for a minimum of one mile in advance of the pattern starting point. Once the advance warning signs and the first ten traffic cones/drums are installed/removed, the TMAs and sign crew shall continue to install/remove the pattern as described in Section 5 and traffic shall be allowed to resume their normal travel.

- 3.e) The Contractor must adhere to using the proper signs, placing the signs correctly, and ensuring the proper spacing of signs.
- 3.f) Additional devices are required on entrance ramps, exit ramps, and intersecting roads to warn and/or move traffic into the proper travel path prior to merging/exiting with/from the main line traffic. This shall be completed before installing the mainline pattern past the ramp or intersecting roadway.
- 3.g) Prior to installing a pattern, any conflicting existing signs shall be covered with an opaque material. Once the pattern is removed, the existing signs shall be uncovered.
- 3.h) On limited access roadways, workers are prohibited from crossing the travel lanes to install and remove signs or other devices on the opposite side of the roadway. Any signs or devices on the opposite side of the roadway shall be installed and removed separately.

#### **SECTION 4. USE OF HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW**

- 4.a) On limited access roadways, one Flashing Arrow shall be used for each lane that is closed. The Flashing Arrow shall be installed concurrently with the installation of the traffic control pattern and its placement shall be as shown on the traffic control plan. For multiple lane closures, one Flashing Arrow is required for each lane closed. If conditions warrant, additional Flashing Arrows should be employed (i.e.: curves, major ramps, etc.).
- 4.b) On non-limited access roadways, the use of a Flashing Arrow for lane closures is optional. The roadway geometry, sight line distance, and traffic volume should be considered in the decision to use the Flashing Arrow.
- 4.c) The Flashing Arrow shall not be used on two lane, two-way roadways for temporary alternating one-way traffic operations.
- 4.d) The Flashing Arrow board display shall be in the “arrow” mode for lane closure tapers and in the “caution” mode (four corners) for shoulder work, blocking the shoulder, or roadside work near the shoulder. The Flashing Arrow shall be in the “caution” mode when it is positioned in the closed lane.
- 4.e) The Flashing Arrow shall not be used on a multi-lane roadway to laterally shift all lanes of traffic, because unnecessary lane changing may result.

#### **SECTION 5. USE OF TRUCK MOUNTED IMPACT ATTENUATOR VEHICLES (TMAs)**

- 5.a) For lane closures on limited access roadways, a minimum of two TMAs shall be used to install and remove traffic control patterns. If two TMAs are not available, the pattern shall not be installed.

- 5.b) On non-limited access roadways, the use of TMAs to install and remove patterns closing a lane(s) is optional. The roadway geometry, sight line distance, and traffic volume should be considered in the decision to utilize the TMAs.
- 5.c) Generally, to establish the advance and transition signing, one TMA shall be placed on the shoulder and the second TMA shall be approximately 1,000 feet ahead blocking the lane. The flashing arrow board mounted on the TMA should be in the “flashing arrow” mode when taking the lane. The sign truck and workers should be immediately ahead of the second TMA. In no case shall the TMA be used as the sign truck or a work truck. Once the transition is in place, the TMAs shall travel in the closed lane until all Changeable Message Signs, signs, Flashing Arrows, and cones/drums are installed. The flashing arrow board mounted on the TMA should be in the “caution” mode when traveling in the closed lane.
- 5.d) A TMA shall be placed prior to the first work area in the pattern. If there are multiple work areas within the same pattern, then additional TMAs shall be positioned at each additional work area as needed. The flashing arrow board mounted on the TMA should be in the “caution” mode when in the closed lane.
- 5.e) TMAs shall be positioned a sufficient distance prior to the workers or equipment being protected to allow for appropriate vehicle roll-ahead in the event that the TMA is hit, but not so far that an errant vehicle could travel around the TMA and into the work area. For additional placement and use details, refer to the specification entitled “Type ‘D’ Portable Impact Attenuation System”. Some operations, such as paving and concrete repairs, do not allow for placement of the TMA(s) within the specified distances. In these situations, the TMA(s) should be placed at the beginning of the work area and shall be advanced as the paving or concrete operations proceed.
- 5.f) TMAs should be paid in accordance with how the unit is utilized. When it is used as a TMA and is in the proper location as specified, and then it should be paid at the specified hourly rate for “Type ‘D’ Portable Impact Attenuation System”. When the TMA is used as a Flashing Arrow, it should be paid at the daily rate for “High Mounted Internally Illuminated Flashing Arrow”. If a TMA is used to install and remove a pattern and then is used as a Flashing Arrow, the unit should be paid as a “Type ‘D’ Portable Impact Attenuation System” for the hours used to install and remove the pattern, typically 2 hours (1 hour to install and 1 hour to remove), and is also paid for the day as a “High Mounted Internally Illuminated Flashing Arrow”.

## **SECTION 6. USE OF TRAFFIC DRUMS AND TRAFFIC CONES**

- 6.a) Traffic drums shall be used for taper channelization on limited-access roadways, ramps, and turning roadways and to delineate raised catch basins and other hazards.
- 6.b) Traffic drums shall be used in place of traffic cones in traffic control patterns that are in effect for more than a 36-hour duration.

- 6.c) Traffic Cones less than 42 inches in height shall not be used on limited-access roadways or on non-limited access roadways with a posted speed limit of 45 mph and above.
- 6.d) Typical spacing of traffic drums and/or cones shown on the Traffic Control Plans in the Contract are maximum spacings and may be reduced to meet actual field conditions as required.

**SECTION 7. USE OF (REMOTE CONTROLLED) CHANGEABLE MESSAGE SIGNS (CMS)**

- 7.a) For lane closures on limited access roadways, one CMS shall be used in advance of the traffic control pattern. Prior to installing the pattern, the CMS shall be installed and in operation, displaying the appropriate lane closure information (i.e.: Left Lane Closed - Merge Right). The CMS shall be positioned  $\frac{1}{2}$  - 1 mile ahead of the lane closure taper. If the nearest Exit ramp is greater than the specified  $\frac{1}{2}$  - 1 mile distance, than an additional CMS shall be positioned a sufficient distance ahead of the Exit ramp to alert motorists to the work and therefore offer them an opportunity to take the exit.
- 7.b) CMS should not be installed within 1000 feet of an existing CMS.
- 7.c) On non-limited access roadways, the use of CMS for lane closures is optional. The roadway geometry, sight line distance, and traffic volume should be considered in the decision to use the CMS.
- 7.d) The advance CMS is typically placed off the right shoulder, 5 feet from the edge of pavement. In areas where the CMS cannot be placed beyond the edge of pavement, it may be placed on the paved shoulder with a minimum of five (5) traffic drums placed in a taper in front of it to delineate its position. The advance CMS shall be adequately protected if it is used for a continuous duration of 36 hours or more.
- 7.e) When the CMS are no longer required, they should be removed from the clear zone and have the display screen cleared and turned 90° away from the roadway.
- 7.f) The CMS generally should not be used for generic messages (ex: Road Work Ahead, Bump Ahead, Gravel Road, etc.).
- 7.g) The CMS should be used for specific situations that need to command the motorist's attention which cannot be conveyed with standard construction signs (Examples include: Exit 34 Closed Sat/Sun - Use Exit 35, All Lanes Closed - Use Shoulder, Workers on Road - Slow Down).
- 7.h) Messages that need to be displayed for long periods of time, such as during stage construction, should be displayed with construction signs. For special signs, please coordinate with the Office of Construction and the Division of Traffic Engineering for the proper layout/dimensions required.
- 7.i) The messages that are allowed on the CMS are as follows:

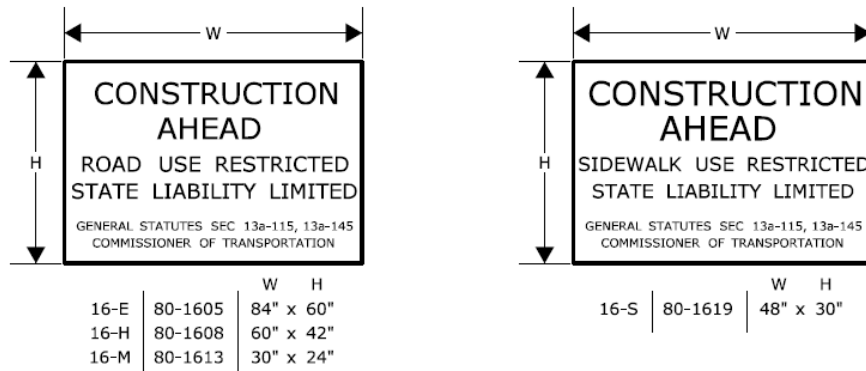
| <u>Message No.</u> | <u>Frame 1</u>             | <u>Frame 2</u>  | <u>Message No.</u> | <u>Frame 1</u>              | <u>Frame 2</u>   |
|--------------------|----------------------------|-----------------|--------------------|-----------------------------|------------------|
| 1                  | LEFT<br>LANE<br>CLOSED     | MERGE<br>RIGHT  | 9                  | LANES<br>CLOSED<br>AHEAD    | REDUCE<br>SPEED  |
| 2                  | 2 LEFT<br>LANES<br>CLOSED  | MERGE<br>RIGHT  | 10                 | LANES<br>CLOSED<br>AHEAD    | USE<br>CAUTION   |
| 3                  | LEFT<br>LANE<br>CLOSED     | REDUCE<br>SPEED | 11                 | WORKERS<br>ON<br>ROAD       | REDUCE<br>SPEED  |
| 4                  | 2 LEFT<br>LANES<br>CLOSED  | REDUCE<br>SPEED | 12                 | WORKERS<br>ON<br>ROAD       | SLOW<br>DOWN     |
| 5                  | RIGHT<br>LANE<br>CLOSED    | MERGE<br>LEFT   | 13                 | EXIT XX<br>CLOSED           | USE<br>EXIT YY   |
| 6                  | 2 RIGHT<br>LANES<br>CLOSED | MERGE<br>LEFT   | 14                 | EXIT XX<br>CLOSED<br>USE YY | FOLLOW<br>DETOUR |
| 7                  | RIGHT<br>LANE<br>CLOSED    | REDUCE<br>SPEED | 15                 | 2 LANES<br>SHIFT<br>AHEAD   | USE<br>CAUTION   |
| 8                  | 2 RIGHT<br>LANES<br>CLOSED | REDUCE<br>SPEED | 16                 | 3 LANES<br>SHIFT<br>AHEAD   | USE<br>CAUTION   |

For any other message(s), approval must be received from the Office of Construction prior to their use. No more than two (2) displays shall be used within any message cycle.

## **SECTION 8. USE OF STATE POLICE OFFICERS**

- 8.a) State Police may be utilized only on limited access highways and secondary roadways under their primary jurisdiction. One Officer may be used per critical sign pattern. Shoulder closures and right lane closures can generally be implemented without the presence of a State Police Officer. Likewise in areas with moderate traffic and wide, unobstructed medians, left lane closures can be implemented without State Police presence. Under some situations it may be desirable to have State Police presence, when one is available. Examples of this include: nighttime lane closures; left lane closures with minimal width for setting up advance signs and staging; lane and shoulder closures on turning roadways/ramps or mainline where sight distance is minimal; and closures where extensive turning movements or traffic congestion regularly occur, however they are not required.
- 8.b) Once the pattern is in place, the State Police Officer should be positioned in a non-hazardous location in advance of the pattern. If traffic backs up beyond the beginning of the pattern, then the State Police Officer shall be repositioned prior to the backup to give warning to the oncoming motorists. The State Police Officer and TMA should not be in proximity to each other.
- 8.c) Other functions of the State Police Officer(s) may include:
- Assisting entering/exiting construction vehicles within the work area.
  - Enforcement of speed and other motor vehicle laws within the work area, if specifically requested by the project.
- 8.d) State Police Officers assigned to a work site are to only take direction from the Engineer.

## SERIES 16 SIGNS



THE 16-S SIGN SHALL BE USED ON ALL PROJECTS THAT REQUIRE SIDEWALK RECONSTRUCTION OR RESTRICT PEDESTRIAN TRAVEL ON AN EXISTING SIDEWALK.

SERIES 16 SIGNS SHALL BE INSTALLED IN ADVANCE OF THE TRAFFIC CONTROL PATTERNS TO ALLOW MOTORISTS THE OPPORTUNITY TO AVOID A WORK ZONE. SERIES 16 SIGNS SHALL BE INSTALLED ON ANY MAJOR INTERSECTING ROADWAYS THAT APPROACH THE WORK ZONE. ON LIMITED-ACCESS HIGHWAYS, THESE SIGNS SHALL BE LOCATED IN ADVANCE OF THE NEAREST UPSTREAM EXIT RAMP AND ON ANY ENTRANCE RAMP PRIOR TO OR WITHIN THE WORK ZONE LIMITS.

THE LOCATION OF SERIES 16 SIGNS CAN BE FOUND ELSEWHERE IN THE PLANS OR INSTALLED AS DIRECTED BY THE ENGINEER.

SIGNS 16-E AND 16-H SHALL BE POST-MOUNTED.

SIGN 16-E SHALL BE USED ON ALL EXPRESSWAYS.

SIGN 16-H SHALL BE USED ON ALL RAMP, OTHER STATE ROADWAYS, AND MAJOR TOWN/CITY ROADWAYS.

SIGN 16-M SHALL BE USED ON OTHER TOWN ROADWAYS.

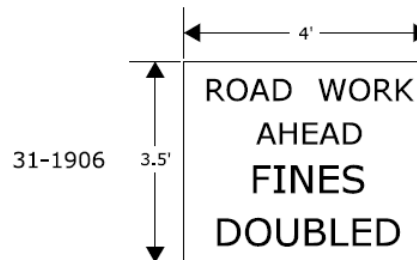
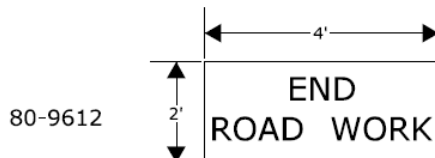
## REGULATORY SIGN "ROAD WORK AHEAD, FINES DOUBLED"

THE REGULATORY SIGN "ROAD WORK AHEAD FINES DOUBLED" SHALL BE INSTALLED FOR ALL WORK ZONES THAT OCCUR ON ANY STATE HIGHWAY IN CONNECTICUT WHERE THERE ARE WORKERS ON THE HIGHWAY OR WHEN THERE IS OTHER THAN EXISTING TRAFFIC OPERATIONS.

THE "ROAD WORK AHEAD FINES DOUBLED" REGULATORY SIGN SHALL BE PLACED AFTER THE SERIES 16 SIGN AND IN ADVANCE OF THE "ROAD WORK AHEAD" SIGN.

## "END ROAD WORK" SIGN

THE LAST SIGN IN THE PATTERN MUST BE THE "END ROAD WORK" SIGN.



SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN  
**REQUIRED SIGNS**

CONNECTICUT DEPARTMENT OF TRANSPORTATION  
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED

*Charles S. Harlow*  
PRINCIPAL ENGINEER

Charles S. Harlow  
2012.06.05 11:35:43-04'00'



## NOTES FOR TRAFFIC CONTROL PLANS

1. IF A TRAFFIC STOPPAGE OCCURS IN ADVANCE OF SIGN (A), THEN AN ADDITIONAL SIGN (A) SHALL BE INSTALLED IN ADVANCE OF THE STOPPAGE.
2. SIGNS (AA), (A), AND (D) SHOULD BE OMITTED WHEN THESE SIGNS HAVE ALREADY BEEN INSTALLED TO DESIGNATE A LARGER WORK ZONE THAN THE WORK ZONE THAT IS ENCOMPASSED ON THIS PLAN.
3. SEE TABLE 1 FOR ADJUSTMENT OF TAPERS IF NECESSARY.
4. IF THIS PLAN REMAINS IN CONTINUOUS OPERATION FOR MORE THAN 36 HOURS, THEN TRAFFIC DRUMS SHALL BE USED IN PLACE OF TRAFFIC CONES.
5. ANY LEGAL SPEED LIMIT SIGNS WITHIN THE LIMITS OF A ROADWAY / LANE CLOSURE AREA SHALL BE COVERED WITH AN OPAQUE MATERIAL WHILE THE CLOSURE IS IN EFFECT, AND UNCOVERED WHEN THE ROADWAY / LANE CLOSURE IS RE-OPENED TO ALL LANES OF TRAFFIC.
6. IF THIS PLAN REMAINS IN CONTINUOUS OPERATION FOR MORE THAN 36 HOURS, THEN ANY EXISTING CONFLICTING PAVEMENT MARKINGS SHALL BE ERADICATED OR COVERED, AND TEMPORARY PAVEMENT MARKINGS THAT DELINEATE THE PROPER TRAVELPATHS SHALL BE INSTALLED.
7. DISTANCES BETWEEN SIGNS IN THE ADVANCE WARNING AREA MAY BE REDUCED TO 100' ON LOW-SPEED URBAN ROADS (SPEED LIMIT < 40 MPH).
8. IF THIS PLAN IS TO REMAIN IN OPERATION DURING THE HOURS OF DARKNESS, INSTALL BARRICADE WARNING LIGHTS - HIGH INTENSITY ON ALL POST-MOUNTED DIAMOND SIGNS IN THE ADVANCE WARNING AREA.
9. A CHANGEABLE MESSAGE SIGN SHALL BE INSTALLED ONE HALF TO ONE MILE IN ADVANCE OF THE LANE CLOSURE TAPER.
10. SIGN (P) SHALL BE MOUNTED A MINIMUM OF 7 FEET FROM THE PAVEMENT SURFACE TO THE BOTTOM OF THE SIGN.

TABLE 1 - MINIMUM TAPER LENGTHS

| POSTED SPEED LIMIT<br>(MILES PER HOUR) | MINIMUM TAPER LENGTH FOR<br>A SINGLE LANE CLOSURE |
|--|---|
| 30 OR LESS                             | 180' (55m)  |
| 35                                     | 250' (75m)  |
| 40                                     | 320' (100m)                                       |
| 45                                     | 540' (165m)                                       |
| 50                                     | 600' (180m)                                       |
| 55                                     | 660' (200m)                                       |
| 65                                     | 780' (240m)                                       |

METRIC CONVERSION CHART (1" = 25mm)

| ENGLISH | METRIC | ENGLISH | METRIC | ENGLISH | METRIC |
|---------|--------|---------|--------|---------|--------|
| 12"     | 300mm  | 42"     | 1050mm | 72"     | 1800mm |
| 18"     | 450mm  | 48"     | 1200mm | 78"     | 1950mm |
| 24"     | 600mm  | 54"     | 1350mm | 84"     | 2100mm |
| 30"     | 750mm  | 60"     | 1500mm | 90"     | 2250mm |
| 36"     | 900mm  | 66"     | 1650mm | 96"     | 2400mm |



SCALE: NONE

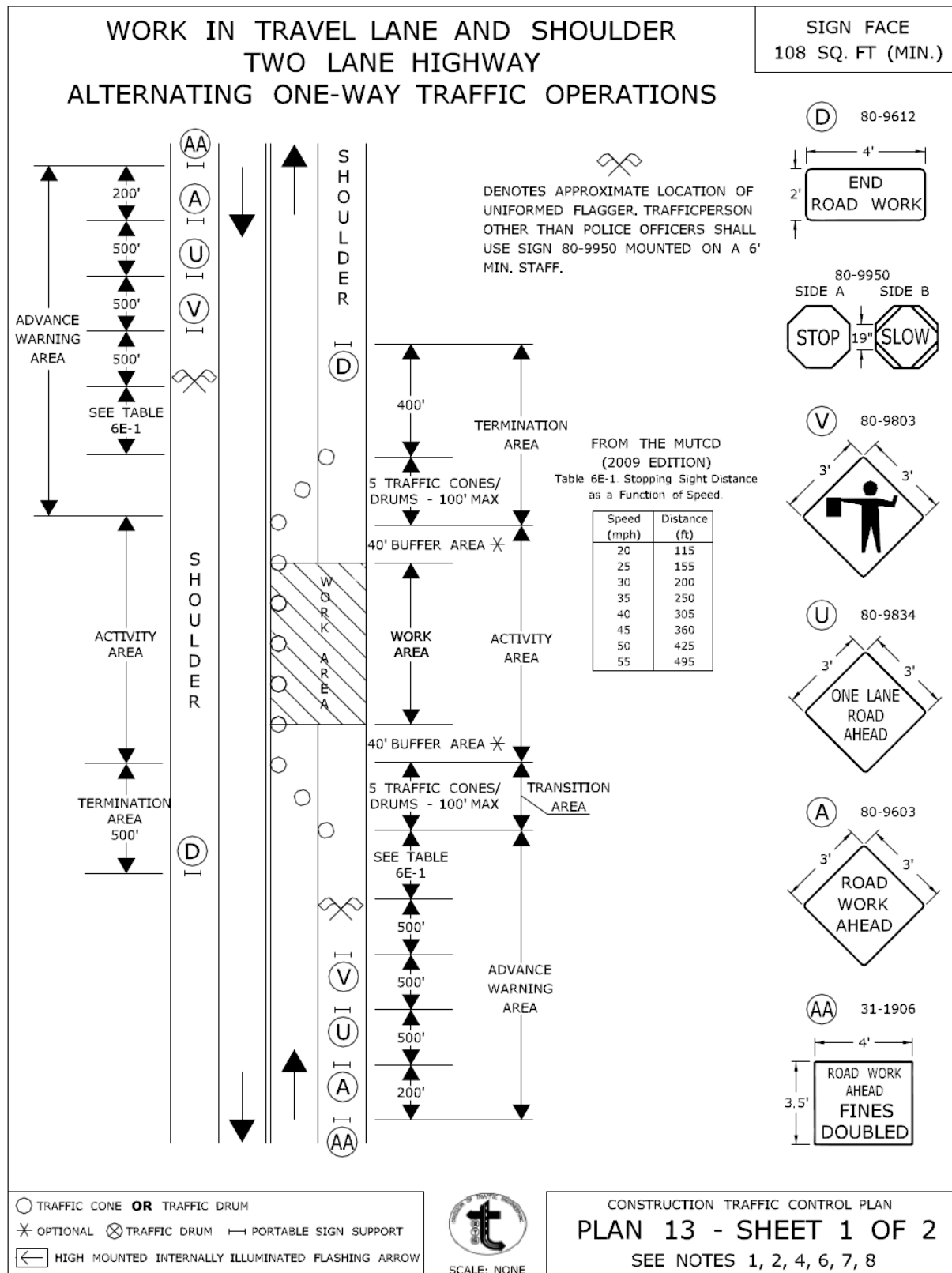
### CONSTRUCTION TRAFFIC CONTROL PLAN NOTES

CONNECTICUT DEPARTMENT OF TRANSPORTATION  
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED

*Charles S. Harlow*  
PRINCIPAL ENGINEER

Charles S. Harlow  
2012.06.05 15:50:35-0400



# WORK IN TRAVEL LANE AND SHOULDER TWO LANE HIGHWAY ALTERNATING ONE-WAY TRAFFIC OPERATIONS

SIGN FACE  
108 SQ. FT (MIN.)

## HAND SIGNAL METHODS TO BE USED BY UNIFORMED FLAGGERS

THE FOLLOWING METHODS FROM SECTION 6E.07, FLAGGER PROCEDURES, IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," SHALL BE USED BY UNIFORMED FLAGGERS WHEN DIRECTING TRAFFIC THROUGH A WORK AREA. THE STOP/SLOW SIGN PADDLE (SIGN NO. 80-9950) SHOWN ON THE TRAFFIC STANDARD SHEET TR-1220 01 ENTITLED, "SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS" SHALL BE USED.

### A. TO STOP TRAFFIC

TO STOP ROAD USERS, THE FLAGGER SHALL FACE ROAD USERS AND AIM THE STOP PADDLE FACE TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. THE FREE ARM SHALL BE HELD WITH THE PALM OF THE HAND ABOVE SHOULDER LEVEL TOWARD APPROACHING TRAFFIC.



### B. TO DIRECT TRAFFIC TO PROCEED

TO DIRECT STOPPED ROAD USERS TO PROCEED, THE FLAGGER SHALL FACE ROAD USERS WITH THE SLOW PADDLE FACE AIMED TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. THE FLAGGER SHALL MOTION WITH THE FREE HAND FOR ROAD USERS TO PROCEED.



### C. TO ALERT OR SLOW TRAFFIC

TO ALERT OR SLOW TRAFFIC, THE FLAGGER SHALL FACE ROAD USERS WITH THE SLOW PADDLE FACE AIMED TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. TO FURTHER ALERT OR SLOW TRAFFIC, THE FLAGGER HOLDING THE SLOW PADDLE FACE TOWARD ROAD USERS MAY MOTION UP AND DOWN WITH THE FREE HAND, PALM DOWN.



- TRAFFIC CONE **OR** TRAFFIC DRUM  
 ✱ OPTIONAL ✕ TRAFFIC DRUM ⇌ PORTABLE SIGN SUPPORT  
 ◀ HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW



SCALE: NONE

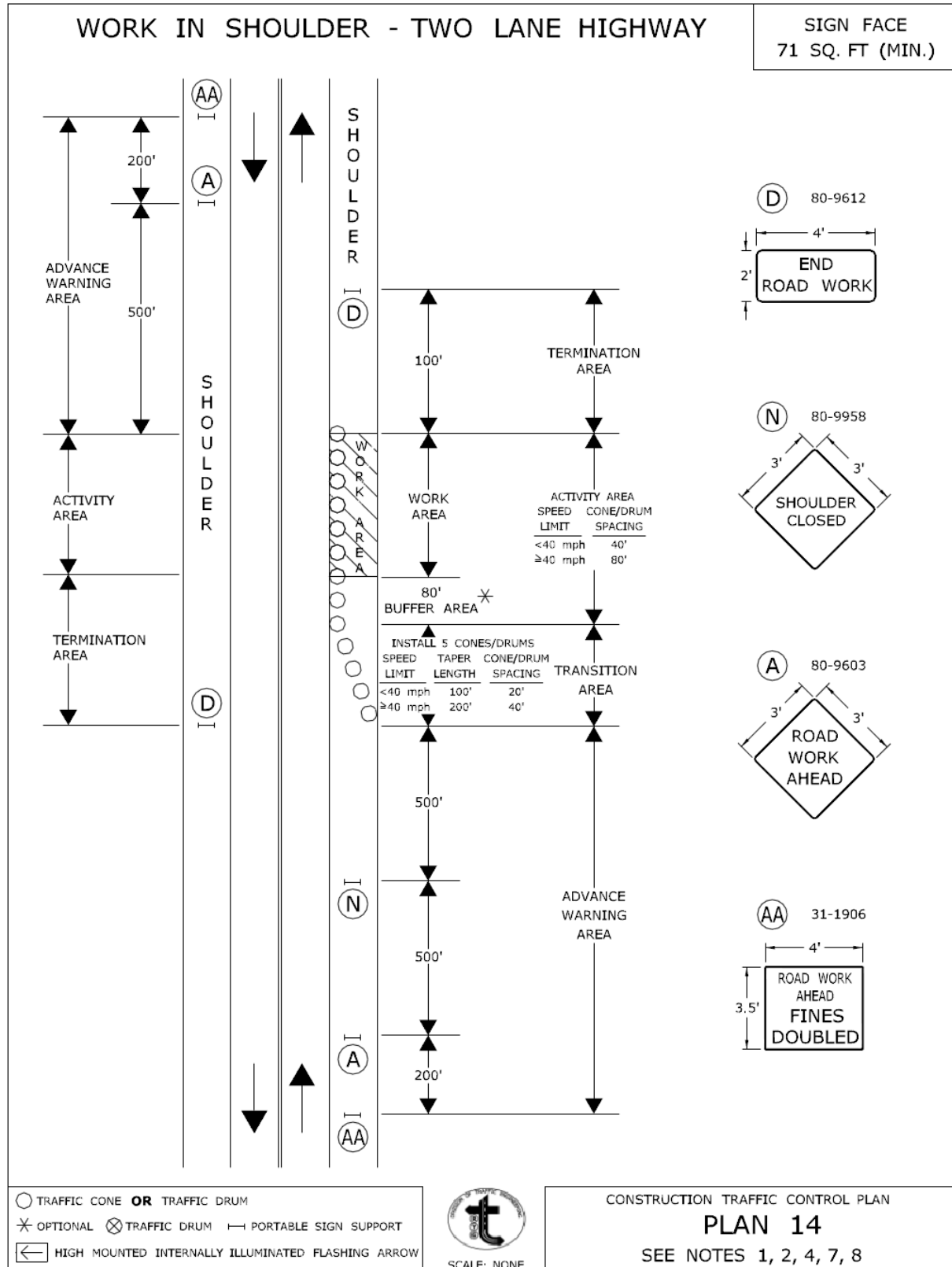
CONSTRUCTION TRAFFIC CONTROL PLAN  
**PLAN 13 - SHEET 2 OF 2**  
 SEE NOTES 1, 2, 4, 6, 7, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION  
 BUREAU OF ENGINEERING & CONSTRUCTION

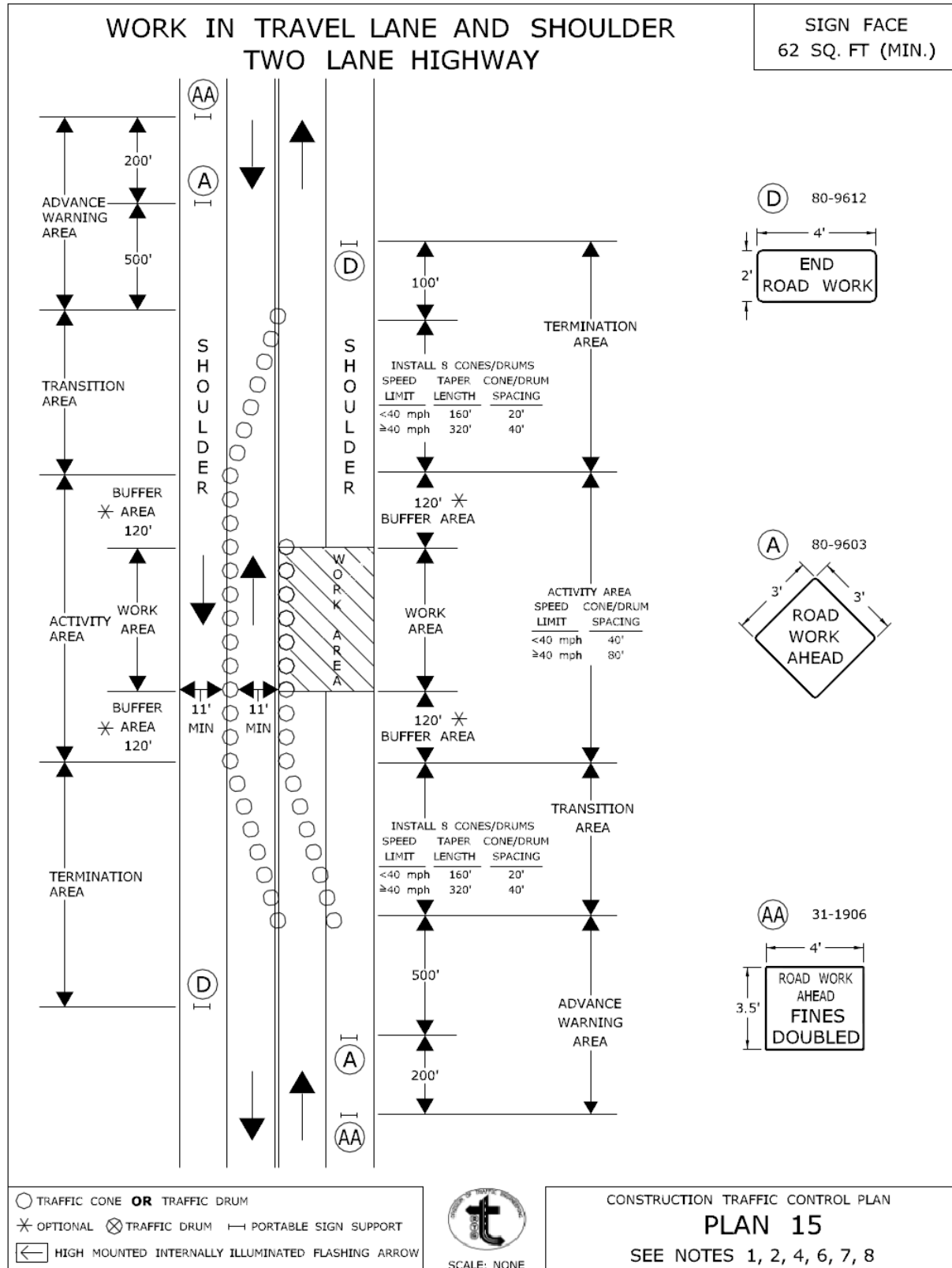
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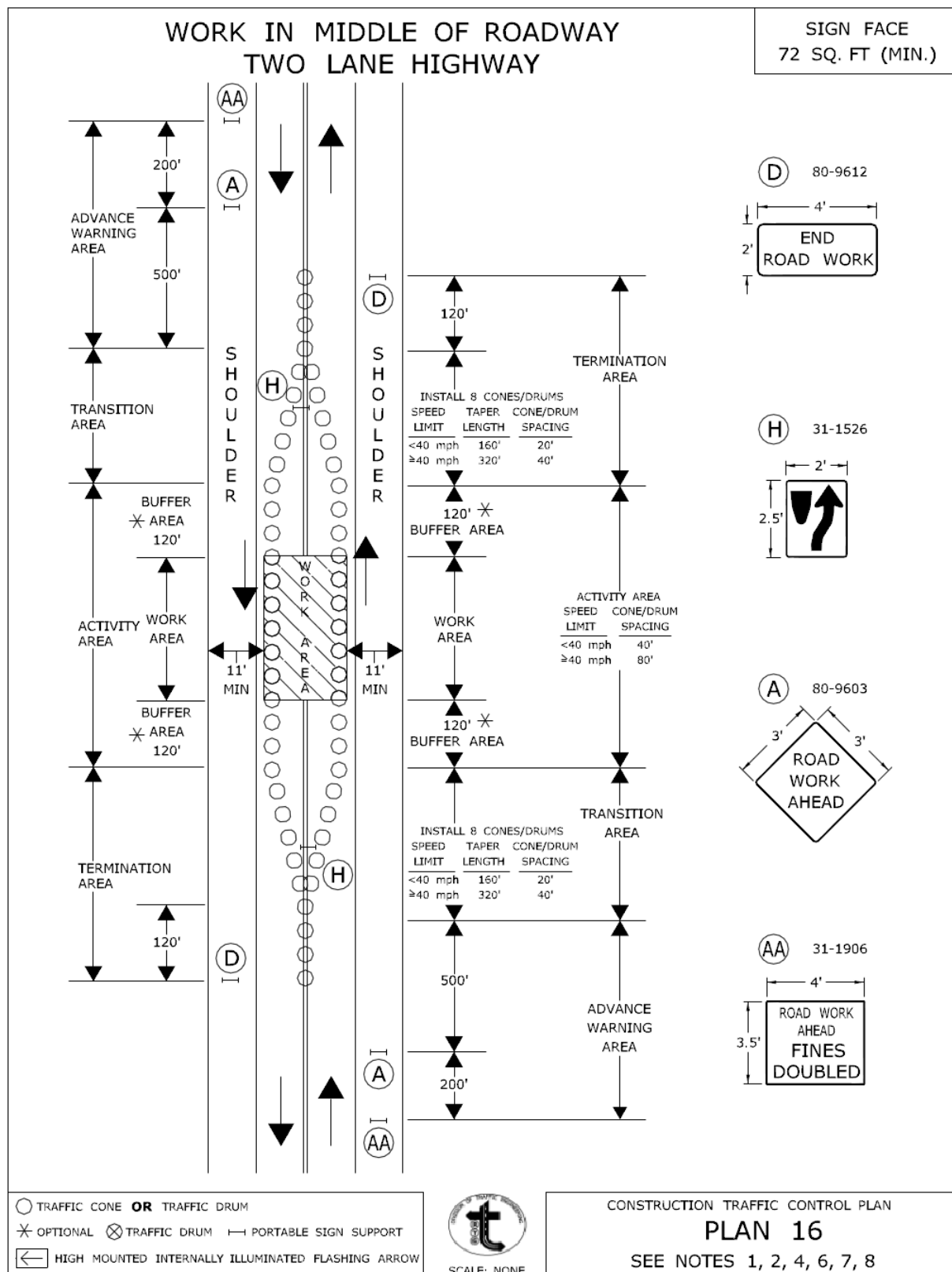
*Charles S. Harlow*  
 PRINCIPAL ENGINEER

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CONNECTICUT DEPARTMENT OF TRANSPORTATION  
BUREAU OF ENGINEERING & CONSTRUCTION

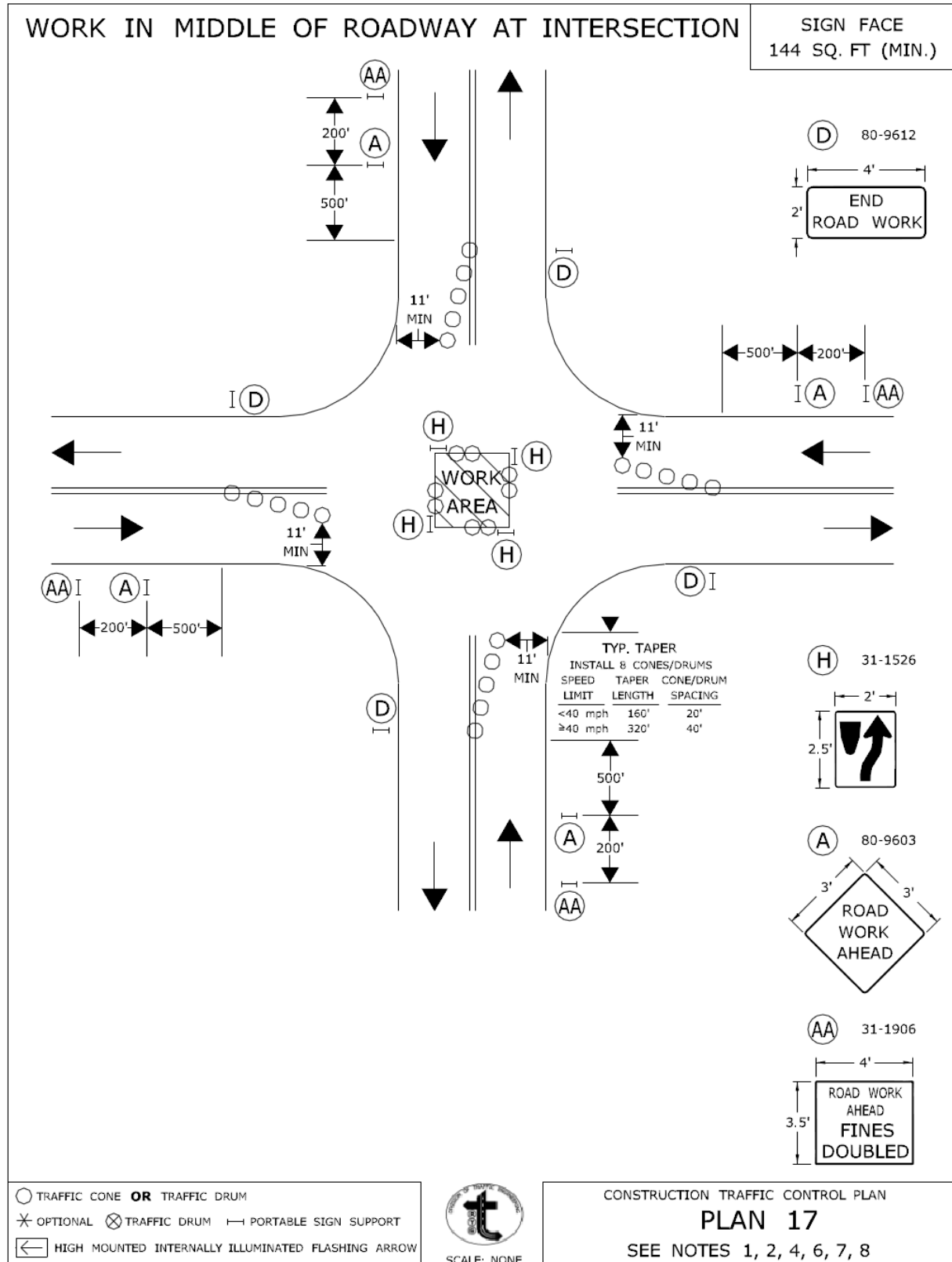




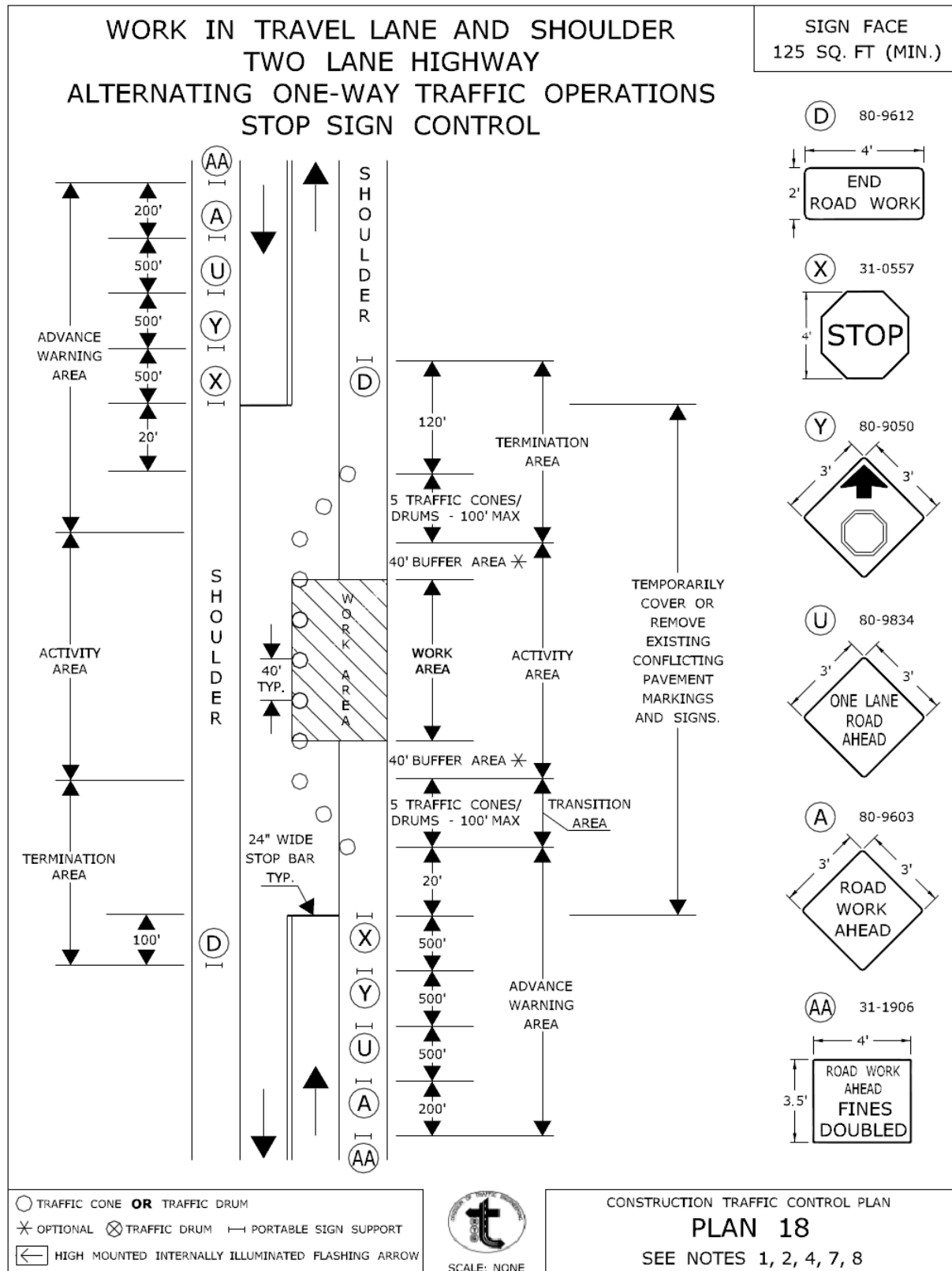
CONNECTICUT DEPARTMENT OF TRANSPORTATION  
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED

*Charles S. Harlow*  
Charles S. Harlow  
2012.06.05 15:56:51-04'00"  
PRINCIPAL ENGINEER







CONNECTICUT DEPARTMENT OF TRANSPORTATION  
BUREAU OF ENGINEERING & CONSTRUCTION



**Article 9.71.05 – Basis of Payment is supplemented by the following:**

The temporary relocation of signs and supports, and the furnishing, installation and removal of any temporary supports shall be paid for under the item “Maintenance and Protection of Traffic”.

## **ITEM #1002130A – INSTALL CITY FURNISHED LIGHT STANDARD FOUNDATION**

**10.02.01 – Description:** This item shall consist of installing the light standard foundation, and related equipment, furnished by the City of New Britain as indicated on the plans or directed by the Landscape Architect.

**10.02.02 – Materials:** Light Standard Foundation shall be furnished by the City of New Britain.

### **10.02.03 – Construction Methods:**

The Contractor shall arrange a schedule with the City, Department of Public Works 2 weeks in advance to pick up the light standard foundations and related materials. In addition, telephone 24 hours prior to the scheduled date to confirm the location and time of pick up.

The Contractor shall sign a receipt, listing all material furnished by the City. All material provided by the City shall be transported by the Contractor, and stored if necessary. It shall be the Contractors responsibility from the time of pick up until the light standard foundation is in place according to plan, to repair or replace any material damaged during delivery or during installation.

The Contractor shall pick up the light standard foundations at the following locations:

Eversource  
705 West Johnson Avenue  
Cheshire, CT

**10.02.04 – Method of Measurement:** This work will be measured for payment by the number of light standard foundations and related equipment for each, picked up, installed and accepted in place.

**10.02.05 – Basis of Payment:** This work will be paid for at the contract unit price each for “Install City Furnished Light Standard Foundation” complete in place, which shall include transportation from the pickup source to the location, storage, all miscellaneous hardware, tools and work incidental thereto.

### **Pay Item**

Install City Furnished Light Standard Foundation

### **Pay Unit**

ea.

## **ITEM #1003912A – REMOVE CONCRETE LIGHT STANDARD BASE**

### **Description:**

Work under this item shall consist of removing light standard base at the locations shown on the plans.

### **Construction Methods:**

Prior to removing pole base, utility company will remove existing conductors from conduits. Contractor shall cut conduits back from pole base sufficient so that conduit is not damaged during base removal. Remove pole base. Backfill hole. Utility company will provide new conductors.

### **Method of Measurement:**

This item will be measured for payment as the number of bases removed and hole backfilled.

### **Basis of Payment:**

This work will be paid for at the contract unit price for "Remove Concrete Light Standard Base", complete and accepted in place, which price shall include the cutting of conduits, removal of base, excavation, backfilling and all equipment, tools, and labor incidental thereto.

### **Pay Item**

Remove Concrete Light Standard Base

### **Pay Unit**

EA

**ITEM #1008127A – 2” SCH 80 PVC CONDUIT**  
**ITEM #1008129A – 3” SCH 80 PVC CONDUIT**

**10.08.01 – Description:** This item shall consist of furnishing and installing conduit of the size and type specified with necessary fittings, where called for, at locations shown on the plans or as directed by the Landscape Architect and in accordance with these specifications.

**10.08.02 – Materials:** Materials for this work shall conform to the requirements of Form 817: State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges, and Incidental Construction, Section M.15.09.

**10.08.03 – Construction Methods:** The conduit shall be installed in the locations and to the dimensions shown on the plans or as directed by the Landscape Architect. All conduit runs shall be installed in a neat and workmanlike manner in accordance with recognized trade practices recognized trade practices. Trenching and backfilling of conduit shall conform to Article 10.01. All conduit shall be installed in strict accordance with the current NEC. Where conduit is to be capped, a commercial pipe or conduit cap shall be used. An expansion fitting shall be used wherever required by an expansion joint in the structure. Upon completion of the work, all conduits shall be cleaned, swabbed and free from obstructions and burrs. For buried conduit, marking tape shall be installed in the trench at the depth and to requirements as set forth in the Article 1.05.15. After all cable has been installed, U.L. approved duct sealing compound shall be installed in the ends of all conduit which terminates in foundations, handholes, junction boxes and manholes. PVC is to be concrete encased to a minimum of the pipe diameter plus 1 inch.

**1. Conduit Surface:** Beam clamps or conduit strips with back spacers shall be provided at intervals in accordance with the NEC. Expansion fittings shall be installed at all expansion joints. All surface mounted conduit on wood poles shall be bonded to a driven ground rod. Stand-offs shall be installed in accordance with serving utility company regulations.

**2. Conduit in Trench:** Trenches shall be of the depth and cross section shown on the plans or as directed by the Landscape Architect. All conduit shall have a minimum covering of 2 feet.

**3. Conduit under Roadway:** Installations shall be such as to avoid pockets in runs. Conduit shall have a minimum cover of 2 feet. Each end of conduit runs shall terminate with a cap in a concrete handhole as shown on plans. The Contractor shall coordinate the placement of the conduit prior to the placement of the pavement.

Where conduit is to be install under an existing roadway a trench shall be opened and conduit installed as shown on plans, or as directed by the Landscape Architect. The trench shall be backfilled with suitable material and the surface shall be restored to original condition.

**4. Conduit in Structure:** It shall be the Contractor's responsibility to coordinate the setting of all conduit in structure prior to pouring concrete. Expansion fittings shall be installed at all expansion joints. Where shown on the plans, outlet boxes with the conduits properly connected and conduit hanger inserts with proper sized nuts installed, shall be accurately and securely placed in the forms for concrete. Care shall be taken during the placing of the concrete around these boxes and inserts to consolidate the concrete thoroughly, preventing voids and honeycomb and to prevent any material displacement of the boxes or inserts. Sealed bonding bushing shall be provided at each conduit outlet in all boxes.

**10.08.04 – Method of Measurement:** Conduit will be measured for payment by the actual number of linear feet of the type and size installed and accepted. The measured length shall be from end to end along the centerline through all fittings.

**10.08.05 – Basis of Payment:** This work will be paid for at the Contract unit price per linear foot for 2-inch and 3-inch polyvinyl chloride conduits in trench.

1. The price shall include all materials required including expansion fittings, conduit fittings, locknuts, bonding bushings, bonding wire, hangers, clamps, duct seal, caps, inserts, encasing concrete, equipment, tools, labor and work incidental thereto.
2. The price shall include the cost to hire Eversource or a company authorized by Eversource to work within 3' of vault or to make vault penetrations as required.
3. Trenching and backfilling shall be paid under Article 10.01 except as noted below.
4. No payment for trenching and backfilling will be made for conduit installed during construction under new pavement or sidewalk.

**Pay Item**

2-inch Sch 80 PVC Conduit  
3-inch Sch 80 PVC Conduit

**Pay Unit**

LF  
LF

## **ITEM #1010052A – CAST IRON HANDHOLE COVER – TYPE I**

### **Article 10.10.02 - Materials:**

Replace the section after “Cast Iron Handhole Cover...” with the following:

Cast Iron Handhole Cover – The frame and cover shall be designed for H-20 loading. The cast iron shall meet the requirements of AASHTO M 105 Class 25. The cover shall be lettered “ELECTRIC”.

### **Article 10.10.05 - Basis of Payment:**

After the words “Cast Iron Handhole Cover, insert the phrase “of the type called for”.

Add to the list of pay items:

| Pay Item                        | Pay Unit |
|---------------------------------|----------|
| Cast Iron Handhole Cover Type I | EA.      |

## **ITEM NO. 1206023A - REMOVAL AND RELOCATION OF EXISTING SIGNS**

Section 12.06 is supplemented as follows:

### **Article 12.06.01 – Description is supplemented with the following:**

Work under this item shall consist of the removal and/or relocation of designated side-mounted extruded aluminum and sheet aluminum signs, sign posts, sign supports, and foundations where indicated on the plans or as directed by the City of New Britain. Work under this item shall also include furnishing and installing new sign posts and associated hardware for signs designated for relocation.

### **Article 12.06.03 – Construction Methods is supplemented with the following:**

The Contractor shall take care during the removal and relocation of existing signs, sign posts, and sign supports that are to be relocated so that they are not damaged. Any material that is damaged shall be replaced by the Contractor at no cost to the City.

Sheet aluminum signs designated for removal are to be salvaged if they are in suitable condition as determined by the Engineer. The Contractor shall sort all salvaged sheet aluminum signs by size and shall stack ten signs to a bundle. Each bundle shall be bound by tape or metal strap and the bundles shall be stacked on pallets. The Contractor shall confirm intended delivery of the salvaged sheet aluminum signs at least seven days in advance and shall deliver the signs to the following address:

Department of Public Works - City Yard  
55 Harvard St.  
New Britain, CT 06051

Signs not suitable for salvage and sign supports designated for removal shall be removed and disposed of by the Contractor as directed by the Engineer and in accordance with existing standards for removal of signing.

Sheet aluminum signs designated for relocation are to be re-installed on new sign posts.

### **Article 12.06.04 – Method of Measurement is supplemented with the following:**

Payment under Removal and Relocation of Existing Signs shall be at the contract lump sum price which shall include all extruded aluminum and sheet aluminum signs, sign posts, and sign supports designated for relocation, all new sign posts and associated hardware for signs designated for relocation, all extruded aluminum signs, sheet aluminum signs, sign posts and sign supports designated for scrap, and foundations and other materials designated for removal and disposal, and all work and equipment required.

**Article 12.06.05 – Basis of Payment is supplemented with the following:**

This work will be paid for at the contract lump sum price for “Removal and Relocation of Existing Signs” which price shall include relocating designated extruded aluminum and sheet aluminum signs, sign posts, and sign supports, providing new posts and associated hardware for relocated signs, removing and disposing of foundations and other materials, and all equipment, material, tools and labor incidental thereto. This price shall also include removing, loading, transporting, and unloading of extruded aluminum signs, sheet aluminum signs, sign posts, and sign supports designated for scrap and all equipment, material, tools and labor incidental thereto.

| <u>Pay Item</u>                          | <u>Pay Unit</u> |
|--|-----------------|
| Removal and Relocation of Existing Signs | L.S.            |



**ITEM # 1208931A – SIGN FACE – SHEET ALUMINUM (TYPE IX RETROREFLECTIVE SHEETING)**

*Section 12.08 is supplemented and amended as follows:*

**12.08.01—Description:**

*Add the following:*

This item shall also include field testing of metal sign base posts as directed by the Engineer.

**12.08.02 – Materials:** add the following:

Sign Posts shall be powder coated at the manufacturer's site. The color shall be **Black, Federal Standard No. 595, Color No. 37038** as approved by Traffic Engineer. Any banding used for pole or mast arm mounted signs shall be **Black**.

**12.08.03—Construction Methods:**

*Delete the last sentence and add the following:*

Metal sign base posts shall be whole and uncut. Sign base post embedment and reveal lengths shall be as shown on the plans. The Contractor shall drive the metal sign base posts by hand tools, by mechanical means or by auguring holes. If an obstruction is encountered while driving or placing the metal sign base post, the Contractor shall notify the Engineer who will determine whether the obstruction shall be removed, the sign base post or posts relocated, or the base post installation in ledge detail shall apply. Backfill shall be thoroughly tamped after the posts have been set level and plumb.

The Contractor shall submit shop drawings for approval for all City of New Britain specific signs.

**Field Testing of Metal Sign Posts:** When the sign installations are complete, the Contractor shall notify the Engineer the Project is ready for field testing. Based on the number of posts in the Project, the Engineer will select random sign base posts which shall be removed by the Contractor for inspection and measurement by the Engineer. After such inspection is completed at each base post location, the Contractor shall restore or replace such portions of the work to the condition required by the Contract. Refer to the table in 12.08.05 for the number of posts to be field tested.

**12.08.04—Method of Measurement:**

*Add the following:*

The work required to expose and measure sign base post length and embedment depth using field testing methods, and restoration of such work, will not be measured for payment and shall be included in the general cost of the work.

**12.08.05—Basis of Payment:**

*Replace the entire Article with the following:*

This work will be paid for at the Contract unit price per square foot for “Sign Face - Sheet Aluminum” of the type specified complete in place, adjusted by multiplying by the applicable Pay Factor listed in the table below. The price for this work shall include the completed sign, metal sign post(s), span-mounted sign brackets, mast arm-mounted brackets and pole-mounted brackets, mounting hardware, including reinforcing plates, field testing, restoration and replacement of defective base post(s), and all materials, equipment, and work incidental thereto.

**Pay Factor Scale:** Work shall be considered defective whenever the base post length or base post embedment depth is less than the specified length by more than 2 inches. If the number of defects results in rejection, the Contractor shall remove and replace all metal sign base posts on the Project, at no cost to the City.

**Number of Posts to be Tested and Pay Factors (Based on Number of Defects)**

| Number of Posts in Project => | 51-100    | 101-250   | 251-1000  | >1000     |
|-------------------------------|-----------|-----------|-----------|-----------|
| Sample Size=>                 | 5 Posts   | 10 Posts  | 40 Posts  | 60 Posts  |
| 0 Defects                     | 1.0       | 1.0       | 1.025     | 1.025     |
| 1 Defect                      | 0.9       | 0.95      | 0.975     | 0.983     |
| 2 Defects                     | Rejection | 0.9       | 0.95      | 0.967     |
| 3 Defects                     | Rejection | Rejection | 0.925     | 0.95      |
| 4 Defects                     | Rejection | Rejection | 0.9       | 0.933     |
| 5 Defects                     | Rejection | Rejection | Rejection | 0.917     |
| 6 Defects                     | Rejection | Rejection | Rejection | 0.9       |
| 7 or more Defects             | Rejection | Rejection | Rejection | Rejection |

Note: Projects with 50 or fewer posts will not include field testing

Pay Item

Sign Face – Sheet Aluminum (Type IX Retroreflective Sheeting)

Pay Unit

S.F.

## **ITEM #1302054A- REPLACE CURB BOX**

### **Description**

The Contractor shall replace curb stop valve boxes and covers appurtenant to individual water services which are in a damaged condition prior to construction as determined by the Engineer. The Contractor shall bring to the attention of the Engineer any curb stop valve boxes which are found to be damaged prior to their replacement. Curb stop valve boxes which are damaged by the contractor shall be replaced by the contractor at no cost to the City. If necessary, the contractor shall furnish and install a new top section of the curb stop valve box so as to protect and make accessible the curb stop valve contained therein. If the bottom section is damaged, this shall be replaced as well.

### **Materials**

The Contractor shall furnish a Bingham & Taylor buffalo style cast iron curb box type 94E and cover or approved equal. All backfill material required shall be furnished and placed by the Contractor and shall conform to Article M.02.01 of Form 817.

### **Construction Methods**

Contractor shall carefully excavate around the curb stop valve box to expose, remove and install the new curb stop valve box. The new curb stop valve box shall be installed and adjusted to final grade and the excavation backfilled and compacted in one-foot lifts to insure no settlement. The Curb stop valve cover must be exposed and accessible. After completion, the cover shall be removed, and a curb stop key lowered to insure it mates with the curb stop valve to facilitate shut off & turn on.

### **Method of Measurement**

This work will be measured for payment at the unit price per each curb stop valve box and cover that is installed and approved.

### **Basis of Payment**

This work shall be paid for at the contract unit price for "Replace Curb Box" complete in place, which price shall include the cost of furnishing all material, labor, equipment, clearing, trenching, disposal of excavated materials, furnishing and placing backfill material and grading necessary to complete the work.

### **Pay Item**

Replace Curb Box

### **Pay Unit**

EA

ITEM #1302054A

**ITEM #1302061A – ADJUST GATE BOX (WATER)**

**ITEM #1302062A – ADJUST GATE BOX (GAS)**

**Description**

The Contractor shall furnish any needed gate box extensions and make necessary gate box adjustments to meet proposed line and grade in any areas necessary within the project construction limits.

**Materials**

The Contractor shall furnish cast iron Dwyer type gate box sections as required and extension stems if necessary as shown on the drawings for water gate box adjustments.

The Contractor shall furnish appurtenances that meet the standards of Connecticut Natural Gas (CNG) for gas gate box adjustments.

Shop drawings, test reports and a certificate of compliance for all materials shall be furnished for approval by the Engineer prior to manufacture.

**Construction Methods**

Install gate box extensions (where needed) and make adjustments to the lines and grade as shown on the Drawings. Support valve box during backfilling; maintain vertical alignment. Install so that top of valve box is flush with final grade.

**Methods of Measurement**

Furnishing gate box extensions and adjusting as required and as directed will be measured for payment by the actual number of gate boxes adjusted to grade.

**Basis of Payment**

This work will be paid for at the contract unit price each for "Adjust Gate Box (Water)" and "Adjust Gate Box (Gas), of the appropriate size, complete in place, which price shall include the cost of the materials, cleaning, trenching, and disposal of excavated materials, refilling trenches, and all incidental work required for the proper completion of this work.

**Pay Item**

**Pay Unit**

Adjust Gate Box (Water)

EA

Adjust Gate Box (Gas)

EA

## **ITEM #1500210A - RESET MANHOLE (TELEPHONE)**

### **DESCRIPTION**

The work under this Section shall consist of the adjustment of existing telephone manhole frames and covers to match the proposed roadway or unpaved area grade. Adjustments shall be made by adding or removing brick to bring the cover to the required finish grade.

The work also includes the removal and replacement of new or existing cones and/or risers, if necessary, to allow the frame and cover to meet the proper finish grade to the satisfaction of the Engineer.

### **MATERIALS**

Concrete building brick for manholes shall conform to the requirements of ASTM C55-11, Grade S II, as amended. Precast concrete grade rings may be used in place of, or in tandem with, concrete brick if directed by the Engineer.

Masonry concrete units for manholes shall conform to the requirements of ASTM 139-11, as amended.

Clay brick for manholes shall conform to the requirements of ASTM C32-11, as amended. Clean used, used paving or building brick, which meet these Specifications, or radial brick or concrete meeting the requirements herein given may be used for sewer structures.

Mortar for masonry in manholes shall be 1:2 cement sand mix, provided that hydrated lime be substituted for and not exceed 10% by weight of the cement.

### **CONSTRUCTION METHODS**

When brick or concrete units are used for structures, they shall be laid with joints completely filled with mortar. Horizontal joints shall not exceed 1/2-inch, vertical joints 1/4-inch, on the interior face. In building structures, lay all bricks or blocks as headers, breaking the joints between courses. Strike the interior joints smooth with the face of the wall. Plaster the exterior of sanitary manholes, constructed of brick or masonry units with 1:2 cement mortar, 3/4-inch thick.

Manhole frames shall be set with the tops conforming accurately to the grade of the pavement or the finished ground surface, as indicated on the Drawings, or as directed. Frames shall be set concentric with the top of the masonry and in a full bed of mortar, so that the space between the top of the manhole masonry and the bottom flange of the frame shall be completely filled and made watertight. A thick ring of mortar extending to the outer edge of the masonry shall be placed all around the bottom flange and have a slight slope to shed water away from the frame.

When directed by the Engineer, the Contractor shall use concrete brick or grade rings under the manhole frame to adjust the manhole frame or replace the existing brick.

### **METHOD OF MEASUREMENT**

The quantity to be measured for payment under this Item shall be actual number of existing manhole frames and covers that are reset to meet the proposed pavement grade after full depth pavement reconstruction and/or milling and overlay operations or to meet the existing unpaved grade. The manhole frame and cover shall be set to meet the final pavement grade or surrounding unpaved area grade, unless otherwise directed by the Engineer.

**BASIS OF PAYMENT**

The unit price for this Item shall include earth excavation and support, removal, storage and replacement of existing frame and cover, removal of existing brick/mortar courses to allow for the lowering of the frame and cover if necessary, furnish and install new brick and mortar courses to raise or reinstall the frame and cover if necessary, backfill (gravel in paved areas) and compaction, and all materials, labor and equipment necessary to reinstall the manhole frame and cover to the line and grade shown on the Drawings or to meet the final finished grade as determined by the Engineer.

**PAY ITEM**

Reset Manhole (Telephone)

**PAY UNIT**

Each

BID PROPOSAL SUBMITTAL DOCUMENT

for the

**Columbus Boulevard & Chestnut Street  
Phase VII Downtown Complete Streets**

**New Britain, Connecticut**

PUBLIC BID No. 3951



CITY OF NEW BRITAIN, CONNECTICUT

HONORABLE ERIN E. STEWART, MAYOR

## **BID PROPOSAL SUBMITTAL PACKAGE**

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## **STATEMENT OF BIDDER'S QUALIFICATIONS**

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. If necessary questions may be answered on separate attached sheets. The Bidder may submit any additional information he desires.

1. Name of Bidder
  - 1A. Corporation ☐
  - Partnership ☐
  - Individual ☐
  - Joint Venture ☐
  - Other ☐
  - (Check One)
2. Bidder's FEDERAL Tax Identification Number.
3. Permanent main office address, telephone number(s) and fax number(s).
4. Date organized?
5. If a corporation, answer the following:
  - 5.1 Date of incorporation:
  - 5.2 State of incorporation:
  - 5.3 President's name:
  - 5.4 Vice-President's name(s):
  - 5.5 Secretary's name:
  - 5.6 Treasurer's name:

6. If a partnership, answer the following:
  - 6.1 Date of organization:
  - 6.2 Name and address of all partners (State whether general or limited partnership):
  
7. If other than a corporation or partnership, describe organization and name principals:
  
  
  
  
  
  
  
  
  
8. How many years have you been engaged in construction under your present firm or trade name?
  - 8.1 Under what other or former names has your organization operated?

9. Contracts on hand:(Schedule these, showing name of project, owner, architect and/or engineer, gross amount of each contract, percent complete and the scheduled dates of completion).
  
- 9a. Please provide company name, address, telephone number and contact person for at least two installations which you have completed similar in complexity and facility usage to that which you are proposing in response to Public Bid \_\_\_\_\_ that have been in service for at least three years.
  
10. General character of work performed by you and work normally performed with your own forces:
  
11. Have you ever failed to complete any work awarded to you?  
If so, note when, where, why:
  
12. Within the last five years, has any officer or partner of your organization ever been an officer or partner of another organization when it failed to complete a construction contract? If so, attach a separate sheet of explanation.

13. Have you ever defaulted on a contract? If so, where and why?
14. List the major projects your organization has completed in the past five years, giving the name of project, owner, architect and/or engineer, contract amount, date of completion, and percentage of the cost of the work performed with your own forces.
15. List your major equipment available for this contract, stating which is owned and which will be leased.

16. Experience in work similar in importance to this project and when completed by you.
17. State the number of years of background and experience of the principal members of your organization, including the officers and the nature of business activity.
18. Trade References:
19. Give Bank references and credit available \$\_\_\_\_\_.
20. Name of Bonding Company and name and address of agent:

21. Attach a financial statement, audited if available, including Contractor's latest balance sheet and income statement showing the following items:
- A. Current Assets (e.g., cash, joint venture accounts, accounts receivable, notes receivable, accrued income, deposits, materials, inventory and prepaid expenses):
  - B. Net fixed assets:
  - C. Other assets:
  - D. Current Liabilities (e.g., accounts payable, notes payable, accrued expenses, provision for income taxes, advances, accrued salaries, and accrued payroll taxes):
  - E. Other liabilities (e.g., capital, capital stock, authorized and outstanding shares par values, earned surplus, and retained earnings):
  - F. Name and address of firm preparing financial statement and date thereof:

21.1. Is this financial statement for the identical organization named in #1?

If not, explain the relationship and financial responsibility of the organization whose financial statement is provided (e.g., parent-subsidiary).

21.2. Will this organization act as guarantor of the contract for construction?

**Note regarding financial Statement:**

The Bidder financial information will be maintained in confidence pursuant to C.G.S. provision Section 1-19(b)(5), provided that:

a. Bidder clearly indicates in writing a request that the financial information be maintained in confidence by the City of New Britain; and,

b. Submission of financial information is made in a separate, sealed envelope clearly marked "Financial Information - to be maintained in confidence".

22. Will you, upon request, furnish any other information that may be required by the City of New Britain?

23. The undersigned hereby authorizes and requests any persons, firms, or corporations to furnish any information requested by the City of New Britain in verification of the recitals comprising this Statement of Bidder's Qualifications.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ , \_\_\_\_\_

Bidder's Name: \_\_\_\_\_

By: \_\_\_\_\_

Official Address:

Title: \_\_\_\_\_

\_\_\_\_\_

(**Note:** the above signature must be notarized on following page.)

**NOTARY'S CERTIFICATE:**

STATE OF \_\_\_\_\_)

COUNTY OF \_\_\_\_\_)

\_\_\_\_\_, being duly sworn,  
deposes and says that he is \_\_\_\_\_ of  
\_\_\_\_\_, and that the  
answers to the foregoing questions and all statements therein are  
true and correct.

Subscribed and sworn before me this \_\_\_\_\_ day of \_\_\_\_\_,  
\_\_\_\_\_.

Notary Public

My Commission Expires:



**PROSPECTIVE VENDOR'S RESIDENCY  
and TAX PAYMENT CERTIFICATION**

The City of New Britain Code of Ordinances, Sec. 2-575, reads as follows:

**Sec. 2-575. Rejection of bid where bidder is in default to City**

**The agent shall not accept the bid of a contractor who is in default on the payment of taxes, licenses or other monies due the city.**

**The agent shall include in the bid document a form to be executed by a bidder certifying that said bidder is not in default on the payment of taxes, licenses or other monies due the city.**

**As used in this section, (1) a "principal" of a contractor shall mean an individual who is a director, an officer, an owner, a limited partner, or a general partner; and (2) "default in the payment of taxes" shall mean failure to pay taxes by the date such taxes are due and payable or the failure to be current with respect to a delinquent taxes payment schedule as set forth in a written agreement with the Tax Collector.**

In accordance with this provision, the prospective vendor submitting the accompanying bid for City of New Britain Bid No. **3972** hereby makes the following certifications with respect to the residencies of his firm and the principals thereof:

Firm Name: \_\_\_\_\_

Complete Business Address  
of Submitting Office: \_\_\_\_\_

Complete Business Address  
of Main Office (if different): \_\_\_\_\_

The persons listed on the following pages (make and use additional copies of page "RTC - 2\_\_ of 3", if necessary, filling in the "\_\_" in the page number and before the name as appropriate,) including their residency address, and all other requested information, represent all of the principals, as defined previously herein, of the above-named prospective vendor:

1. Name: \_\_\_\_\_

Residency Address: \_\_\_\_\_

Mailing Address (if different): \_\_\_\_\_

List below the addresses of any (other) properties located within the City of New Britain which the above-named principal owns in whole or in part, or otherwise has an interest in; reply with 'none' if applicable:

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---

List below the names and addresses of any (other) business entities using a New Britain address of which the above-named principal is also a principal; reply with 'none' if applicable:

---

---

2. Name: \_\_\_\_\_

Residency Address: \_\_\_\_\_

Mailing Address (if different): \_\_\_\_\_

List below the addresses of any (other) properties located within the City of New Britain which the above-named principal owns in whole or in part, or otherwise has an interest in; reply with 'none' if applicable:

---

---

List below the names and addresses of any (other) business entities using a New Britain address of which the above-named principal is also a principal; reply with 'none' if applicable:

---

---

3. Name: \_\_\_\_\_

Residency Address: \_\_\_\_\_

Mailing Address (if different): \_\_\_\_\_

List below the addresses of any (other) properties located within the City of New Britain which the above-named principal owns in whole or in part, or otherwise has an interest in; reply with 'none' if applicable:

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List below the names and addresses of any (other) business entities using a New Britain address of which the above-named principal is also a principal; reply with 'none' if applicable:

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CERTIFICATION IS HEREBY MADE THAT \_\_\_\_\_  
(The prospective vendor named above) AND THE \_\_\_\_\_ (total number of  
principals) PRINCIPALS THEREOF, AS LISTED HEREIN, ARE NOT IN DEFAULT ON  
PAYMENT OF TAXES, LICENSES, OR OTHER MONIES DUE THE CITY OF NEW  
BRITAIN AS OF THE DATE OF BID SOLICITATION.

Signature and Title of authorized principal of named  
prospective vendor:

Date:

\_\_\_\_\_

\_\_\_\_\_

Review by Tax Collector (to be completed for successful bidder only):

Signature of Tax Official:

Date:

\_\_\_\_\_

\_\_\_\_\_

## **CERTIFICATION OF NONSEGREGATED FACILITIES**

This Bidder certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The Bidder certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The Bidder agrees that a breach of his certification will be a violation of the Equal Opportunity clause in any Contract resulting from acceptance of his Bid. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are, in fact, segregated on the basis of race, color, religion or natural origin, because of habit, local custom or otherwise. The Bidder agrees that (except where he has obtained identical certification from proposed Subcontractors for specific time periods) he will obtain identical certifications from proposed Subcontractors prior to the award of Subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause, and that he will retain such certifications in his files.

Date: \_\_\_\_\_

Signed: \_\_\_\_\_

Title: \_\_\_\_\_

## CERTIFICATION OF BIDDER REGARDING EQUAL EMPLOYMENT OPPORTUNITY

### INSTRUCTIONS

This certification is required pursuant to Executive Order 11246 (30 F. R. 12319-25). The implementing rules and regulations provide that any bidder or prospective contractor, or any of their proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or sub-contract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicates that the bidder has not filed a compliance report due under applicable instructions, such bidder shall be required to submit a compliance report within seven calendar days after bid opening. No contract shall be awarded unless such report is submitted.

### CERTIFICATION BY BIDDER

Bidder's Name: \_\_\_\_\_

Address and Zip Code: \_\_\_\_\_  
\_\_\_\_\_

1. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause. ☐ Yes ☐ No (If answer is yes, identify the most recent contract.)  
\_\_\_\_\_

2. Compliance reports were required to be filed in connection with such contract or subcontractor.

☐ Yes ☐ No (If answer is yes, identify the most recent contract.)  
\_\_\_\_\_

3. Bidder has filed all compliance reports due under applicable instructions, including SF-100.

☐ Yes ☐ No ☐ None Required

4. If answer to item 3 is "No", please explain in detail on reverse side of this certification.

**Certification** - The information above is true and complete to the best of my knowledge and belief.

Name and Title of Signer (Please Type) \_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

**CERTIFICATION BY PROPOSED SUBCONTRACTOR REGARDING  
EQUAL EMPLOYMENT OPPORTUNITY**

NAME OF PRIME CONTRACTOR \_\_\_\_\_ BID No. 3938

**INSTRUCTIONS**

This certification is required pursuant to Executive Order 11246 (30 F.R. 12319-25). The implementing rules and regulations provide that any bidder or prospective contractor, or any of their proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or sub-contract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicates that the subcontractor has not filed a compliance report due under applicable instructions, such subcontractor shall be required to submit a compliance report before the owner approves the subcontract or permits work to begin under the subcontract.

**SUBCONTRACTOR'S CERTIFICATION**

Subcontractor's Name: \_\_\_\_\_

Address: \_\_\_\_\_

1. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause.      ☐ Yes    ☐ No

2. Compliance reports were required to be filed in connection with such contract or subcontract.    ☐ Yes    ☐ No

3. Bidder has filed all compliance reports due under applicable instructions, including SF-100.  
☐ Yes    ☐ No    ☐ None Required

4. If answer to item 3 is "No", please explain in detail on reverse side of this certification.

**Certification** - The information above is true and complete to the best of my knowledge and belief.

NAME AND TITLE OF SIGNER (Please Type) \_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date



## CERTIFICATION OF NON-COLLUSION

The Undersigned certifies, under penalties of perjury:

That this Proposal has been made by the Proposer independently, and has been submitted without collusion, and without any agreement, understanding, or planned common course of action with any other vendor of materials, supplies, equipment, or services described in this procurement document, designed to limit independent bidding or competition;

That the contents of the proposal have not been communicated by the Proposer or its employees or agents to any person not an employee or agent of the Proposer or its surety or any bond furnished with the proposal, and will not be communicated to any such person prior to the official awarding of this procurement.

That I have fully informed myself regarding the accuracy of the statement made in the certificate.

SIGNATURE: \_\_\_\_\_

NAME: \_\_\_\_\_

FIRM: \_\_\_\_\_

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_

**COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES**  
**CONTRACT COMPLIANCE REGULATIONS**  
**NOTIFICATION TO BIDDERS**

(Revised 09/3/15)

The contract to be awarded is subject to contract compliance requirements mandated by [Sections 4a-60](#) and [4a-60a](#) of the Connecticut General Statutes; and, when the awarding agency is the State, [Sections 46a-71\(d\)](#) and [46a-81i\(d\)](#) of the Connecticut General Statutes. There are Contract Compliance Regulations codified at [Section 46a-68j-21 through 43](#) of the Regulations of Connecticut State Agencies, which establish a procedure for awarding all contracts covered by [Sections 4a-60](#) and [46a-71\(d\)](#) of the Connecticut General Statutes.

According to [Section 46a-68j-30\(9\)](#) of the Contract Compliance Regulations, every agency awarding a contract subject to the contract compliance requirements has an obligation to “aggressively solicit the participation of legitimate minority business enterprises as bidders, contractors, subcontractors and suppliers of materials.” “Minority business enterprise” is defined in [Section 4a-60](#) of the Connecticut General Statutes as a business wherein fifty-one percent or more of the capital stock, or assets belong to a person or persons: “(1) Who are active in daily affairs of the enterprise; (2) who have the power to direct the management and policies of the enterprise; and (3) who are members of a minority, as such term is defined in subsection (a) of [Section 32-9n](#).” “Minority” groups are defined in [Section 32-9n](#) of the Connecticut General Statutes as “(1) Black Americans . . . (2) Hispanic Americans . . . (3) persons who have origins in the Iberian Peninsula . . . (4) Women . . . (5) Asian Pacific Americans and Pacific Islanders; (6) American Indians . . .” An individual with a disability is also a minority business enterprise as provided by [Section 4a-60g](#) of the Connecticut General Statutes. The above definitions apply to the contract compliance requirements by virtue of [Section 46a-68j-21\(11\)](#) of the Contract Compliance Regulations.

The awarding agency will consider the following factors when reviewing the bidder’s qualifications under the contract compliance requirements:

- (a) the bidder’s success in implementing an affirmative action plan;
- (b) the bidder’s success in developing an apprenticeship program complying with [Sections 46a-68-1 to 46a-68-17](#) of the Administrative Regulations of Connecticut State Agencies, inclusive;
- (c) the bidder’s promise to develop and implement a successful affirmative action plan;
- (d) the bidder’s submission of employment statistics contained in the “Employment Information Form”, indicating that the composition of its workforce is at or near parity when compared to the racial and sexual composition of the workforce in the relevant labor market area; and
- (e) the bidder’s promise to set aside a portion of the contract for legitimate minority business enterprises. [See Section 46a-68j-30\(10\)\(E\)](#) of the Contract Compliance Regulations.

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**INSTRUCTIONS AND OTHER INFORMATION**

The following **BIDDER CONTRACT COMPLIANCE MONITORING REPORT** must be completed in full, signed, and submitted with the bid for this contract. The contract awarding agency and the Commission on Human Rights and Opportunities will use the information contained thereon to determine the bidders compliance to [Sections 4a-60](#) and [4a-60a](#) CONN. GEN. STAT., and [Sections 46a-68j-23](#) of the Regulations of Connecticut State Agencies regarding equal employment opportunity, and the bidder’s good faith efforts to include minority business enterprises as subcontractors and suppliers for the work of the contract.

**1) Definition of Small Contractor**

[Section 4a-60g](#) CONN. GEN. STAT. defines a small contractor as a company that has been doing business under the same management and control and has maintained its principal place of business in Connecticut for a one year period immediately prior to its application for certification under this section, had gross revenues not exceeding fifteen million dollars in the most recently completed fiscal year, and at least fifty-one percent of the ownership of which is held by a person or persons who are active in the daily affairs of the company, and have the power to direct the management and policies of the company, except that a nonprofit corporation shall be construed to be a small contractor if such nonprofit corporation meets the requirements of subparagraphs (A) and (B) of subdivision [4a-60g](#) CONN. GEN. STAT.

## 2) Description of Job Categories (as used in Part IV Bidder Employment Information) (Page 2)

**MANAGEMENT:** Managers plan, organize, direct, and control the major functions of an organization through subordinates who are at the managerial or supervisory level. They make policy decisions and set objectives for the company or departments. They are not usually directly involved in production or providing services. Examples include top executives, public relations managers, managers of operations specialties (such as financial, human resources, or purchasing managers), and construction and engineering managers.

**BUSINESS AND FINANCIAL OPERATIONS:** These occupations include managers and professionals who work with the financial aspects of the business. These occupations include accountants and auditors, purchasing agents, management analysts, labor relations specialists, and budget, credit, and financial analysts.

**MARKETING AND SALES:** Occupations related to the act or process of buying and selling products and/or services such as sales engineer, retail sales workers and sales representatives including wholesale.

**LEGAL OCCUPATIONS:** In-House Counsel who is charged with providing legal advice and services in regards to legal issues that may arise during the course of standard business practices. This category also includes assistive legal occupations such as paralegals, legal assistants.

**COMPUTER SPECIALISTS:** Professionals responsible for the computer operations within a company are grouped in this category. Examples of job titles in this category include computer programmers, software engineers, database administrators, computer scientists, systems analysts, and computer support specialists

**ARCHITECTURE AND ENGINEERING:** Occupations related to architecture, surveying, engineering, and drafting are included in this category. Some of the job titles in this category include electrical and electronic engineers, surveyors, architects, drafters, mechanical engineers, materials engineers, mapping technicians, and civil engineers.

**OFFICE AND ADMINISTRATIVE SUPPORT:** All clerical-type work is included in this category. These jobs involve the preparing, transcribing, and preserving of written communications and records; collecting accounts; gathering and distributing information; operating office machines and electronic data processing equipment; and distributing mail. Job titles listed in this category include telephone operators, bill and account collectors, customer service representatives, dispatchers, secretaries and administrative assistants, computer operators and clerks (such as payroll, shipping, stock, mail and file).

**BUILDING AND GROUNDS CLEANING AND MAINTENANCE:** This category includes occupations involving landscaping, housekeeping, and janitorial services. Job titles found in this category include supervisors of landscaping or housekeeping, janitors, maids, grounds maintenance workers, and pest control workers.

**CONSTRUCTION AND EXTRACTION:** This category includes construction trades and related occupations. Job titles found in this category include boilermakers, masons (all types), carpenters, construction laborers, electricians, plumbers (and related trades), roofers, sheet metal workers, elevator installers, hazardous materials removal workers, paperhangers, and painters. Paving, surfacing, and tamping equipment operators; drywall and ceiling tile installers; and carpet, floor and tile installers and finishers are also included in this category. First line supervisors, foremen, and helpers in these trades are also grouped in this category.

**INSTALLATION, MAINTENANCE AND REPAIR:** Occupations involving the installation, maintenance, and repair of equipment are included in this group. Examples of job titles found here are heating, ac, and refrigeration mechanics and installers; telecommunication line installers and repairers; heavy vehicle and mobile equipment service technicians and mechanics; small engine mechanics; security and fire alarm systems installers; electric/electronic repair, industrial, utility and transportation equipment; millwrights; riggers; and manufactured building and mobile home installers. First line supervisors, foremen, and helpers for these jobs are also included in the category.

**MATERIAL MOVING WORKERS:** The job titles included in this group are Crane and tower operators; dredge, excavating, and lading machine operators; hoist and winch operators; industrial truck and tractor operators; cleaners of vehicles and equipment; laborers and freight, stock, and material movers, hand; machine feeders and offbearers; packers and packagers, hand; pumping station operators; refuse and recyclable material collectors; and miscellaneous material moving workers.

**PRODUCTION WORKERS:** The job titles included in this category are chemical production machine setters, operators and tenders; crushing/grinding workers; cutting workers; inspectors, testers sorters, samplers, weighers; precious stone/metal workers; painting workers; cementing/gluing machine operators and tenders; etchers/engravers; molders, shapers and casters except for metal and plastic; and production workers.

3) Definition of Racial and Ethnic Terms (as used in Part IV Bidder Employment Information) (Page 3)

|  |   |
|--|---|
| <p><u>White</u> (not of Hispanic Origin)-All persons having origins in any of the original peoples of Europe, North Africa, or the Middle East.</p> <p><u>Black</u> (not of Hispanic Origin)-All persons having origins in any of the Black racial groups of Africa.</p> <p><u>Hispanic</u>- All persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.</p> | <p><u>Asian or Pacific Islander</u>- All persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes China, India, Japan, Korea, the Philippine Islands, and Samoa.</p> <p><u>American Indian or Alaskan Native</u>- All persons having origins in any of the original peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition.</p> |
|--|---|

**BIDDER CONTRACT COMPLIANCE MONITORING REPORT**

**PART 1 – Bidder Information**

|   |  |
|---|--|
| Company Name:<br>Street Address:<br>City & State:<br>Chief Executive: | Bidder Federal Employer<br>Identification Number:<br>Or<br>Social Security Number:   |
| Major Business Activity:<br>(brief description)                       | Bidder Identification<br>(response optional/definitions on page 1)<br><br>-Bidder is a small contractor? Yes No<br>-Bidder is a minority business enterprise? Yes No<br>(If yes, check ownership category)<br>Black Hispanic Asian American<br>American Indian/Alaskan Native Iberian Peninsula<br>Individual(s) with a Physical Disability Female<br>-Bidder is certified as above by State of CT? Yes No |
| Bidder Parent Company:<br>(If any)                                    |  |
| Other Locations in CT:<br>(If any)                                    |  |

**PART II - Bidder Nondiscrimination Policies and Procedures**

|  |   |
|--|---|
| 1. Does your company have a written Affirmative Action/Equal Employment Opportunity statement posted on company bulletin boards?<br>Yes No   | 7. Do all of your company contracts and purchase orders contain non-discrimination statements as required by Sections 4a-60 & 4a-60a Conn. Gen. Stat.?<br>Yes No  |
| 2. Does your company have the state-mandated sexual harassment prevention in the workplace policy posted on company bulletin boards?<br>Yes No   | 8. Do you, upon request, provide reasonable accommodation to employees, or applicants for employment, who have physical or mental disability?<br>Yes No   |
| 3. Do you notify all recruitment sources in writing of your company's Affirmative Action/Equal Employment Opportunity employment policy? Yes No  | 9. Does your company have a mandatory retirement age for all employees?<br>Yes No   |
| 4. Do your company advertisements contain a written statement that you are an Affirmative Action/Equal Opportunity Employer?<br>Yes No   | 10. If your company has 50 or more employees, have you provided at least two (2) hours of sexual harassment training to all of your supervisors? Yes No N/A   |
| 5. Do you notify the Ct. State Employment Service of all employment openings with your company?<br>Yes No  | 11. If your company has apprenticeship programs, do they meet the Affirmative Action/Equal Employment Opportunity requirements of the apprenticeship standards of the Ct. Dept. of Labor?<br>Yes No N/A |
| 6. Does your company have a collective bargaining agreement with workers?<br>Yes No<br>6a. If yes, do the collective bargaining agreements contain non-discrimination clauses covering all workers? Yes No | 12. Does your company have a written affirmative action Plan?<br>Yes No<br>If no, please explain.   |
| 6b. Have you notified each union in writing of your commitments under the nondiscrimination requirements of contracts with the state of CT?<br>Yes No  | 13. Is there a person in your company who is responsible for equal employment opportunity? Yes No<br>If yes, give name and phone number:  |

1. Will the work of this contract include subcontractors or suppliers? Yes No

1a. If yes, please list all subcontractors and suppliers and report if they are a small contractor and/or a minority business enterprise. (defined on page 1 / use additional sheet if necessary)

1b. Will the work of this contract require additional subcontractors or suppliers other than those identified in 1a. above? Yes No

#### PART IV - Bidder Employment Information

Date:

| JOB CATEGORY*   | OVERALL<br>TOTALS | WHITE (not of<br>Hispanic origin) |        | BLACK (not of Hispanic<br>origin) |        | HISPANIC |        | ASIAN or<br>PACIFIC<br>ISLANDER |        | AMERICAN INDIAN or<br>ALASKAN NATIVE |        |
|---|-------------------|-----------------------------------|--------|-----------------------------------|--------|----------|--------|---------------------------------|--------|--------------------------------------|--------|
|   |                   | Male                              | Female | Male                              | Female | Male     | Female | Male                            | Female | Male                                 | Female |
| Management  |                   |                                   |        |                                   |        |          |        |                                 |        |                                      |        |
| Business & Financial Ops  |                   |                                   |        |                                   |        |          |        |                                 |        |                                      |        |
| Marketing & Sales   |                   |                                   |        |                                   |        |          |        |                                 |        |                                      |        |
| Legal Occupations   |                   |                                   |        |                                   |        |          |        |                                 |        |                                      |        |
| Computer Specialists  |                   |                                   |        |                                   |        |          |        |                                 |        |                                      |        |
| Architecture/Engineering  |                   |                                   |        |                                   |        |          |        |                                 |        |                                      |        |
| Office & Admin Support  |                   |                                   |        |                                   |        |          |        |                                 |        |                                      |        |
| Bldg/ Grounds<br>Cleaning/Maintenance   |                   |                                   |        |                                   |        |          |        |                                 |        |                                      |        |
| Construction & Extraction   |                   |                                   |        |                                   |        |          |        |                                 |        |                                      |        |
| Installation , Maintenance<br>& Repair  |                   |                                   |        |                                   |        |          |        |                                 |        |                                      |        |
| Material Moving Workers   |                   |                                   |        |                                   |        |          |        |                                 |        |                                      |        |
| Production Occupations  |                   |                                   |        |                                   |        |          |        |                                 |        |                                      |        |
| TOTALS ABOVE  |                   |                                   |        |                                   |        |          |        |                                 |        |                                      |        |
| Total One Year Ago  |                   |                                   |        |                                   |        |          |        |                                 |        |                                      |        |
| FORMAL ON THE JOB TRAINEES (ENTER FIGURES FOR THE SAME CATEGORIES AS ARE SHOWN ABOVE) |                   |                                   |        |                                   |        |          |        |                                 |        |                                      |        |
| Apprentices   |                   |                                   |        |                                   |        |          |        |                                 |        |                                      |        |
| Trainees  |                   |                                   |        |                                   |        |          |        |                                 |        |                                      |        |

\*NOTE: JOB CATEGORIES CAN BE CHANGED OR ADDED TO (EX. SALES CAN BE ADDED OR REPLACE A CATEGORY NOT USED IN YOUR COMPANY)

## PART V - Bidder Hiring and Recruitment Practices

(Page 5)

|  |     |    |                                    |   |                                   |  |
|--|-----|----|------------------------------------|---|-----------------------------------|--|
| 1. Which of the following recruitment sources are used by you?<br>(Check yes or no, and report percent used) |     |    |                                    | 2. Check (X) any of the below listed requirements that you use as a hiring qualification<br><br>(X) |                                   | 3. Describe below any other practices or actions that you take which show that you hire, train, and promote employees without discrimination |
| SOURCE   | YES | NO | % of applicants provided by source |   |                                   |  |
| State Employment Service   |     |    |                                    |   | Work Experience                   |  |
| Private Employment Agencies  |     |    |                                    |   | Ability to Speak or Write English |  |
| Schools and Colleges   |     |    |                                    |   | Written Tests                     |  |
| Newspaper Advertisement  |     |    |                                    |   | High School Diploma               |  |
| Walk Ins   |     |    |                                    |   | College Degree                    |  |
| Present Employees  |     |    |                                    |   | Union Membership                  |  |
| Labor Organizations  |     |    |                                    |   | Personal Recommendation           |  |
| Minority/Community Organizations   |     |    |                                    |   | Height or Weight                  |  |
| Others (please identify)   |     |    |                                    |   | Car Ownership                     |  |
|  |     |    |                                    |   | Arrest Record                     |  |
|  |     |    |                                    |   | Wage Garnishments                 |  |

Certification (Read this form and check your statements on it CAREFULLY before signing). I certify that the statements made by me on this BIDDER CONTRACT COMPLIANCE MONITORING REPORT are complete and true to the best of my knowledge and belief, and are made in good faith. I understand that if I knowingly make any misstatements of facts, I am subject to be declared in non-compliance with Section 4a-60, 4a-60a, and related sections of the CONN. GEN. STAT.

|             |         |               |             |
|-------------|---------|---------------|-------------|
| (Signature) | (Title) | (Date Signed) | (Telephone) |
|-------------|---------|---------------|-------------|

# **Bid/Proposal Affidavit**

## **Gift/Campaign Contribution Affidavit to Accompany Bid or Proposal for Large State Contracts, Pursuant to Sections 2, 3 and 4 of Public Act 04-245 and Governor M. Jodi Rell's Executive Order No. 1, para 8.**

I, \_\_\_\_\_,

Type/Print Name and Title

hereby swear that during the two-year period preceding the submission of this bid or proposal that neither myself nor any principals or key personnel of the submitting firm or corporation who participated directly, extensively and substantially in the preparation of this bid or proposal nor any agent of the above gave a gift, as defined in Conn. Gen. Stat. § 1-79(e), including a life event gift as defined in Conn. Gen. Stat. § 1-79(e)(12), except the gifts listed below:

| <u>Name of Benefactor</u> | <u>Name of recipient</u> | <u>Gift Description</u> | <u>Value</u> | <u>Date of Gift</u> |
|---------------------------|--------------------------|-------------------------|--------------|---------------------|
| _____                     | _____                    | _____                   | _____        | _____               |
| _____                     | _____                    | _____                   | _____        | _____               |
| _____                     | _____                    | _____                   | _____        | _____               |

to (1) any public official or state employee of the state agency or quasi-public agency soliciting the bids or proposals who participated directly, extensively, and substantially in the preparation of the bid solicitation or preparation of request for proposal or (2) to any public official or state employee who has supervisory or appointing authority over the state agency or quasi-public agency soliciting the bid or proposal.

Further, neither I nor any principals or key personnel of the submitting firm or corporation who participated directly, extensively and substantially in the preparation of this bid or proposal know of any action to circumvent this gift/campaign contribution affidavit.

Further, during the two-year period preceding the submission of this bid or proposal, neither I nor any principals or key personnel of the submitting firm or corporation who participated directly, extensively and substantially in the preparation of this bid or proposal nor any agent of the above gave a contribution to a candidate for statewide public office or the General Assembly, as defined in Conn. Gen. Stat. §9-333b, except the contributions listed below:

| <u>Contributor</u> | <u>Recipient</u> | <u>Amount/<br/>Value</u> | <u>Date of<br/>Contribution</u> | <u>Contribution<br/>Description</u> |
|--------------------|------------------|--------------------------|---------------------------------|-------------------------------------|
| _____              | _____            | _____                    | _____                           | _____                               |
| _____              | _____            | _____                    | _____                           | _____                               |
| _____              | _____            | _____                    | _____                           | _____                               |

Sworn as true to the best of my knowledge and belief, subject to the penalties of false statement.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Sworn and subscribed before me on this \_\_\_\_\_ day of \_\_\_\_\_, 2005

\_\_\_\_\_  
Commissioner of the Superior Court/  
Notary Public

**FORM OF BID**

The undersigned bidder hereby submits the following bid for the **Columbus Boulevard & Chestnut Street – Phase VII Downtown Complete Streets, Bid No. 3951**, in accordance with the Bid Documents for said project. The undersigned has carefully examined and understands all Bid Documents, as listed in Article 3 of the Instructions to Bidders of the “Bid Requirements and Conditions Document”; and has complied with all the provisions thereof in the preparation of his bid. The Undersigned also offers to furnish all plant, labor, material, supplies, equipment and other facilities for or incidental to the construction of said project as required by, and in strict accordance with, the Improvement Drawings and Specifications, and all addenda issued by the Owner and mailed to the undersigned by registered mail, with return receipt requested, prior to the date of bid opening, whether received or not, for the following unit bid prices.

The Bid Unit Price for each item and the Total Amount Bid must be written in words and figures for the Base Bid and any Alternate Bids.

The undersigned bidder acknowledges receipt of the following:

| Addendum # | Date  | Acknowledged |
|------------|-------|--------------|
| _____      | _____ | _____        |
| _____      | _____ | _____        |
| _____      | _____ | _____        |
| _____      | _____ | _____        |
| _____      | _____ | _____        |



The total amount of the Base Bid based on the estimated quantities shown herein and as computed by the undersigned Bidder for the **Columbus Boulevard & Chestnut Street - Phase VII Downtown Complete Streets, Bid 3951**

**BASE BID Itemized Work/Quantities**

| ITEM NO.  | EST. QTY. | UNIT | DESCRIPTION AND WRITTEN UNIT PRICE  | UNIT PRICE | AMOUNT |
|-----------|-----------|------|---|------------|--------|
| 0201001 A | 1.00      | l.s. | CLEARING AND GRUBBING<br>at lump sum price of<br>_____ dollars<br>and _____ cents                 | \$         | \$     |
| 0202451 A | 10.00     | c.y. | TEST PIT EXCAVATION at<br>_____ dollars<br>and _____ cents per cubic yard                         | \$         | \$     |
| 0202503 A | 1700.00   | l.f. | REMOVAL OF CONCRETE CURBING at<br>_____ dollars<br>and _____ cents per linear foot                | \$         | \$     |
| 0202513 A | 800.00    | s.y. | REMOVAL OF CONCRETE SIDEWALK at<br>_____ dollars<br>and _____ cents per square yard               | \$         | \$     |
| 0202522 A | 190.00    | s.y. | REMOVAL OF BITUMINOUS CONCRETE<br>PAVEMENT at<br>_____ dollars<br>and _____ cents per square yard | \$         | \$     |
| 0202529   | 5100.00   | l.f. | CUT BITUMINOUS CONCRETE PAVEMENT at<br>_____ dollars<br>and _____ cents per linear foot           | \$         | \$     |
| 0202575 A | 5.00      | ea.  | FURNISH AND INSTALL CONCRETE MONUMENT<br>at<br>_____ dollars<br>and _____ cents per each          | \$         | \$     |
| 0205004   | 5.00      | c.y. | ROCK IN TRENCH EXCAVATION - 0' - 10' DEEP at<br>_____ dollars<br>and _____ cents per cubic yard   | \$         | \$     |
| 0213100 A | 20.00     | c.y. | GRANULAR FILL at<br>_____ dollars<br>and _____ cents per cubic yard                               | \$         | \$     |

| ITEM NO.   | EST. QTY. | UNIT | DESCRIPTION AND WRITTEN UNIT PRICE   | UNIT PRICE | AMOUNT |
|------------|-----------|------|--|------------|--------|
| 0219011 A  | 5.00      | ea.  | SEDIMENTATION CONTROL AT CATCH BASIN at _____ dollars<br>and _____ cents per each                        | \$         | \$     |
| 0404100 A  | 1535.00   | s.y. | BITUMINOUS CONCRETE PATCHING - FULL<br>DEPTH at _____ dollars<br>and _____ cents per square yard         | \$         | \$     |
| 0404102 A  | 50.00     | s.y. | BITUMINOUS CONCRETE PATCHING - FULL<br>DEPTH - STATE at _____ dollars<br>and _____ cents per square yard | \$         | \$     |
| 0406171 A  | 1000.00   | ton  | HMA S0.5 at _____ dollars<br>and _____ cents per ton   | \$         | \$     |
| 0406236    | 580.00    | gal. | MATERIAL FOR TACK COAT at _____ dollars<br>and _____ cents per gallon                                    | \$         | \$     |
| 0406275 A  | 8300.00   | s.y. | FINE MILLING OF BITUMINOUS CONCRETE (0" TO<br>4") at _____ dollars<br>and _____ cents per square yard    | \$         | \$     |
| 0507781    | 3.00      | ea.  | RESET MANHOLE at _____ dollars<br>and _____ cents per each   | \$         | \$     |
| 0507829    | 1.00      | ea.  | CONVERT MANHOLE TO TYPE "C" CATCH BASIN<br>at _____ dollars<br>and _____ cents per each                  | \$         | \$     |
| 0586001.10 | 5.00      | ea.  | TYPE 'C' CATCH BASIN - 0' - 10' DEEP at _____ dollars<br>and _____ cents per each                        | \$         | \$     |
| 0586700    | 11.00     | ea.  | CONVERT CATCH BASIN TO TYPE 'C' CATCH<br>BASIN at _____ dollars<br>and _____ cents per each              | \$         | \$     |
| 0586701    | 3.00      | ea.  | CONVERT CATCH BASIN TO TYPE 'C-L' CATCH<br>BASIN at _____ dollars<br>and _____ cents per each            | \$         | \$     |

| ITEM NO.   | EST. QTY. | UNIT | DESCRIPTION AND WRITTEN UNIT PRICE  | UNIT PRICE | AMOUNT |
|------------|-----------|------|---|------------|--------|
| 0586790.10 | 7.00      | ea.  | REMOVE DRAINAGE STRUCTURE - 0' - 10' DEEP at _____ dollars<br>and _____ cents per each          | \$         | \$     |
| 0686000.12 | 30.00     | l.f. | 12" R.C. PIPE - 0' - 10' DEEP at _____ dollars<br>and _____ cents per linear foot               | \$         | \$     |
| 0686200.12 | 10.00     | l.f. | 12" POLYVINYL CHLORIDE PIPE - 0' - 10' DEEP at _____ dollars<br>and _____ cents per linear foot | \$         | \$     |
| 0811001 A  | 140.00    | l.f. | CONCRETE CURBING at _____ dollars<br>and _____ cents per linear foot                            | \$         | \$     |
| 0813041 A  | 3600.00   | l.f. | 6" GRANITE STONE CURBING at _____ dollars<br>and _____ cents per linear foot                    | \$         | \$     |
| 0813052 A  | 550.00    | l.f. | 6"X20" GRANITE CURVED STONE CURBING at _____ dollars<br>and _____ cents per linear foot         | \$         | \$     |
| 0815001    | 20.00     | l.f. | BITUMINOUS CONCRETE LIP CURBING at _____ dollars<br>and _____ cents per linear foot             | \$         | \$     |
| 0913984 A  | 500.00    | l.f. | TEMPORARY PROTECTIVE FENCE at _____ dollars<br>and _____ cents per linear foot                  | \$         | \$     |
| 0914015 A  | 600.00    | l.f. | ORNAMENTAL FENCE at _____ dollars<br>and _____ cents per linear foot                            | \$         | \$     |
| 0921001 A  | 22000.00  | s.f. | CONCRETE SIDEWALK at _____ dollars<br>and _____ cents per square foot                           | \$         | \$     |
| 0921005 A  | 252.00    | s.f. | CONCRETE SIDEWALK RAMP at _____ dollars<br>and _____ cents per square foot                      | \$         | \$     |

| ITEM NO.  | EST. QTY. | UNIT | DESCRIPTION AND WRITTEN UNIT PRICE  | UNIT PRICE | AMOUNT |
|-----------|-----------|------|---|------------|--------|
| 0921025 A | 6250.00   | s.f. | BRICK PAVER SIDEWALK at _____ dollars<br>and _____ cents per square foot                                      | \$         | \$     |
| 0921050 A | 48.00     | s.f. | DETECTABLE WARNING CAST IRON PAVER at _____ dollars<br>and _____ cents per square foot                        | \$         | \$     |
| 0921099 A | 600.00    | s.f. | FLEXI-PAVE PAVEMENT AT NEW TREE at _____ dollars<br>and _____ cents per square foot                           | \$         | \$     |
| 0922002 A | 100.00    | s.y. | TEMPORARY BITUMINOUS CONCRETE SIDEWALK<br>at _____ dollars<br>and _____ cents per square yard                 | \$         | \$     |
| 0922500   | 195.00    | s.y. | BITUMINOUS CONCRETE DRIVEWAY -<br>COMMERCIAL at _____ dollars<br>and _____ cents per square yard              | \$         | \$     |
| 0924006 A | 2800.00   | s.f. | CONCRETE DRIVEWAY RAMP at _____ dollars<br>and _____ cents per square foot                                    | \$         | \$     |
| 0944101 A | 1200.00   | s.y. | FURNISHING AND PLACING TOPSOIL at _____ dollars<br>and _____ cents per square yard                            | \$         | \$     |
| 0949000 A | 35.00     | s.y. | WOOD CHIP MULCH at _____ dollars<br>and _____ cents per square yard   | \$         | \$     |
| 0949071 A | 8.00      | ea.  | PYRUS CALLERYANA 'CHANTICLEER FLOWERING<br>PEAR' 2 1/2-3" CAL. at _____ dollars<br>and _____ cents per each   | \$         | \$     |
| 0949799 A | 9.00      | ea.  | PLATANUS ACERFOLIS 'BLOODGOOD LONDON<br>PLANETREE' 2 1/2-3" CAL. at _____ dollars<br>and _____ cents per each | \$         | \$     |
| 0949837 A | 11.00     | ea.  | ACER RUBRUM 'OCTOBER GLORY RED MAPLE' 2<br>1/2-3" CAL. at _____ dollars<br>and _____ cents per each           | \$         | \$     |

| ITEM NO.  | EST. QTY. | UNIT | DESCRIPTION AND WRITTEN UNIT PRICE  | UNIT PRICE     | AMOUNT               |
|-----------|-----------|------|---|----------------|----------------------|
| 0950005 A | 1200.00   | s.y. | TURF ESTABLISHMENT at<br>_____ dollars<br>and _____ cents per square yard   | \$             | \$                   |
| 0970006 A | 100000.00 | est. | TRAFFICPERSON (MUNICIPAL POLICE OFFICER)<br>(ESTIMATED)<br>at an estimated cost of<br>_____ One _____ dollars<br>and _____ Zero _____ cents | \$<br><br>1.00 | \$<br><br>100,000.00 |
| 0970007 A | 40.00     | hr.  | TRAFFICPERSON (UNIFORMED FLAGGER) at<br>_____ dollars<br>and _____ cents per hour   | \$             | \$                   |
| 0971001 A | 1.00      | l.s. | MAINTENANCE AND PROTECTION OF TRAFFIC<br>at lump sum price of<br>_____ dollars<br>and _____ cents   | \$             | \$                   |
| 0975004   | 1.00      | l.s. | MOBILIZATION AND PROJECT CLOSEOUT<br>at lump sum price of<br>_____ dollars<br>and _____ cents   | \$             | \$                   |
| 0976002   | 2000.00   | day  | BARRICADE WARNING LIGHTS - HIGH INTENSITY<br>at<br>_____ dollars<br>and _____ cents per 1000 gallons  | \$             | \$                   |
| 0978002   | 35.00     | ea.  | TRAFFIC DRUM at<br>_____ dollars<br>and _____ cents per each  | \$             | \$                   |
| 0980001   | 1.00      | l.s. | CONSTRUCTION STAKING<br>at lump sum price of<br>_____ dollars<br>and _____ cents  | \$             | \$                   |
| 0981100   | 35.00     | ea.  | 42" TRAFFIC CONE at<br>_____ dollars<br>and _____ cents per each  | \$             | \$                   |
| 1001001   | 500.00    | l.f. | TRENCHING AND BACKFILLING at<br>_____ dollars<br>and _____ cents per linear foot  | \$             | \$                   |
| 1001004   | 3.00      | c.y. | ROCK IN TRENCH EXCAVATION (0' TO 4' DEEP) at<br>_____ dollars<br>and _____ cents per cubic yard   | \$             | \$                   |

| ITEM NO.  | EST. QTY. | UNIT | DESCRIPTION AND WRITTEN UNIT PRICE  | UNIT PRICE | AMOUNT |
|-----------|-----------|------|---|------------|--------|
| 1002130 A | 40.00     | ea.  | INSTALL CITY FURNISHED LIGHT STANDARD<br>FOUNDATION at _____ dollars<br>and _____ cents per each                  | \$         | \$     |
| 1002203   | 1.00      | ea.  | TRAFFIC CONTROL FOUNDATION PEDESTAL -<br>TYPE I at _____ dollars<br>and _____ cents per each                      | \$         | \$     |
| 1003912 A | 19.00     | ea.  | REMOVE CONCRETE LIGHT STANDARD BASE at<br>_____ dollars<br>and _____ cents per each                               | \$         | \$     |
| 1008115   | 15.00     | l.f. | 2" RIGID METAL CONDUIT IN TRENCH at<br>_____ dollars<br>and _____ cents per linear foot                           | \$         | \$     |
| 1008127 A | 3200.00   | l.f. | 2" SCH 80 PVC CONDUIT at<br>_____ dollars<br>and _____ cents per linear foot                                      | \$         | \$     |
| 1008129 A | 520.00    | l.f. | 3" SCH 80 PVC CONDUIT at<br>_____ dollars<br>and _____ cents per linear foot                                      | \$         | \$     |
| 1010011   | 17.00     | ea.  | CONCRETE HANDHOLE TYPE I at<br>_____ dollars<br>and _____ cents per each  | \$         | \$     |
| 1010021   | 1.00      | ea.  | CONCRETE HANDHOLE TYPE II at<br>_____ dollars<br>and _____ cents per each   | \$         | \$     |
| 1010052 A | 17.00     | ea.  | CAST IRON HANDHOLE COVER TYPE I at<br>_____ dollars<br>and _____ cents per each                                   | \$         | \$     |
| 1010054   | 1.00      | ea.  | CAST IRON HANDHOLE COVER TYPE II at<br>_____ dollars<br>and _____ cents per each                                  | \$         | \$     |
| 1102013   | 1.00      | l.s. | REMOVAL AND/OR RELOCATION OF TRAFFIC<br>SIGNAL EQUIPMENT<br>at lump sum price of _____ dollars<br>and _____ cents | \$         | \$     |

| ITEM NO.  | EST. QTY. | UNIT | DESCRIPTION AND WRITTEN UNIT PRICE  | UNIT PRICE | AMOUNT |
|-----------|-----------|------|---|------------|--------|
| 1206023 A | 1.00      | l.s. | REMOVAL AND RELOCATION OF EXISTING SIGNS<br>at lump sum price of _____ dollars<br>and _____ cents                       | \$         | \$     |
| 1208931 A | 115.00    | s.f. | SIGN FACE - SHEET ALUMINUM (TYPE IX<br>RETROREFLECTIVE SHEETING) at<br>_____ dollars<br>and _____ cents per square foot | \$         | \$     |
| 1210101   | 3500.00   | l.f. | 4" WHITE EPOXY RESIN PAVEMENT MARKING at<br>_____ dollars<br>and _____ cents per linear foot                            | \$         | \$     |
| 1210102   | 3200.00   | l.f. | 4" YELLOW EPOXY RESIN PAVEMENT MARKING<br>at<br>_____ dollars<br>and _____ cents per linear foot                        | \$         | \$     |
| 1210103   | 3000.00   | l.f. | 6" WHITE EPOXY RESIN PAVEMENT MARKING at<br>_____ dollars<br>and _____ cents per linear foot                            | \$         | \$     |
| 1210105   | 1200.00   | s.f. | EPOXY RESIN PAVEMENT MARKINGS, SYMBOLS,<br>AND LEGENDS at<br>_____ dollars<br>and _____ cents per square foot           | \$         | \$     |
| 1211001   | 250.00    | s.f. | REMOVAL OF PAVEMENT MARKINGS at<br>_____ dollars<br>and _____ cents per square foot                                     | \$         | \$     |
| 1220027   | 400.00    | s.f. | CONSTRUCTION SIGNS at<br>_____ dollars<br>and _____ cents per square foot   | \$         | \$     |
| 1302054 A | 2.00      | ea.  | REPLACE CURB BOX at<br>_____ dollars<br>and _____ cents per each  | \$         | \$     |
| 1302061 A | 10.00     | ea.  | ADJUST GATE BOX (WATER) at<br>_____ dollars<br>and _____ cents per each   | \$         | \$     |

| ITEM NO.  | EST. QTY. | UNIT | DESCRIPTION AND WRITTEN UNIT PRICE                                     | UNIT PRICE | AMOUNT |
|-----------|-----------|------|--|------------|--------|
| 1302062 A | 10.00     | ea.  | ADJUST GATE BOX (GAS) at _____ dollars<br>and _____ cents per each     | \$         | \$     |
| 1500210 A | 2.00      | ea.  | RESET MANHOLE (TELEPHONE) at _____ dollars<br>and _____ cents per each | \$         | \$     |

**TOTAL BASE BID**

TOTAL AMOUNT IN WORDS: \_\_\_\_\_

\_\_\_\_\_ DOLLARS

TOTAL AMOUNT IN FIGURES: \$ \_\_\_\_\_

**BID ALTERNATE 1 (Herald Square Milling and Paving) Itemized Work/Quantities**

Note: The Unit Prices for Bid Alternate 1 shall match the corresponding Unit Prices of the Base Bid. The Total for Bid Alternate 1 will be calculated based on the Unit Prices from the Base Bid.

| ITEM NO.  | EST. QTY. | UNIT | DESCRIPTION AND WRITTEN UNIT PRICE   | UNIT PRICE             | AMOUNT |
|-----------|-----------|------|--|------------------------|--------|
| 0406171 A | 530.00    | ton  | HMA S0.5 at _____ dollars<br>and _____ cents per ton   | (See Note Above)<br>\$ | \$     |
| 0406236   | 325.00    | gal. | MATERIAL FOR TACK COAT at _____ dollars<br>and _____ cents per gallon                              | (See Note Above)<br>\$ | \$     |
| 0406275 A | 4600.00   | s.y. | FINE MILLING OF BITUMINOUS CONCRETE (0" TO 4") at _____ dollars<br>and _____ cents per square yard | (See Note Above)<br>\$ | \$     |

**TOTAL BID ALTERNATE 1 (Herald Square Milling and Paving)**

TOTAL AMOUNT IN WORDS: \_\_\_\_\_

\_\_\_\_\_ DOLLARS

TOTAL AMOUNT IN FIGURES: \$ \_\_\_\_\_



It is understood and agreed to by the bidder that:

- 1) The itemization of the Bid, and the selection of the Bid Items used therein, is at the Owner's discretion, and solely for the Owner's convenience in evaluating and comparing the submitted bids and administering the Contract.
- 2) The Unit Price bid for each item, and the aggregate sum of the Unit Prices multiplied by the corresponding estimated quantity as applied to the project as a whole, includes all plant, labor, material, supplies, equipment, and other facilities necessary for, and incidental to, the construction of said item, complete, fully functional, and properly finished, as required by, and in strict conformance with these Bid Documents, and for the use (or uses) and appearance intended by the Owner.
- 3) The price bid per unit quantity of work in the various items above shall control in contract award herein.
- 4) The quantities noted above are approximate, only being estimated solely for use in comparing bids.
- 5) The Total Bid Amounts entered above, and the bid amount for each item (obtained by multiplying the unit price by the estimated quantity), are included solely for the purpose of checking this proposal and for the convenience of the Bidder.
- 6) The above prices are to be paid for the actual quantities of the items of work in the completed work or structure. Should the dimensions of any part of the work or the quantities of materials used or work performed be different than those designated in this Form of Bid, or on the Improvement Drawings, the actual quantities only will be allowed in measurement.
- 7) In submitting this Bid, the Bidder understands that the Owner reserves the right to reject any and all bids, and to waive any informality in the bidding. The Owner further reserves the right to make the award on the basis of the above bid.
- 8) If written notice of the acceptance of this bid is mailed, telegraphed, or delivered to the undersigned after the opening thereof, the undersigned agrees to execute and deliver any Agreement in the prescribed form and furnish the required bonds within ten (10) days after the Agreement is presented to him for his signature.
- 9) The Bidder is enclosing a statement of his qualifications.
- 10) The Owner reserves the right to delete any of the bid items in total or to increase or reduce the quantity of any bid items.
- 11) The Bidder shall comply with all provisions of the Bid Documents in his prosecution of the Project if awarded the Contract; and all provisions will be enforced by the Owner.

Dated this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_

Bidder's Name: \_\_\_\_\_

By: \_\_\_\_\_ Official

Address \_\_\_\_\_

Title: \_\_\_\_\_

**BID BOND**

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, \_\_\_\_\_, as Principal, and \_\_\_\_\_, as Surety, are hereby held and firmly bound unto The City of New Britain, as Owner, in the penal sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) lawful money of the United States, for the payment of which sum well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns firmly by these presents.

The condition of the above obligation is such that whereas the Principal has submitted to the Owner a certain Bid, attached hereto, and made a part hereof by reference, to enter into a contract in writing for the project entitled **Columbus Boulevard & Chestnut Street – Phase VII Downtown Complete Streets, Bid No. 3951.**

NOW THEREFORE,

- (a) if said Bid shall be rejected, or in the alternate,
- (b) if said Bid shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract (properly completed in accordance with said Bid) attached hereto, and shall furnish the Owner with proper bonds for his faithful performance of said contract and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said Bid, then this obligation shall be void. Otherwise, the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of his obligation as herein stated.

The surety, for value received, hereby stipulates and agrees that the obligation of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Owner may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporation seals to be hereto affixed, and these presents to be signed by their proper officers.

Made and entered into this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_.

**PRINCIPAL:**

By: \_\_\_\_\_

**SURETY:**

By: \_\_\_\_\_