

**CONTRACT DOCUMENTS**

**FOR**

**PROJECT 2205FFE: Fortville Pike & C.R. 300 N Intersection  
Reconstruction**

**Department of Engineering  
City of Greenfield**

**Guy Titus.....Mayor  
Glen Morrow, PE.....City Engineer**

Bv1 - 08/2018

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**NOTICE TO BIDDERS**  
**City of Greenfield**

Department: **Department of Engineering**  
**10 S. State Street**  
**Greenfield, Indiana 46140**

Project/Work: **2205FFE: Fortville Pike & C.R. 300 N Intersection Reconstruction**

Notice is hereby given that the City of Greenfield will receive sealed bids for the above described "Project/Work" at Clerk-Treasurer's Office, 10 S. State Street, Greenfield, Indiana, until 9:30 a.m. prevailing local time, 10 S. State Street, on Thursday, October 22, 2024 and commencing as soon as practicable thereafter on the same date such bids will be publicly opened. No late Bids will be accepted.

A Bid Bond or certified check in an amount not less than five percent (5%) of the amount bid must be submitted with each Bid. A one hundred percent (100%) Performance and Payment Bond will also be required of the successful Bidder.

The Work consists of, but is not necessarily limited to the following:

Fortville Pike and C.R. 300 N reconstruction consisting of a roundabout intersection improvement, curb and gutter, pedestrian facilities, drive reconstructions, storm sewer, lighting and landscaping.

Contract Documents for the Project/Work have been assembled into one or more bound Project Manuals which, together with Drawings, may be examined the Clerk-Treasurer's Office or the Department of Engineering at 10 S. State Street, Greenfield, Indiana 46140.

Electronic copies of the Drawings and Project Manuals will be available on the City of Greenfield website at <https://www.greenfieldin.org/government/engineering>. Bidders will be responsible to contact the Clerk-Treasurers office to be added to the plan-holders list if downloading electronic contract documents.

Bidders shall assure that they have obtained complete sets of drawings and Contract Documents and shall assume the risk of any errors or omissions in Bids prepared in reliance on incomplete sets of drawings and Contract Documents.

A pre-bid conference for discussion of the Work will be held on **September 30, 2024 at 9:30** in the Larry Breese Conference Room. All prospective Bidders are strongly urged to attend the pre-bid conference to learn about the project.

For accommodations needed by persons with disabilities to attend the public bid opening meeting, please call (317) 477-4320.

The City of Greenfield reserves the right to reject any or all bids or to waive any informalities and to accept the bid which it deems most favorable to the interests of the City after all bids have been examined and canvassed.

# **INSTRUCTIONS TO BIDDERS**

## **City of Greenfield**

Department (“Owner”): **Department of Engineering  
10 S. State Street  
Greenfield, Indiana 46140**

Project/Work: **2205FFE: Fortville Pike & C.R. 300 N Intersection Reconstruction**

Owner’s Representative: **Glen Morrow**

Engineer: **American Structurepoint, Inc.**

### **1. GENERAL**

- 1.1 Submission of a Bid shall constitute an unconditional agreement and acknowledgment by the Bidder to be bound by all terms and conditions set forth herein and in any of the documents assembled or referred to in the bound Project Manual of which these Instructions to Bidders are a part.
- 1.2 Sample forms are included in the Project Manual to acquaint Bidders with the form and provisions of various Bid Documents and other documentation required by the Contract Documents to be executed, completed and submitted by some or all Bidders, either as part of a Bid Submission or after the Bid Date. Such sample forms are not to be detached from the Project Manual, or filled out or executed. Separate copies of such forms and any other required documentation prescribed by the Contract Documents have been or will be furnished separately by the Owner and must be obtained directly from the City.
- 1.3 Instructions and requirements printed on any sample form included in the Project Manual or any form not so included but required to be completed, signed or furnished by a Bidder as part of a Bid Submission or after receipt and opening of Bids shall be deemed requirements established by these Instructions to Bidders to the same extent as if fully restated herein.
- 1.4 By submitting bid the Bidder agrees the bid proposal and price(s) contained herein shall be valid for ninety (90) days from bid opening.

### **2. DEFINITIONS**

The following definitions shall apply to these Instructions to Bidders (ITB):

- 2.1 Bidder - Any person or entity who submits a Bid.
- 2.2 Bid - A written proposal submitted by a Bidder as part of the form prescribed herein offering to perform and complete the Work and to fulfill all other requirements of the Contract Documents for one or more specified prices.
- 2.3 Bid Documents - All documents and completed forms required to be submitted by a Bidder with and as integral parts of a Bid Submission, whether or not included as sample forms assembled in the Project Manual of which these Instructions to Bidders are a part. Such Bid Documents are listed and more fully described in ITB Section 5.3 hereof.

- 2.4 Bid Date - The date when Bids are to be received, opened and publicly read aloud as established by the Notice to Bidders as may be modified by Addenda.
- 2.5 Bid Submission - All documents presented by a Bidder for receipt and opening on the Bid Date.
- 2.6 Contract Documents - The Agreement and any exhibits thereto, Addenda (which pertain to the Contract Documents), Instructions to Bidders, Advertisement, Notice to Bidders, Bidder's Bid (including documentation accompanying the Bid and any post-Bid documentation submitted prior to the Notice of Award), Notice to Proceed, the Bonds, the General Conditions, the Additional Requirements Section, any supplemental or special conditions, the Specifications and the Drawings, as the same are more specifically identified in the Agreement.
- 2.7 E-Verify Program - An electronic verification of work authorization program of the Illegal Immigration Reform and Immigration Responsibility Act of 1996 (P.L. 104-208), Division C, Title IV, s.403(a), as amended, operated by the United States Department of Homeland Security or successor work authorization program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work authorization status of newly hired employees under the Immigration Reform and control Act of 1986 (P.L. 99-603).
- 2.8 Owner - The City of Greenfield acting by and through the Department or other agency designated above.
- 2.9 Project Manual - The bound set of documents, sample forms, and Contract Documents (excluding plans and Addenda) approved by the Owner for the Work and/or Project described in the Notice to Bidders and of which these Instructions to Bidders are a part.

In all other respects, terms used herein shall have the meanings as stated in the General Conditions or other Contract Documents.

### **3. EXAMINATION OF SITE AND DOCUMENTS**

- 3.1 Before the Bid Date, all Bidders shall carefully and thoroughly examine and inspect the entire site of the proposed Work and adjacent premises and the various means of approach and access thereto by means of a site inspection visit, and make all necessary investigations to inform themselves thoroughly as to the facilities necessary for delivering, placing and operating the necessary construction equipment, and for delivering and handling materials at the site, and shall inform themselves thoroughly as to any and all actual or potential difficulties, hindrances, delays and constraints involved in the commencement, prosecution and completion of the proposed Work in accordance with the requirements of the Contract Documents.
- 3.2 It shall be the sole responsibility of Bidders to make borings, test pits and to conduct such other investigations at or near the site of the proposed Work as they deem necessary to determine the character, location, and amount of materials to be encountered or other subsurface conditions which could affect the manner, cost or time required to perform the Work.
- 3.3 Bidders shall carefully and thoroughly examine the plans, specifications and other Contract and/or Project Manual Documents and shall assume the full risk of their own judgments as to the nature, quality and amount of the whole of the Work to be done, and for the price bid must assume all risk of any and all variances or errors in any computation or statement of amounts or quantities necessary to complete the Work in strict compliance with the Contract Documents.

- 3.4 Elevations of the existing ground surface or structures at the site of the Work as shown on the plans are believed to be reasonably correct, but are not guaranteed to be absolutely so and are presented only as an approximation. Bidders shall satisfy themselves as to the correctness of all elevations.
- 3.5 Information stated or depicted on plans concerning the location, dimensions, depth and other characteristics of underground structures and utilities is given only as general information and shall not be construed or relied upon by Bidders as a representation or assurance that such structures or utilities will be found or encountered as plotted, or that such information is complete or accurate. Bidders, therefore, shall satisfy themselves by such means as they may deem proper as to the location of all structures and utilities that may be encountered in construction of the Work and shall bear the risk of the number, type, location, dimensions and depth of all structures and utilities thus encountered.
- 3.6 The City of Greenfield Standard General Conditions for Construction Contracts, August 2018, is incorporated by reference as part of this bid. Copy of General Conditions are available at <https://www.greenfieldin.org/government/engineering>.

#### **4. CLARIFICATIONS AND ADDENDA**

- 4.1 If a Bidder finds conflicts, errors, discrepancies or ambiguities in the Contract Documents or any sample form, or if the Bidder is in doubt as to the intended meaning of any portion or provision therein, the Bidder shall at once give written notice thereof to Jordan Bosse (jbosse@structurepoint.com ) and Glen Morrow (gmorrow@greenfieldin.org), at least seven (7) consecutive calendar days prior to the Bid Date. No Bidder shall be allowed any extra compensation or time extension by reason of any conflict, error, discrepancy or ambiguity of which the Bidder had actual knowledge or reasonably should have known and which he/she failed to report within the period and in the manner required by these Instructions to Bidders.
- 4.2 No material changes, clarifications or interpretations of the Contract Documents will be issued except by written or graphic Addenda mailed or delivered to record holders of Contract Documents not less than three (3) days prior to the Bid Date. All such Addenda must be acknowledged by the Bidder and will become a part of the Contract Documents. The Owner will not be responsible for or bound by any oral or written interpretations or clarifications of the Contract Documents which anyone presumes to make on its behalf, except by an Addendum issued in accordance with this Section.

#### **5. BID SUBMISSION**

- 5.1 All Bid Documents shall be placed within a sealed envelope which shall be plainly labeled on the outside with the name and address of the Bidder, Project name and number (if applicable) and Due Date. If forwarded by mail, the sealed envelope must be enclosed in another envelope addressed to: City of Greenfield, Clerk-Treasurer, 10 S. State Street, Greenfield, Indiana 46140.
- 5.2 All Bid Documents as herein prescribed must be submitted with and as integral parts of each Bid Submission and shall be subject to all requirements of the Contract Documents, including drawings and these Instructions to Bidders. Bid Documents must be properly filled in and completed in every material respect and without interlineations, excisions, special conditions, qualifications or exceptions. Each Bid Document requiring a signature shall be signed by an individual duly authorized to execute such document on Bidder's behalf. A bid executed by a

corporation, joint venture, or other entity with an assumed name shall have the legal and correct name thereof followed by the word “by” and the signature and title of the officer or other person authorized to sign for it.

5.3 The Bid Documents to be thus submitted by each Bidder shall consist of all of the following (5.3.1, 5.3.2, 5.3.3):

.1 Bidder’s Itemized Proposal and Declarations. A sample of this form is included in the Project Manual and must be utilized by all Bidders. Such document includes and consists of the following constituent “Parts”:

“Part 1 - Bidder Information”

“Part 2 - Proposal (Bid)”

“Part 3 - Contract Items and Unit Prices”

“Part 4 - Contract Documents and Addenda”

“Part 5 - Exceptions”

“Part 6 - Nepotism Disclosure Form”

“Part 7 - Additional Declarations, including certification required by IC 5-22-16.5”

“Part 8 - Drug Program”

“Part 9 - Non-Collusion Affidavit”

“Part 10 - E-Verify Affidavit”

“Part 11 - Signatures”

.2 Bid Security in the form of a Bid Bond or Certified Check in an amount not less than five percent (5%) of the bid price. Such Bid Security shall serve as security to insure the execution of the Agreement and the furnishing of other required documents by the successful Bidder, including Performance and Payment Bonds. A sample Bid Bond form is included in the Project Manual and such form, or such other form as may be approved in advance by Owner, shall be utilized if such a bond is furnished as Bid Security. A Bid Bond shall be executed by a surety company licensed to transact such business in the State of Indiana and qualified as a surety under the underwriting limitations on the current list of “Surety Companies Acceptable on Federal Bonds” as published in the U.S. Treasury Department Circular No. 570; the Bidder shall also furnish as part of the Bid Submission a signed power of attorney establishing the authority of the person executing such Bid Bond on behalf of the surety. Bid Security shall be held until the Contract is executed with the successful Bidder. In the event that all bids are rejected, the Bid Security of all Bidders will be returned upon request. No “Annual” bid bonds, cash deposits or cashiers’ checks will be accepted.

.3 Contractor’s Bid for Public Work (State Form 96). Such form is included in this Project Manual on pages BID-10 to BID-15 and shall be used in consideration of a Bidder’s ability to perform its obligations under the terms of the contract Documents and in determining other material factors bearing upon a Bidder’s responsibility. If Bid is under \$150,000 either of these forms may be submitted as a Post-Bid submittal under Section 6, Post Bid Requirements.

5.4 Bids may be withdrawn in person by a Bidder during normal hours of business prior to the time fixed for opening of Bids. In the event of a valid withdrawal of a Bid, the Bid Security of the withdrawing Bidder will be returned promptly. No Bid may be withdrawn after opening of Bids has commenced except after expiration of such period following the Bid Date as specifically provided by law, plus any extension thereof as provided elsewhere in these Instructions to

Bidders. Bidder's failure to provide all completed documentation as required in ITB Section 5.3 may result in Bid being deemed non-responsive.

## 6. POST-BID REQUIREMENTS

Within five (5) business days of notification by Owner, the apparent lowest responsive Bidder will be required to submit additional documents and satisfy additional requirements as conditions to such Bidder being found by the Owner to be a responsible Bidder, as follows:

- 6.1 Proof of Insurability. The Bidder shall furnish: (1) proof of insurance showing existing coverage in accordance with the terms and amounts stated in the General Conditions, or (2) a letter or statement certifying that, in the event that the bid is awarded by the Owner, an insurance company will provide the required coverage to the Bidder submitting the bid. Such proof of insurance or the letter/statement shall be issued by a financially responsible insurance company authorized to do business in the State of Indiana.
- 6.2 Surety Letter of Intent. The Bidder shall furnish a written statement or letter from a Surety company licensed to transact such business in the State of Indiana and qualified as a surety under the underwriting limitations on the current list of "Surety Companies Acceptable on Federal Bonds" as published in U.S. Treasury Department Circular No. 570, which assures the Owner that, in the event the Bid is accepted and a contract is awarded by Owner, said Surety will execute and deliver both a Performance Bond and Payment Bond as required by the Contract Documents.
- 6.3 Joint Venture Agreement. If the Bidder is a joint venture, partnership or other combination of two or more persons or entities, the Bidder shall submit a copy of the joint venture or other agreement by which such joint venture, partnership or other association has been formed, executed by all such participating persons or entities. If the Bid is signed by less than all parties that comprise the Bidder, suitable written evidence of the authority of such signing party to bind all such parties must also be furnished.
- 6.4 Subcontractor/Supplier List. The Bidder shall submit all subcontractors and suppliers that will be used on the project, as required (POST-BID-1).
- 6.5 Manufacturers List. The Bidder shall submit a complete list of all equipment and supplies that are listed in the Manufacturer's List (POST-BID-2).
- 6.6 E-Verify Documentation. - The Bidder shall submit verification that it is enrolled in and participating in the E-Verify program (POST-BID-3).

## 7. BID EVALUATION AND AWARD

- 7.1 **Award of the Contract will be made to the lowest, responsive and responsible Bidder, where the Bid is reasonable and does not exceed the funds available for the project.** The Owner reserves the right to reject all Bids and may waive or allow a Bidder to correct errors, omissions or other irregularities in Bid Documents that are found not to have afforded the Bidder a substantial competitive advantage over other Bidders.



- 7.2 The Owner shall have the right to reject any Bid if investigation of the Bidder fails to satisfy the Owner that such Bidder is properly qualified to carry out the obligations and complete the Work. Any or all Bids will be rejected if there is reason to believe that collusion exists among Bidders.
- 7.3 For unit price Contract Items, estimated quantities and unit prices will serve as the basis for determining the proposed price of each Bid. Patent math errors in statements of Bid prices or totals may be corrected by the Owner or Engineer, in which case the corrected amounts will be used for the purpose of Bid evaluation, comparison and other award considerations. However, neither the Owner nor the Engineer shall be required to discover or correct any error or omission in a Bid and the Bidder shall assume the risk of and be bound to the consequences of any such error or omission.
- 7.4 The Owner may, at its sole option, award the Contract to a Bidder on a conditional basis to afford the Bidder additional time and opportunity to submit required documents or to fulfill other requirements. In such case, the Owner will furnish to the Bidder a notice of conditional award which will establish (i) the additional conditions to be fulfilled for the award to become effective, and (ii) the time limit within which such conditions shall be satisfied. If the Bidder fails to satisfy the conditions in the manner and within the time specified in such notice, the Owner may declare such Bidder to be non-responsible and award the Contract, conditionally or unconditionally, to another Bidder. Time limitations governing the Owner's award of the Contract shall be extended for such additional period as may be required to effectuate the conditional award procedure set forth in this sub-section, and no Bid may be withdrawn during such period of extension.

## **8. CONTRACT EXECUTION; SUBMITTALS**

- 8.1 Within five (5) business days after the award notice, the successful Bidder shall sign and deliver at least three (3) counterparts of the Agreement, utilizing the form thereof included in the Project Manual and make delivery thereof to the Owner, along with other documents as prescribed by the Contract Documents. After execution and delivery of the Agreement and other required documents, and acceptance thereof by the Owner, the Bid Security furnished by each Bidder will be returned to the respective Bidders upon request.
- 8.2 If the Bidder fails or neglects to execute and deliver the Agreement and other required documents as prescribed by the preceding sub-section, the Bidder shall be deemed to have repudiated the Contract and thereupon the award shall be null and void; and the Bid Security provided by the Bidder shall be forfeited to and retained by the Owner as liquidated damages for such failure of the Bidder to execute the Contract, it being understood and agreed that the character and amount of actual damages sustained by the Owner cannot reliably be ascertained and measured and that the amount of the Bid Security is intended as a reasonable prospective estimate of such actual damages.
- 8.3 Concurrently with the execution and delivery of the Agreement to the Owner, or within such other period as the Owner may prescribe, the successful Bidder (Contractor) shall submit the following as conditions to the Bidder's right to proceed with and receive payment for any Work:
- .1 Proof of all required insurance coverage, a one hundred percent (100%) Performance Bond and a one hundred percent (100%) Payment Bond as prescribed by the General Conditions or other Contract Documents. Such bonds shall be executed utilizing the sample forms included in the Project Manual or alternative forms approved in advance by the Owner. Indemnification clauses between successful Bidder and the Surety shall not be binding upon the Owner;

- .2 The preliminary schedules required by Paragraph 2.7 of the General Conditions;
- .3 Other Post-Bid submittals required by the Contract Documents.

## 9. LIQUIDATED DAMAGES

- 9.1 The Contract Documents provide for the payment of liquidated damages in the event of unexcused failure by the Contractor to complete the Work within the time required by the Contract Documents. **Such liquidated damages are to be assessed and recovered at the rate of \$500.00 per day for delay in achieving the Substantial Completion date of July 25, 2025 and at the rate of \$100.00 per day for delay in achieving the Final Completion date of August 22, 2025.**
- 9.2 The per diem rate(s) of liquidated damages established by the preceding sub-section have been determined and are intended as reasonable prospective estimate(s) of the type and amount of actual damages which the Owner may sustain in the event of such delay(s). Submission of a Bid shall constitute an unconditional acknowledgment and agreement by the Bidder that such liquidated damages are fair and reasonable and do not and will not constitute a penalty, and that such liquidated damages may be assessed and recovered by the Owner as against the successful Bidder/Contractor and its Surety in lieu of actual damages for delayed completion.

## 10. CHANGE ORDERS

- 10.1 During the course of the Work, should the Owner or Bidder determine that additional work which was foreseeable is required, such work shall not be automatically awarded through change orders. However, the Owner reserves the right to award additional work which was foreseeable to the original Bidder where doing so is in the best interest of the Owner. All such awards are and will remain subject to necessary approvals.

## 11. ANTICIPATED PROJECT SCHEDULE MILESTONES (subject to change)

Legal Ad #1	September 21, 2024
Legal Ad #2	September 28, 2024
Pre-Bid Meeting	September 30, 2024
Deadline for Questions	October 7, 2024
Final Addenda Released	October 14, 2024
Bid Opening	October 22, 2024
Bid Award	November 12, 2024
NTP Issued	December 12, 2024
Substantial Completion	September 1, 2025
Final Completion	October 1, 2025

**END OF INSTRUCTIONS TO BIDDERS**

**PART 1**  
**BIDDER'S ITEMIZED PROPOSAL**  
**AND DECLARATIONS**  
City of Greenfield

*Instructions to Bidders:*

*This form shall be utilized by all Bidders. Except as otherwise specifically provided, all Parts shall be fully and accurately filled in and completed and notarized.*

**Project: 2205FFE: Fortville Pike & C.R. 300 N Intersection Reconstruction**

**Proposal For Construction of: Fortville Pike and C.R. 300 N reconstruction consisting of a roundabout intersection improvement, curb and gutter, pedestrian facilities, drive reconstructions, storm sewer, lighting and landscaping.**

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

To: **City of Greenfield, Department of Engineering**  
**10 S. State Street, Greenfield, Indiana 46140**

**PART 1**  
**BIDDER INFORMATION**  
**(Print)**

1.1 Bidder Name: \_\_\_\_\_

1.2 Bidder Address: Street Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone #: (    ) \_\_\_\_\_ Fax #: (    ) \_\_\_\_\_

1.3 Former Business names of Bidder: \_\_\_\_\_

1.4 Bidder is a/an *[mark one]*:  
 Individual     Partnership     Indiana Corporation  
 Foreign (Out of State) Corporation  
 Joint Venture  
Other: \_\_\_\_\_

**PART 2**  
**PROPOSAL (BID)**

- 2.1 The undersigned Bidder proposes to furnish all necessary labor, machinery, tools, apparatus, materials, equipment, service and other necessary supplies, and to perform and fulfill all obligations incident thereto in strict accordance with and within the time(s) provided by the terms and conditions of the Contract Documents for the above described Work and Project, including any and all addenda thereto, for the total lump sum of \_\_\_\_\_ Dollars (\$\_\_\_\_\_).
- 2.2 By submitting bid the Bidder agrees the bid proposal and price(s) contained herein shall be valid for ninety (90) days from bid opening.

**PART 3**  
**CONTRACT ITEMS AND UNIT PRICES**

Contract Item No.	Item Description	Item Unit	Estimated Quantity	<u>Prices in Figures</u>	
				Unit Price	Total Price for Item

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*[To be populated by designer]*

**PART 4**  
**CONTRACT DOCUMENTS AND ADDENDA**

4.1 The Bidder agrees to be bound by the terms and provisions of all Contract Documents as defined in the General Conditions and incorporates such Contract Documents herein by reference

4.2 The Bidder acknowledges receipt of the following addenda:

<u>Addendum Number</u>	<u>Date</u>
_____	_____
_____	_____
_____	_____
_____	_____

**PART 5**  
**EXCEPTIONS**

*Instructions to Bidders:*

- 5.1 *The Bidder shall fully state each exception taken to the Specifications or other Contract Documents in Section 5.3 of this Part.*
- 5.2 *Bidder is cautioned that any exception taken by Bidder and deemed by Owner to be a material qualification or variance from the terms of the Contract Documents may result in this Bid being rejected as non-responsive.*
- 5.3 *Exceptions:*

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**PART 6**  
**NEPOTISM DISCLOSURE**

Contractor: \_\_\_\_\_

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

For purposes of compliance with Indiana Code Chap. 36-1-21, please specify below whether Contractor (individual), or a person who wholly or partially owns Contractor (business), is a relative, as that term is defined by Indiana Code § 36-1-21-3, of either the Mayor of Greenfield, Indiana, or a member of the City Council of Greenfield, Indiana.

- Contractor (individual) or Contractor (business) does NOT have a relative who is either the Mayor of Greenfield, Indiana or a member of the City of Greenfield, Indiana.
- Contractor (individual) or Contractor (business) DOES have a relative who is either the Mayor of Greenfield, Indiana or member of the City Council of Greenfield, Indiana (must specify all relatives below):

\_\_\_\_\_

Mayor Guy Titus

City Councilor [please specify name of Councilor(s)]

\_\_\_\_\_

Name of Authorized Representative (Printed)

\_\_\_\_\_

Signature of Authorized Representative:

\_\_\_\_\_

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



**PART 7**  
**ADDITIONAL DECLARATIONS**

- 7.1 Bidder certifies for itself and all its subcontractors compliance with existing laws of the City of Greenfield, the State of Indiana and the United States regarding (a) prohibition of discrimination in employment practices on the basis of race, sex, disability, religion, national origin, disabled veteran status and Vietnam-era veteran status.
- 7.2 Bidder certifies that it has thoroughly examined the site of the Work and informed itself fully regarding all conditions under which it will be obligated to operate and that in any way affect the Work, and knows, understands and accepts the existing conditions. Bidder further certifies that it has thoroughly reviewed the Contract Documents, including all Addenda, and has had the opportunity to ask questions and obtain interpretations or clarifications concerning Contract Documents.
- 7.3 Hiring Practices. The Bidder shall, upon request of the Owner, make available its policies, practices and standards for the hiring of applicants, except as prohibited under Indiana Code section 22-2-17-3, to the extent such information is related to the provision of services under this Bid.
- 7.4 Bidder Qualifications. Bidder certifies to Owner the following:
- .1 That Bidder is eligible to work in the State of Indiana;
  - .2 That Bidder's labor force participates in apprenticeship or training programs approved by and registered with the United States Department of Labor's Office of Apprenticeship, or its successor organization;
  3. That Bidder has implemented an employee drug testing plan that meets, or exceeds, the requirements set forth in IC 36-1-12-24;
  - .4 That Bidder will utilize project managers and superintendents with sufficient relevant management experience to complete bidder's scope of work;
  - .5 That Bidder and its management personnel possess any and all professional trade licenses required by law for any trade or specialty area in which Bidder is seeking a contract award, and said licensures have not been suspended or revoked within the previous five (5) years;
  - .6 That Bidder is utilizing a surety company which is on the United States Department of Treasury's listing of approved sureties; and
  - .7 For contracts estimated to be over \$300,000.00, that Bidder and sub-contractors expected to be awarded at least \$300,000 for the project are qualified under IC 4-13.6-4 or IC 8-23-10.

Violation of this certification shall constitute a material breach of the contract to result from this Bid, and upon such a violation Owner may terminate the contract. In addition, upon a violation of this certification, Owner shall report such violation to the City Legal Department who may, at its discretion, debar the Bidder from eligibility for future city purchasing, bids, contracts, quotes and/or projects.

**PART 8**  
**DRUG PROGRAM**

- 8.1 Pursuant to IC 4-13-18-5, the Bidder must submit with the Bid a written plan for a program to test the Bidder's employees for drugs. A contractor that is subject to a collective bargaining agreement that establishes an employee drug testing program shall only submit a copy of the relevant part of the collective bargaining agreement establishing the program. Failure to submit a written plan for an employee drug testing program, or relevant parts of a collective bargaining agreement establishing an employee drug testing program shall result in the Bid being rejected as non-responsive.
  
- 8.2 Attach a copy of your drug testing program or the relevant parts of your collective bargaining agreement establishing a drug testing program to this page.

**PART 9**  
**NON-COLLUSION AFFIDAVIT**

The individual person(s) executing this Proposal, being first duly sworn, depose(s) and state(s) that the Bidder has not directly or indirectly entered into a combination, collusion, undertaking or agreement with any other bidder or person (i) relative to the price(s) proposed herein or to be bid by another person, or (ii) to prevent any person from bidding, or (iii) to induce a person to refrain from bidding; and furthermore, this Bid Proposal is made and submitted without reference to any other bids and without agreement, understanding or combination, either directly or indirectly, with any persons with reference to such bidding in any way or manner whatsoever.

**PART 10**  
**E-VERIFY PROGRAM**

Pursuant to Indiana Code 22-5-1.7-11.1, the contractor awarded the Bid is required to enroll in and verify the work eligibility status of all its newly hired employees through the E-Verify program. The contractor who is awarded the Bid is not required to verify the work eligibility status of all its newly hired employees through the E-Verify program if the E-Verify program no longer exists.

The individual person(s) executing this Proposal, being first duly sworn, depose(s) and state(s) that the Bidder does not knowingly employ an unauthorized alien. The undersigned further affirms that, prior to entering into an agreement for this Bid, the undersigned business entity will enroll in and agrees to verify the work eligibility status of all its newly hired employees through the E-Verify program.

**PART 11**  
**SIGNATURES**

*[Signature by or on behalf of the Bidder in the spaces provided below shall constitute execution of each and every Part of this Itemized Proposal and Declarations document. SIGNATURE MUST BE PROPERLY NOTARIZED.]*

Written Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

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

*Important - Notary Signature and Seal Required in the Space Below*

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

SS:

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

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

My commission expires: \_\_\_\_\_ (Signed) \_\_\_\_\_

Residing in \_\_\_\_\_ County, State of \_\_\_\_\_



# CONTRACTOR'S BID FOR PUBLIC WORK – FORM 96

State Form 52414 (R2 / 2-13) / Form 96 (Revised 2013)  
Prescribed by State Board of Accounts

## PART I

(To be completed for all bids. Please type or print)

Date (month, day, year): \_\_\_\_\_

1. Governmental Unit (Owner): City of Greenfield, Indiana
2. County: Hancock
3. Bidder (Firm): \_\_\_\_\_  
Address: \_\_\_\_\_  
City/State/ZIPcode: \_\_\_\_\_
4. Telephone Number: \_\_\_\_\_
5. Agent of Bidder (if applicable): \_\_\_\_\_

Pursuant to notices given, the undersigned offers to furnish labor and/or material necessary to complete the public works project of \_\_\_\_\_  
(Governmental Unit) in accordance with plans and specifications prepared by \_\_\_\_\_  
\_\_\_\_\_ and dated \_\_\_\_\_ for the sum of  
\_\_\_\_\_ \$ \_\_\_\_\_

The undersigned further agrees to furnish a bond or certified check with this bid for an amount specified in the notice of the letting. If alternative bids apply, the undersigned submits a proposal for each in accordance with the notice. Any addendums attached will be specifically referenced at the applicable page.

If additional units of material included in the contract are needed, the cost of units must be the same as that shown in the original contract if accepted by the governmental unit. If the bid is to be awarded on a unit basis, the itemization of the units shall be shown on a separate attachment.

The contractor and his subcontractors, if any, shall not discriminate against or intimidate any employee, or applicant for employment, to be employed in the performance of this contract, with respect to any matter directly or indirectly related to employment because of race, religion, color, sex, national origin or ancestry. Breach of this covenant may be regarded as a material breach of the contract.

### CERTIFICATION OF USE OF UNITED STATES STEEL PRODUCTS (If applicable)

I, the undersigned bidder or agent as a contractor on a public works project, understand my statutory obligation to use steel products made in the United States (I.C. 5-16-8-2). I hereby certify that I and all subcontractors employed by me for this project will use U.S. steel products on this project if awarded. I understand that violations hereunder may result in forfeiture of contractual payments.

ACCEPTANCE

The above bid is accepted this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_, subject to the following conditions: \_\_\_\_\_

Contracting Authority Members:

_____	_____
_____	_____
_____	_____

PART II  
(For projects of \$150,000 or more - IC 36-1-12-4)

Governmental Unit: **City of Greenfield, Indiana**

Bidder (Firm): \_\_\_\_\_

Date (month, day, year): \_\_\_\_\_

These statements to be submitted under oath by each bidder with and as a part of his bid. Attach additional pages for each section as needed.

SECTION I EXPERIENCE QUESTIONNAIRE

1. What public works projects has your organization completed for the period of one (1) year prior to the date of the current bid?

Contract Amount	Class of Work	Completion Date	Name and Address of Owner

2. What public works projects are now in process of construction by your organization?

Contract Amount	Class of Work	Expected Completion Date	Name and Address of Owner

3. Have you ever failed to complete any work awarded to you? \_\_\_\_\_ If so, where and why?

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4. List references from private firms for which you have performed work.

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SECTION II PLAN AND EQUIPMENT QUESTIONNAIRE

1. Explain your plan or layout for performing proposed work. *(Examples could include a narrative of when you could begin work, complete the project, number of workers, etc. and any other information which you believe would enable the governmental unit to consider your bid.)*

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2. Please list the names and addresses of all subcontractors *(i.e. persons or firms outside your own firm who have performed part of the work)* that you have used on public works projects during the past five (5) years along with a brief description of the work done by each subcontractor.

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3. If you intend to sublet any portion of the work, state the name and address of each subcontractor, equipment to be used by the subcontractor, and whether you will require a bond. However, if you are unable to currently provide a listing, please understand a listing must be provided prior to contract approval. Until the completion of the proposed project, you are under a continuing obligation to immediately notify the governmental unit in the event that you subsequently determine that you will use a subcontractor on the proposed project.

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4. What equipment do you have available to use for the proposed project? Any equipment to be used by subcontractors may also be required to be listed by the governmental unit.

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5. Have you entered into contracts or received offers for all materials which substantiate the prices used in preparing your proposal? If not, please explain the rationale used which would corroborate the prices listed.

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### SECTION III CONTRACTOR'S FINANCIAL STATEMENT

Attachment of bidder's financial statement is mandatory. Any bid submitted without said financial statement as required by statute shall thereby be rendered invalid. The financial statement provided hereunder to the governing body awarding the contract must be specific enough in detail so that said governing body can make a proper determination of the bidder's capability for completing the project if awarded.





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**BID OF**

\_\_\_\_\_  
*(Contractor)*

\_\_\_\_\_  
*(Address)*

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**FOR**  
**PUBLIC WORKS PROJECTS**  
**OF**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  

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Filed \_\_\_\_\_, \_\_\_\_\_

\_\_\_\_\_  

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Action taken \_\_\_\_\_

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**POST-BID SUBMITTAL**  
**SUBCONTRACTOR/SUPPLIER PARTICIPATION**

**A. SUBCONTRACTORS AND SUPPLIERS LIST**

*Instructions to Bidders: The Bidder shall submit a completed Subcontractor/Supplier list (see below) as required in ITB 6.4.*

*The Bidder shall enter the names, the type of work to be done, and the price, in the Subcontractors/Suppliers List for each subcontractor/supplier that the Bidder proposes to use for any part of the Work for the Project at an agreed price of \$10,000 or greater, as part of the total amount bid as stated above in Part 2.*

*Only one subcontractor/supplier shall be listed for each line. Upon award of a contract, the named subcontractors/suppliers shall be employed to perform the work, unless changes are specifically authorized by the Owner. Failure to furnish all information requested may render the bid non-responsive if it is determined that such omission materially affords the Bidder a substantial advantage over other Bidders.*

*Except as otherwise specifically stated by the Bidder in this Part, omission of any names of subcontractors/suppliers herein shall constitute an affirmative representation and statement that the Bidder proposes to use its own work force for that portion of the Work*

*Bidder's attention is directed to paragraphs 6.8, 6.9, and 6.11 of the City of Greenfield Standard General Conditions for Construction Contracts as they relate to use of subcontractors/suppliers.*

Subcontractor Name	Work	Price
		\$
		\$
		\$
		\$
		\$
		\$
Supplier Name	Work	Price
		\$
		\$
		\$
		\$
		\$
		\$

(please duplicate and use this form, if additional sheets are necessary)



**POST BID SUBMITTAL**  
**E-VERIFY DOCUMENTATION**  
**SEE ITB SECTION 6.6**

Pursuant to Indiana Code 22-5-1.7-11.1 the Contractor shall provide documentation that it has enrolled and is participating in the E-Verify program. Contractor is required to submit proof from the E-Verify Program that it is currently enrolled in the Program. An example of confirmation is the confirmation e-mail received from E-Verify that the Contractor has successfully enrolled in E-Verify.

**BID BOND**  
**City of Greenfield**

*Instructions to Bidders*

*Bidders may use this form or other form containing the same material conditions and provisions as approved in advance by Owner/Obligee.*

*Bidder/Surety must attach a signed, certified and effective dated copy of the Power of Attorney or Attorney-In-Fact establishing the authority of the person(s) signing this Bid Bond on behalf of the Surety.*

*Surety company executing this bond shall appear on the most current list of "Surety Companies Acceptable on Federal Bonds" as specified in the U.S. Treasury Department Circular 570, as amended, and be authorized to transact business in the State of Indiana.*

KNOW ALL MEN BY THESE PRESENTS, that the undersigned

"Bidder": \_\_\_\_\_  
and

"Surety": [Name] \_\_\_\_\_  
[Address] \_\_\_\_\_  
\_\_\_\_\_

a corporation chartered and existing under the laws of the State of \_\_\_\_\_, and authorized to do business in the State of Indiana,

are held and firmly bound unto the City of Greenfield, Indiana ("Owner/Obligee") in the full and just sum equal to five percent (5%) of the price stated in the Bid Proposal described below, including accepted alternates, if any, to be paid upon demand of the Owner/Obligee, together with interest at the maximum legal rate from date of demand and any attorney fees and court costs incurred by Owner/Obligee to enforce this instrument, to which payment well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally and firmly by these presents.

WHEREAS, the Owner/Obligee has solicited bids for certain Work for or in furtherance of construction of public improvements described generally as

**2205FFE: Fortville Pike & C.R. 300 N Intersection Reconstruction**

pursuant to plans, specifications and other "Contract Documents" included as parts of and designated by such solicitation; and

WHEREAS, the Bidder has submitted to the Owner/Obligee a Bid Proposal to perform such Work.

NOW THEREFORE: The conditions of this obligation are such that if the Bid Proposal be accepted, with or without conditions, the Bidder shall within such time thereafter as prescribed by the Contract Documents (i) fulfill all conditions of such award that remain to be fulfilled, (ii) execute a Contract in accordance with the Bid Proposal and in the form and manner required by the Contract Documents, and (iii) thereafter provide all bonds, and other documentation required by the Contract Documents to be delivered to Owner/Obligee prior to commencing Work, including without limitation a sufficient and satisfactory Performance Bond and Payment Bond payable to Owner/Obligee, each in an amount of one hundred percent (100%) of the total Contract price as awarded and in form and with surety satisfactory to said Owner/Obligee, then this obligation to be void; otherwise to be and remain in full force and virtue in law, and the Surety shall, upon failure of the Bidder to comply with any or all of the foregoing requirements within the time specified above and as prescribed by the Contract Documents, immediate pay to the Owner/Obligee, upon demand, the amount hereof, in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

IN TESTIMONY THEREOF, the Bidder and Surety have caused this instrument to be duly signed and sealed this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

***This Bid Bond shall bind the undersigned Surety whether or not also signed by the Bidder.***

“Bidder”

“Surety”

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

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

Printed: \_\_\_\_\_

Printed: \_\_\_\_\_

**WARRANTY BOND**  
**City of Greenfield**

*Instructions:*

*Successful Bidder must use this form or other form containing the same material conditions and provisions as approved in advance by Owner.*

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

*Surety company executing this bond shall appear on the most current list of "Surety Companies Acceptable on Federal Bonds" as specified in the U.S. Treasury Department Circular 570, as amended, and be authorized to transact business in the State of Indiana.*

KNOW ALL MEN BY THESE PRESENTS: that

"Contractor": \_\_\_\_\_

and

"Surety": [name] \_\_\_\_\_  
[Address] \_\_\_\_\_  
\_\_\_\_\_

a corporation chartered and existing under the laws of the State of \_\_\_\_\_, and authorized to do business in the State of Indiana,

are held and firmly bound unto the City of Greenfield, Indiana hereinafter called Owner/Obligee, 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, together with interest at the maximum legal rate from date of demand and any attorney fees and court costs incurred by Owner/Obligee to enforce this instrument, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Contractor has entered into a certain Agreement with the Owner/Obligee, dated as of the \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_, by which Contractor has agreed to perform and furnish certain Work for or in furtherance of construction of public improvements described generally as

**2205FFE: Fortville Pike & C.R. 300 N Intersection Reconstruction**

which Agreement, and the "Contract Documents" as referred to therein, are hereby incorporated herein by reference;

WHEREAS, Contractor has installed and completed and met all improvements, installations and requirements applicable to the above described Work, but said improvements and installations have not yet been accepted for public maintenance; and

WHEREAS, the Owner/Obligee requires a guarantee from the Contractor against defective materials and workmanship in connection with such maintenance.



NOW, THEREFORE, Contractor warrants the workmanship and all materials used in the construction, installation and completion of said Work, including all improvements and installations thereof, to be of good quality and constructed and completed in a workmanlike manner in accordance with the Agreement and Contract Documents and all local, state and federal laws, ordinances, rules, standards and regulations applicable to said Work;

FURTHERMORE, the conditions of the Surety's obligation hereunder are such that if Contractor at his own expense, for a period of 3 years, commencing on the date of Substantial Completion, shall make all repairs or replacements thereto which may become necessary by reason of improper or defective workmanship or materials, or any failure thereof to conform to the provisions of the Agreement or Contract Documents, then Surety's obligation is to be null and void; otherwise such obligation shall remain in full force and effect. Any repairs or replacements made under this Bond shall in like manner be subject to the terms and conditions hereof.

Contractor and Surety covenant that all action required by law to be taken by them to authorize the execution and delivery of this bond have been previously been taken, that the officers whose signatures appear below have been fully empowered to execute and deliver this instrument and that once executed and delivered, it shall represent the lawful and binding obligation of the parties.

IN WITNESS WHEREOF, this instrument is executed in \_\_\_\_\_ (number) counterparts, each one of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

CONTRACTOR: \_\_\_\_\_  
[name]

By: \_\_\_\_\_  
[signature] [printed name]

ATTEST: \_\_\_\_\_, Secretary  
[signature]

SURETY: \_\_\_\_\_  
[name]

By: \_\_\_\_\_, Attorney-in-Fact  
[signature]

\_\_\_\_\_  
[printed name] [address]





**PERFORMANCE BOND**  
**City of Greenfield**

*Instructions:*

*Successful Bidder must use this form or other form containing the same material conditions and provisions as approved in advance by Owner.*

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

*Surety company executing this bond shall appear on the most current list of "Surety Companies Acceptable on Federal Bonds" as specified in the U.S. Treasury Department Circular 570, as amended, and be authorized to transact business in the State of Indiana.*

KNOW ALL MEN BY THESE PRESENTS: that

"Contractor": \_\_\_\_\_

and

"Surety": [name] \_\_\_\_\_  
[Address] \_\_\_\_\_  
\_\_\_\_\_

a corporation chartered and existing under the laws of the State of \_\_\_\_\_, and authorized to do business in the State of Indiana,

are held and firmly bound unto the City of Greenfield, Indiana hereinafter called Owner/Obligee, 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, together with interest at the maximum legal rate from date of demand and any attorney fees and court costs incurred by Owner/Obligee to enforce this instrument, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Contractor has entered into a certain Agreement with the Owner/Obligee, dated as of the \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_, by which Contractor has agreed to perform and furnish certain Work for or in furtherance of construction of public improvements described generally as

**2205FFE: Fortville Pike & C.R. 300 N Intersection Reconstruction**

which Agreement, and the "Contract Documents" as referred to therein, are hereby incorporated herein by reference;

NOW, THEREFORE, the conditions of this obligation are such that if the Contractor shall well, truly and faithfully perform his duties, all the undertakings, covenants, terms and conditions of said Agreement whether during the original term thereof, and any extensions thereof which may be granted by the Owner/Obligee, with or without notice to the Surety and during any period of guaranty or warranty provided therein or arising thereunder, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the Owner/Obligee from all costs and damages which he may suffer by reason of failure to do so, and shall reimburse and repay the



**AGREEMENT**  
**City of Greenfield**

THIS AGREEMENT is made and entered into as of the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

by and between

“OWNER”: City of Greenfield, Indiana, by and through its Board of Public Works  
10 S. State Street, Greenfield, Indiana 46140

and

“CONTRACTOR”:

concerning the following:

“PROJECT”: **2205FFE: Fortville Pike & C.R. 300 N Intersection Reconstruction**

“WORK”: **Fortville Pike and C.R. 300 N reconstruction consisting of a roundabout intersection improvement, curb and gutter, pedestrian facilities, drive reconstructions, storm sewer, lighting and landscaping.**

“ENGINEER”: **American Structurepoint, Inc.**

RECITALS:

- A. The OWNER has heretofore caused to be prepared certain plans, specifications and other “Contract Documents” as hereinafter listed pertaining to the above described Project and Work, and the CONTRACTOR has filed Proposal to furnish said labor, tools, material, equipment, services, and perform said Work upon the terms and for the price(s) therein fully stated and set forth;
- B. The said Contract Documents accurately and fully describe the terms and conditions upon which the CONTRACTOR is willing to furnish the labor, tools, material, equipment, services, and perform the Work called for by the Contract Documents and in the manner and time and for the price(s) set forth herein.

THE OWNER AND CONTRACTOR AGREE AS FOLLOWS:

1. Contract Documents

1.1 This Agreement consists of the following Contract Documents all of which are as fully a part of this Agreement as if set out verbatim herein or attached hereto and the same do in all particulars become the Agreement between the parties hereto in all matters and things set forth herein and described:

- .1 This Agreement;
- .2 All Addenda issued prior to receipt of Bids, whether or not receipt thereof has been acknowledged by CONTRACTOR in its Bid;
- .3 Special Conditions;
- .4 General Conditions;
- .5 CONTRACTOR's Itemized Proposal and Declarations;
- .6 Technical Specifications;
- .7 Plans;
- .8 City Standards and Specifications;
- .9 INDOT Standard Drawings;
- .10 INDOT Supplemental Specifications Section 200 Series through Section 900 Series;
- .11 INDOT Standard Specifications Sections 200 Series through Sections 900 Series;
- .12 Additional Requirements Section of the Bid Documents (change order forms, Indiana Code 5-16-13, etc.);
- .13 Instructions to Bidders;
- .14 Advertisement or Notice to Bidders; and
- .15 Performance, Payment and Warranty Bonds.

1.2 In resolving conflicts, errors, discrepancies and disputes concerning the nature, character, scope or extent of Work to be performed or furnished by the CONTRACTOR, or other rights and obligations of the OWNER and CONTRACTOR, arising from or prescribed by one or more of the Contract Documents, the following rules shall govern:

- .1 A requirement occurring in one Contract Document is as binding as though occurring in all Contract Documents;
- .2 Calculated dimensions shall govern over scaled dimensions;

- .3. The Contract Documents shall be given precedence in the order listed in Paragraph 1.1 above; and
- .4. In documents of equal priority, if any such conflict, error, discrepancy or dispute cannot be resolved or reconciled by application of the rules stated in Subparagraphs 1.2.1 through 1.2.3, then the provision expressing the greater quantity, quality, or scope of work, or imposing the greater obligation upon the CONTRACTOR or affording the greater right or remedy to the OWNER shall govern, without regard to the party who drafted such provision.

## 2. Contract Price

- 2.1 The CONTRACTOR shall, in strict conformity with the Contract Documents, furnish all labor, tools, materials, equipment, services, assume and fulfill all obligations and perform all Work required to construct, complete, and make ready for use by the OWNER for the lump sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_).
- 2.2 The above stated Contract Sum will be paid to the CONTRACTOR in the manner and at such times as set forth in the Contract Documents.

## 3. Contract Time

- 3.1 It is hereby understood and mutually agreed, by and between the CONTRACTOR and OWNER, that the date of commencement and the time for completion of the Work as specified in the Contract Documents are ESSENTIAL CONDITIONS of this Agreement.
- 3.2 The CONTRACTOR agrees that the Work shall be commenced no later than the date indicated in the Notice to Proceed and that the Work shall be prosecuted regularly, diligently and uninterruptedly at such a rate of progress as will insure **Substantial Completion on or before July 25, 2025, and Final Completion on or before August 22, 2025.**
- 3.3 The CONTRACTOR and OWNER acknowledge and agree that the time allotted by this Agreement for the performance and completion of the Work is reasonable and takes into account any and all risks and adverse conditions assumed by CONTRACTOR hereunder.

[REST OF PAGE INTENTIONALLY LEFT BLANK]



4. Liquidated Damages

The CONTRACTOR and OWNER recognize and contemplate that unexcused failure by the CONTRACTOR to complete the Work within the Contract Time will cause the OWNER and the Public to suffer financial losses or inconvenience the full and exact extent and character of which cannot be measured as a basis for recovery by the OWNER of actual damages, and that liquidated damages as prescribed in the Contract Documents represent a fair, reasonable and appropriate estimate thereof. Accordingly, the CONTRACTOR agrees that such liquidated damages may be assessed and recovered by the OWNER, as against CONTRACTOR and its Surety, in the event of delayed completion and without the OWNER being required to present any evidence of the amount or character of actual damages sustained by reason thereof. **Such liquidated damages shall be assessed and recovered at the rate of \$500.00 per day for delay in achieving Substantial Completion and at the rate of \$100.00 per day in achieving Final Completion of the Work.**

5. Effective Date

This Agreement shall be deemed effective as of the date and year first above written notwithstanding the date on which this Agreement has been executed by the respective parties or their representatives as stated below.

[REST OF PAGE INTENTIONALLY LEFT BLANK]

“CONTRACTOR” SIGNATURE:

IN TESTIMONY THEREOF, the CONTRACTOR has hereunder set his hand this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

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

Address \_\_\_\_\_

Telephone No. \_\_\_\_\_ Fax No. \_\_\_\_\_

By: \_\_\_\_\_  
Signature

Printed: \_\_\_\_\_

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

“OWNER” SIGNATURES:

IN WITNESS WHEREOF, the OWNER does hereby accept the foregoing Agreement, and has herewith set his/her hand this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

For and on behalf of the City of Greenfield by its Board of Public Works.

\_\_\_\_\_  
Guy Titus, Mayor,

\_\_\_\_\_  
Brent Robertson, Member

\_\_\_\_\_  
Larry J. Breese, Member

\_\_\_\_\_  
Katherine N. Locke, Member

\_\_\_\_\_  
Glenna Shelby, Member

ATTEST:

\_\_\_\_\_  
Lori Elmore, Clerk Treasurer

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

## ADDITIONAL REQUIREMENTS

### TABLE OF CONTENTS

City of Greenfield Sample Change Order Forms	AR-2
Additional Indiana Code (IC) Requirements	AR-7
IC 5-16-13	AR-7
IC 4-13-18	AR-9

Following are specimen forms proposed to be used for the issuance of change orders, field orders, and work directive changes. Procedure for the development, submittal and processing of these forms will be discussed during the preconstruction conference.

CITY OF GREENFIELD

OWNER: CITY OF GREENFIELD

FIELD ORDER NUMBER: \_\_\_\_\_

DATE: \_\_\_\_\_

PROJECT NAME: \_\_\_\_\_

PROJECT NO: \_\_\_\_\_

---

You are hereby directed to execute promptly this Field Order which interprets the Contract Documents or orders minor changes in the Work without change in Contract Sum or Contract Time.

If you consider that a change in Contract Sum or Contract Time is required, please submit your itemized proposal to the Engineer immediately and before proceeding with this Work. If your proposal is found to be satisfactory and in proper order, this Field Order will in that event be superseded by a Change Order.

---

Description:

Attachments:

---

PROJECT MANAGER:

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

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

CITY OF GREENFIELD

TO:

WORK DIRECTIVE CHANGE NO. \_\_\_\_\_

DATE: \_\_\_\_\_

PROJECT NAME: \_\_\_\_\_

PROJECT NO.: \_\_\_\_\_

Specification Reference: \_\_\_\_\_

Drawing Reference: \_\_\_\_\_

DESCRIPTION OF WORK COVERED BY THIS DIRECTIVE CHANGE:

REASON FOR THIS ORDER:

AUTHORIZATION:

THIS WORK DIRECTIVE CHANGE AUTHORIZES THE WORK TO BE COMPLETED AS OUTLINED. A Contract Change Order in the amount of \$\_\_\_\_\_ will be issued to you in the near future to cover this Work Directive Change.

PROJECT COMPLETION DATE: ADD/DEDUCT/UNCHANGED \_\_\_\_\_ DAYS.

By: \_\_\_\_\_  
Project Manager

By: \_\_\_\_\_  
City Engineer

CITY OF GREENFIELD

TO: REQUEST FOR PROPOSAL NO.: \_\_\_\_\_  
DATE: \_\_\_\_\_  
PROJECT NAME: \_\_\_\_\_  
PROJECT NO.: \_\_\_\_\_

Specification Reference: \_\_\_\_\_

Drawing Reference: \_\_\_\_\_ Drawing Date: \_\_\_\_\_

Identification of Attachments: \_\_\_\_\_

Please submit within fifteen calendar days of this request date a proposal showing increase, decrease or no change in contract price and/or contract time. Proposal shall be accompanied by four (4) copies of breakdown showing quantities, cost of material, equipment, labor, overhead, profit and basis for the additional time if any.

DESCRIPTION OF PROPOSED CHANGE COVERED BY THIS REQUEST:

REASON FOR CHANGE:

SPECIAL INSTRUCTIONS:

THIS REQUEST DOES NOT AUTHORIZE YOU TO PROCEED WITH THE ABOVE WORK NOR STOP PREVIOUSLY SCHEDULED WORK. Upon approval a Contract Change Order and a Notice to Proceed will be issued.

Please state in your proposal the effect the acceptance of this REQUEST will have on the project completion, if accepted within \_\_\_ days of proposal due date.

YOUR PROPOSAL DUE DATE: \_\_\_\_\_

By: \_\_\_\_\_ Date \_\_\_\_\_  
Project Manager

CITY OF GREENFIELD

TO: CONTRACT CHANGE REQUEST NO.: \_\_\_\_\_  
DATE: \_\_\_\_\_  
PROJECT NAME: \_\_\_\_\_

FROM: \_\_\_\_\_

IT IS REQUESTED THAT A CONTRACT CHANGE BE MADE TO THE ABOVE REFERENCED CONTRACT.

1. SCOPE OF WORK (USE ADDITIONAL PAGES IF REQUIRED. ALSO LIST OTHER CONTRACTS INVOLVED.)

\_\_\_\_\_  
\_\_\_\_\_

2. REASON FOR CHANGE:

\_\_\_\_\_  
\_\_\_\_\_

3. APPROXIMATE COST CHANGE TO CONTRACT PRICE: \_\_\_\_\_

4. WILL THE CONTRACT NEED ADDITIONAL CONTRACT TIME TO COMPLETE THE CHANGE IN WORK SCOPE? \_\_\_\_ -YES \_\_\_\_ -NO \_\_\_\_ -(CALENDAR DAYS)

5. WILL THE CONTRACTOR NEED ADDITIONAL PERSONNEL TO COMPLETE THE CHANGE IN WORK SCOPE? \_\_\_\_ -YES \_\_\_\_ -NO

IF NO, TRADE(S): \_\_\_\_\_

NO. OF PERSONNEL: \_\_\_\_\_

DURATION: \_\_\_\_\_

6. IDENTIFICATION OF ATTACHMENTS:

\_\_\_\_\_  
\_\_\_\_\_

DATE: \_\_\_\_\_ DATE: \_\_\_\_\_

PREPARED BY: \_\_\_\_\_ REVIEWED BY: \_\_\_\_\_  
Project Manager

Comments and Recommendation:

\_\_\_\_\_

CITY OF GREENFIELD

TO: CONTRACT CHANGE ORDER NO.: \_\_\_\_\_  
DATE: \_\_\_\_\_  
PROJECT NAME: \_\_\_\_\_  
ORIGINAL CITY P.O. NO.: \_\_\_\_\_

I. You are directed to make the following changes in this contract:

<u>ITEM</u>	<u>AMOUNT</u>	<u>SCHEDULED ADJUSTMENT (+) OR (-) DAYS</u>
-------------	---------------	---

II. The following referenced documents further describe the changes outlined in Paragraph I, and are to be considered a part of this Change Order:

R.F.P.: \_\_\_\_\_ W.D.C.: \_\_\_\_\_

The changes result in the following adjustment of Contract Price and Contract Time:

Contract Sum prior to this Change Order	\$ _____
Contract Sum will be increased/decreased by this Change Order	\$ _____
New Contract Sum including this Change Order	\$ _____
Contract Time Prior to this Change Order _____	Substantial Completion Date _____
	Final Completion Date _____
Net increased/decreased resulting from this Change Order _____ Days	
Current Contract Time including this Change Order _____	Substantial Completion Date _____
	Final Completion Date _____

This Change Order is for full and final settlement of all direct, indirect, impact costs and time extension incurred at any time resulting from the performance of the changed work.

The Above Changes Are Recommended:

The Above Changes Are Accepted:

Approved:

\_\_\_\_\_  
Engineer

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
Owner

\_\_\_\_\_  
Address

\_\_\_\_\_  
Address

\_\_\_\_\_  
Address

\_\_\_\_\_  
City/State/Zip

\_\_\_\_\_  
City/State/Zip

\_\_\_\_\_  
City/State/Zip

By \_\_\_\_\_

By \_\_\_\_\_

By \_\_\_\_\_

Phone \_\_\_\_\_

Phone \_\_\_\_\_

Phone \_\_\_\_\_

Date \_\_\_\_\_

Date \_\_\_\_\_

Date \_\_\_\_\_



INDIANA CODE (IC) ADDITIONAL REQUIREMENTS

I. IC 5-16-13

1. The definitions in IC 5-16-3 are incorporated by reference into this Section.
2. In accordance with IC 5-16-13-9, the Bidder, as a “Tier 1 contractor” (as defined in IC 5-16-3-4), if awarded a contract for the Work contemplated by this Bid must contribute:
  - (a) Work performed by the tier 1 contractor’s employees;
  - (b) Materials supplied directly by the tier 1 contractor;
  - (c) Services supplied directly by the tier 1 contractor’s employees; or
  - (d) Any combination of subdivisions (a) through (d);at least fifteen percent (15%) of the tier 1 contractor’s total contract price as determined at the time the contract is awarded.

**NOTE:** In accordance with Subsection 6.8.1 of the City of Greenfield Standard General Conditions for Construction Contracts (August 2018), the successful Bidder is required to perform with its own organization Work amounting to **not less than thirty percent (30%)** of the original or revised contract amount, whichever is less.

3. In accordance with IC 5-16-13-10, if awarded a contract for the Work contemplated by this Bid, the Bidder, as a “Tier 1 contractor”, and each “Tier 2 contractor” and “Tier 3 contractor” (as defined in IC 5-16-3-4 (i.e., subcontractors and sub-subcontractors)) employed to perform Work on the Project must maintain general liability insurance in at least the following amounts:
  - (a) For the each occurrence limit, one million dollars (\$1,000,000).
  - (b) For the general aggregate limit, two million dollars (\$2,000,000).

**NOTE:** The successful Bidder, its subcontractors and sub-subcontractors, are required to maintain all insurance coverage as provided for in Article 5 of the City of Greenfield Standard General Conditions for Construction Contracts (August 2018).

4. In accordance with IC 5-16-13-11, if awarded a contract for the Work contemplated by this Bid, the Bidder as a “Tier 1 contractor” and each “Tier 2 contractor” and “Tier 3 contractor” employed to perform Work on the Project:
  - (a) Shall submit, before Work begins, the E-Verify case verification number for each individual who is required to be verified under IC 22-5-1.7. An individual who is required to be verified under IC 22-5-1.7 whose final case result is final non-confirmation may not be employed on the Project.
  - (b) May not pay cash to any individual employed by the contractor for Work done by the individual on the Project.
  - (c) Must be in compliance with the federal Fair Labor Standards Act of 1938, as amended (29 U.S.C. 201-209) and IC 22-2-2-1 through IC 22-2-2-8.
  - (d) Must be in compliance with IC 22-3-5-1 and IC 22-3-7-34.
  - (e) Must be in compliance with IC 22-4-1 through IC 22-4-39.5.
  - (f) Must be in compliance with IC 4-13-18-1 through IC 4-13-18-7.
  - (g) Must comply with IC 5-16-13-12, if applicable.

5. In accordance with IC 5-16-13-12, if awarded a contract for the Work contemplated by this Bid, the Bidder as a “Tier 1 contractor” and each “Tier 2 contractor” employed to perform Work on the Project, if they employ fifty (50) or more journeymen:

- (a) Must provide access to a training program applicable to the tasks to be performed in the normal course of the employee's employment with the contractor.
  - (b) Shall participate in an apprenticeship training program that meets the standards established by the United States Department of Labor, Bureau of Apprenticeship and Training.
  - (c) May comply with this section through any of the following:
    - (1) An apprenticeship program.
    - (2) A program offered by Ivy Tech Community College of Indiana.
    - (3) A program offered by Vincennes University.
    - (4) A program established by or for the contractor.
    - (5) A program offered by an entity sponsored by the United States Department of Labor, Bureau of Apprenticeship and Training.
    - (6) A program that results in the award of an industry recognized portable certification.
6. In accordance with IC 5-16-13-13, if awarded a contract for the Work contemplated by this Bid, the payroll and related records of the Bidder as a "Tier 1 contractor" and each "Tier 2 contractor" and "Tier 3 contractor" employed to perform Work on the Project, must be:
- (a) Preserved by the contractor for a period of three (3) years after completion of the Project Work; and
  - (b) Open to inspection by the Indiana Department of Workforce Development (DWD).

In accordance with IC 5-16-13-14, if the City of Greenfield suspects a misclassification of one (1) or more workers by a contractor in any contractor tier working on the Project may request in writing that DWD investigate the suspected worker misclassification, and in so doing shall provide to DWD any information or records that the City has concerning the misclassification. DWD may investigate such a request, and if it finds information or records that support a finding that worker misclassification has occurred, DWD may refer the matter to the appropriate agency or official for further action.

7. In accordance with IC 5-16-13-15, if the City of Greenfield reasonably suspects the Bidder awarded a contract for the Work contemplated by this Bid or any "Tier 2 contractor" and "Tier 3 contractor" employed to perform Work on the Project has violated a provision of IC 5-16-13, the City is required to do one (1) of the following:
- (a) If the suspected violation concerns or is related to any of the following provisions, the City shall refer the matter to the appropriate agency as follows:
    - (1) For a suspected violation of IC 5-16-13-11(1) (E-Verify), the Indiana Department of Labor.
    - (2) For a suspected violation of IC 5-16-13-11(3) (the federal FLSA or state minimum wage law), the Indiana Department of Labor.
    - (3) For a suspected violation of IC 5-16-13-11(4) (worker's compensation or occupational diseases), the Worker's Compensation Board of Indiana.
    - (4) For a suspected violation of IC 5-16-13-11(5) (unemployment insurance), the Department of Workforce Development.
  - (b) If the suspected violation concerns a provision of IC 5-16-13 other than a provision listed in subdivision (a), the City shall require the contractor to remedy the violation not later than thirty (30) days after the City notifies the contractor of the violation in accordance with IC 5-16-13-15(b)(2). During the thirty (30) day period, the contractor may continue to work on the Project; however, if the contractor fails to remedy the violation within the thirty (30) day period, the City shall find the contractor not responsible and shall determine the length of time the contractor is considered not responsible by the City based on the severity of the violation. The period during which a contractor is considered not responsible:
    - (1) May not exceed forty-eight (48) months; and

(2) Begins on the date of substantial completion of the Project.

A finding by the City that a contractor is not responsible under this section may not be used by another public agency in making a determination as to whether the contractor is responsible for purposes of that public agency's award of a public works contract to that contractor.

II. IC 4-13-18 (A response to "Part 11—Drug Testing" of the "Bidder's Itemized Proposal and Declarations" fulfills this requirement)

1. IC 4-13-18 applies if the Bid is one hundred fifty thousand dollars (\$150,000) or more.
2. The definitions in IC 4-13-18 are incorporated by reference into this Section.
3. In accordance with IC 4-13-18-5, the Bidder must submit with the Bid a written plan for a program to test the Bidder's employees for drugs. A contractor that is subject to a collective bargaining agreement that establishes an employee drug testing program shall only submit a copy of the relevant part of the collective bargaining agreement establishing the program. Failure to submit a written plan for an employee drug testing program, or relevant parts of a collective bargaining agreement establishing an employee drug testing program shall result in the Bid being rejected as non-responsive.
4. The Bidder's employee drug testing program must satisfy all of the following requirements:
  - (a) In accordance with IC 4-13-18-4, if the Bidder's employee drug testing program is established by a collective bargaining agreement it shall include the following:
    - (1) Provides for the random testing of the contractor's employees.
    - (2) Contains a five (5) drug panel that tests for the following substances:
      - (A) amphetamines;
      - (B) cocaine;
      - (C) opiates (2000 ng/ml);
      - (D) PCP;
      - (E) THC
    - (3) Imposes disciplinary measures on an employee who fails a drug test which includes at a minimum all of the following:
      - (A) the employee is subject to suspension or immediate termination;
      - (B) the employee is not eligible for reinstatement until the employee tests negative on a five (5) panel test certified by a medical review officer;
      - (C) the employee is subject to unscheduled sporadic testing for at least one (1) year after reinstatement; and
      - (D) the employee successfully completes a rehabilitation program recommended by a substance abuse professional if the employee fails more than one (1) drug test.
  - (b) In accordance with IC 4-13-18-5, if the Bidder has its own employee drug testing program (which is not included as part of a collective bargaining unit), the Bidder's program shall include the following:
    - (1) Subject each of the contractor's employees to a drug test at least one (1) time each year.
    - (2) Provide for random employee testing, with at least two percent (2%) of the contractor's employees randomly selected each month for testing.
    - (3) Contain at least a five (5) drug panel that tests for:
      - (A) amphetamines;
      - (B) cocaine;
      - (C) opiates (2000 ng/ml);
      - (D) PCP;
      - (E) THC.

- (4) Impose progressive discipline on an employee who fails a drug test with at least the following progression:
- (A) after the first positive test, an employee must be:
    - (i) suspended from work for 30 days;
    - (ii) directed to a program of treatment or rehabilitation; and
    - (iii) subject to unannounced drug testing for one (1) year from the day the employee returns to work.
  - (B) after a second positive test, an employee must be:
    - (i) suspended from work for 90 days;
    - (ii) directed to a program of treatment or rehabilitation; and
    - (iii) subject to unannounced drug testing for one (1) year from the day the employee returns to work.
  - (C) after a third or subsequent positive test, an employee must be:
    - (i) suspended from work for one (1) year;
    - (ii) directed to a program of treatment or rehabilitation; and
    - (iii) subject to unannounced drug testing for one (1) year from the day the employee returns to work.

The program may require dismissal of the employee after any positive drug test or other discipline more severe than described above. An employer complies with the requirement to direct an employee to a program of treatment or rehabilitation if the employer either advised the employee of any such program covered by employer-provided insurance, or, if the employer's insurance does not provide insurance coverage, the employer advises the employee of agencies that provide such programs.

5. In accordance with IC 4-13-18-7, if awarded a contract for the Project, the Bidder must implement the employee drug testing program as described in the plan or collective bargaining agreement. The City of Greenfield shall cancel the contract with the successful Bidder if it:
- (a) Fails to implement its employee drug testing program during the term of the contract;
  - (b) Fails to provide information regarding implementation of the employee drug testing program at the request of the City; or
  - (c) Provides the City with false information regarding the contractor's employee drug testing program.

### III. IC 8-23-10 or IC 4-13.6-4

1. The requirements of this Section III are effective for Bids awarded by the City of Greenfield **after December 31, 2016**.
2. The definitions in IC 5-16-3 are incorporated by reference into this Section.
3. In accordance with IC 8-23-10-0.5, if the total amount of the contract awarded under this Bid is **three hundred thousand dollars (\$300,000) or more** and the Project is for the construction, improvement, alteration, repair, or maintenance of a road (as defined by IC 8-23-1-23), highway, street, or alley, then the Bidder, as a "Tier 1 contractor" (as defined in IC 5-16-3-4), and each "Tier 2 contractor" and "Tier 3 contractor" (as defined in IC 5-16-3-4 (i.e., subcontractors and sub-subcontractors)) employed to perform Work on the Project must be qualified by the Indiana Department of Transportation under IC 8-23-10 before performing any Work on the Project.
4. In accordance with IC 4-13.6-4-2.5, if the total amount of the contract awarded under this Bid is **three hundred thousand dollars (\$300,000) or more** and the Project is for any work other than for the construction, improvement, alteration, repair, or maintenance of a road (as defined by IC

8-23-1-23), highway, street, or alley, then the Bidder, as a “Tier 1 contractor” (as defined in IC 5-16-3-4), and each “Tier 2 contractor” and “Tier 3 contractor” (as defined in IC 5-16-3-4 (i.e., subcontractors and sub-subcontractors)) employed to perform Work on the Project must be qualified under IC 4-13.6-4 by the Indiana Certification Board established by IC 4-13.6-3-3 before performing any Work on the Project.

**INDEX TO TECHNICAL SPECIFICATIONS**  
**FORTVILLE PIKE AND C.R. W 300 N INTERSECTION RECONSTRUCTION**  
**GREENFIELD, INDIANA**

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Associated Documents:

01\_2205FFE Project Manual

02\_2205FFE Construction Plans

03\_2205FFE Utility Relocation Work Plans

04\_2205FFE Geotechnical Report

05\_2205FFE Permits

## **TS 1 Contract Documents**

The City of Greenfield Standards and Specifications dated May 20, 2021 and the Indiana Department of Transportation, 2024 Standard Specifications shall be used in conjunction with these Plans, Contract Forms, General Provisions, Special Provisions, Standard Sheets and any addenda, which may be issued for this project.

In the event that conflicting standards and/or specifications exist, the following order shall govern.

1. Special Provisions
2. Information for Bidders
3. Special General Conditions
4. General Conditions
5. Contract Forms
6. Construction Plans
7. Greenfield Standards
8. 2024 INDOT Standard Specifications
9. 2024 INDOT Standard Drawings

It is the intent of these Contract Documents to describe a functionally complete project to be constructed in accordance therewith. Any work, materials or equipment that may reasonably be inferred will be supplied whether or not specifically called for.

## **TS 2 Pre-Bid Meeting**

Refer to Advertisement for Bid for date, time, and location.

## **TS 3 Pre-Construction Meeting**

The CONTRACTOR will be required to attend a pre-construction meeting prior to the issuance of the Notice to Proceed. Any sub-contractors of the CONTRACTOR that the ENGINEER deems necessary shall attend the pre-construction meeting. An additional meeting may be required in the field between the ENGINEER and CONTRACTOR, which may be on a separate day.

CONTRACTOR shall submit the following at, or prior to, the pre-construction meeting:

1. Construction schedule
2. Job mix formula(s)
3. Specify a project superintendent
4. Three (3) emergency 24-hour contacts
5. Schedule a project walk through with CONTRACTOR's Superintendent and ENGINEER, or designated representative
6. Supplier/Manufacturer List



#### **TS 4 PCCP, 7 IN., for Truck Apron**

##### **Description**

This work shall consist of furnishing and placing integrally colored Portland cement concrete for the truck apron and install a stamped pattern to the surface in accordance with 105.03.

##### **Materials**

Materials shall be in accordance with 502.02.

The color admixture shall be Lithochrome brick red A-26 with Classic Gray A-33 or equivalent as approved by the Engineer. The color shall be blended throughout the entire concrete mixture. The color shall not be applied to the surface only. Color hardeners on the stamped concrete surfaces shall be used as part of the installation. All materials used shall meet the applicable manufacturer's specifications and recommendations for an installation of this type.

Stamp pattern shall be interlocking brick as approved by the Engineer.

Concrete shall cure for a minimum of four days prior to applying sealant.

The cost of the Truck Apron Height Transition shall not be paid for separately but shall be included in the cost of PCCP, 7 IN., Decorative for Truck Apron.

#### **TS 5 Stormwater Treatment Structures**

**1.0 Description.** This work shall consist of the installation of storm water quality structures as detailed on the Contract Drawings in accordance with Section 720 of the INDOT Standard Specifications.

**2.0 Materials.** Materials shall be in accordance with Section 720 of the INDOT Standards Specifications for the following items: Manholes, Inlets, and Catch Basins.

Stormwater Treatment Structures located on the current City of Indianapolis Stormwater Quality Unit Selection Guide will be accepted, with exception of any Polymer Coated Steel Structure. In the event the Indianapolis selection guide no longer exists, applicants shall provide independent, third party documentation to prove that a treatment unit meets TSS removal to the highest extent practicable for a particle size of 50-125 microns and/or the OK-110 designation.

The unit shall be selected based on the City of Indianapolis Stormwater Quality Unit Selection guide treatment rates for each sized unit. Those treatment rates are less than those specified by the manufacturers.

The CONTRACTOR shall be provided with dimensional drawings and, when specified, utilize these drawings as the basis for preparation of shop drawings showing details for construction, reinforcing, joints, internal components, pre-cast structures and any cast-in-place appurtenances. Shop drawings shall be annotated to indicate all materials to be used and all applicable standards for materials, required tests of materials and design assumptions for structural analysis. Shop drawings shall be prepared at a scale of not less than 3/16-inches per foot. Four (4) hard copies of said shop drawings shall be submitted to the ENGINEER for review and approval.

Each storm water quality structure shall be of a hydraulic design that includes flow controls designed and certified by a professional engineer using accepted principles of fluid mechanics that raise the water surface inside the tank to a pre-determined level in order to prevent the re-entrainment of trapped floating contaminants.

Storm Water Quality Structures shall be capable of removing 80% of the average annual post development total suspended solids load. Design calculations shall be provided for each unit for approval with the shop drawings. For structures which are not pre-engineered for AASHTO H-20 loading, a licensed Professional Engineer, hired by the CONTRACTOR, shall provide detail(s) and calculations of the reinforced concrete slab, or other applicable measure, to make the structure and casting to handle H-20 traffic loading.

The table below shows the performance criteria for the structures and pre-approved structures based on data provided by each respective roadway design engineer. Structures shall be constructed, installed, and inspected per the manufacturer's requirements and/or specifications. "Or equal" structures may be approved by the ENGINEER if unit satisfies all requirements of the Noblesville Stormwater Technical Standards, contract documents, and the unit is an approved Stormwater Quality Unit by City of Indianapolis Department of Public Works.

Str. No.	Water Quality Treatment Flow (cfs)	Pre-Approved Water Quality Treatment Structures
104	1.69	CDS Technologies CDS-6, HydroStorm HS-6, Contech Cascade CS-4

**3.1 General Requirements.** Stormwater quality manholes shall be installed per the details shown on the Contract Drawings and as described in the Specifications and manufacturer's specifications and/or requirements. The construction and installation of precast concrete structures shall also meet the requirements of Section 720.03 of the most recent edition of the Indiana Department of Transportation Standard Specifications.

**3.2 Storm Water Quality Structure**

The quality of materials, the process of manufacture, and the finished sections shall be subject to inspection by the Engineer. Such inspection may be made at the place of manufacture, or on the work site after delivery, or at both places, and the sections shall be subject to rejection at any time if material conditions fail to meet any of the specification requirements, even though sample sections may have been accepted as satisfactory at the place of manufacture. Sections rejected after delivery to the site shall be marked for identification and shall be removed from the site at once. All sections which have been damaged beyond repair during delivery will be rejected and, if already installed, shall be repaired to the Engineer's acceptance level, if permitted, or removed and replaced, entirely at the Contractor's expense.

Structure shall be designed to for H-20 load rating. If the structure is not pre-engineered to be H-20 loaded, CONTRACTOR shall provide documentation from a licensed Professional Engineer

All sections shall be inspected for general appearance, dimensions, soundness, etc. The surface shall be dense, close textured and free of blisters, cracks, roughness and exposure of reinforcement. Imperfections may be repaired, subject to the acceptance of the Engineer, after demonstration by the manufacturer that strong and permanent repairs result. Repairs shall be carefully inspected before final acceptance. Cement mortar used for repairs shall have a minimum compressive strength of 4,000 psi (28 MPa) at the end of 7 days and 5,000 psi (34 MPa) at the end of 28 days when tested in 3 inch (76 mm) diameter by 6 inch (152 mm) long cylinders stored in the standard manner. Epoxy mortar may be utilized for repairs.

Each storm water quality structure shall be constructed according to the sizes shown on the Drawings and as specified herein. Install at elevations and locations shown on the Drawings or as otherwise directed by the ENGINEER.

Place the precast base unit on a granular subbase of minimum thickness of six inches after compaction or of greater thickness and compaction if specified elsewhere. The granular subbase shall be checked for level prior to setting and the precast base section of the trap shall be checked for level at all four corners after it is set. If the slope from any corner to any other corner exceeds 0.5% the base section shall be removed and the granular subbase material re-leveled.

**4.0 Method of Measurement.** Stormwater Treatment Structures will be measured per each unit, complete in place. Components of individual storm water quality structures shall not be measured individually.

**5.0 Basis of Payment.** The accepted quantities of storm water quality structure will be paid for at the contract unit price per each, complete in place. The costs of excavation, reinforcing steel, dewatering, bedding, concrete collar required for pipe connection to structures, removal, disposal and replacement of

pavement, or surface material, and necessary incidentals shall be included in the costs of the pay items. Any modification, materials, labor, design, and/or additional items required to make structure H-20 load rated shall not be paid for separately but include in the structure's unit cost.

<b>Pay Item</b>	<b>Pay Item Unit</b>
Stormwater Treatment Structure.....	EACH

**TS 6 Trench Drain, Type X**

The pay item "Trench Drain, Type X" shall cover the cost of the vertical curb and gutter, modified concrete gutter, bolted and grated cover, as well as all other incidental materials and construction required. The Bolted Grated Cover shall be fully ADA Compliant.

<b>Pay Item</b>	<b>Pay Item Unit</b>
Trench Drain, Type I.....	EACH
Trench Drain, Type II.....	EACH
Trench Drain, Type III.....	EACH

**TS 7 Inlet Castings**

All curb castings shall conform to the geometry of the curb section as shown in the plans. Castings which drain Concrete Roll Curb and Gutter, Modified I Shall be Neenah R-3501-TR or approved equal. Castings which drain Vertical Curb and Gutter shall be Neenah R-3010 or equal. Alternate castings shall be submitted to the ENGINEER for review and approval.

**TS 8 Depressed Curb and Gutter**

There shall be no direct payment for Depressed Curb and Gutter, but shall be included in the cost of "PCCP For Approaches, 6 in.". The contractor shall follow INDOT Standard Drawings E 610-DRIV for drive construction details.

**TS 9 Existing Conditions**

The CONTRACTOR shall verify the elevations and measurements of all points where new construction is to match existing conditions prior to the commencement of any construction activities. No direct payment shall be maid for this work but the cost thereof shall be included in the costs of the other items of the contract.

**TS 10 Material Acceptance**

All concrete and aggregate materials used for this project shall be produced from an INDOT-approved source. The CONTRACTOR shall submit material supplier's names and addresses to the ENGINEER, when requested. If requested, the CONTRACTOR shall submit to the ENGINEER a copy of the INDOT certification for each material supplier.

All asphalt mixtures shall be produced by an INDOT Certified HMA plant in accordance with a Quality Control Plan approved by and INDOT District Division of Materials and Tests. If requested, the CONTRACTOR shall submit to the ENGINEER a copy of the INDOT certification for HMA Producer and/or Quality Control Plan.

Material(s) acceptance shall be based on material certification from an INDOT approved source.

### **TS 11 Excess Material Disposal**

All excess material not to be salvaged shall be removed from the project site. Whether the CONTRACTOR uses a private or public waste site, the disposal must comply with all Federal, State and local ordinances and permit requirements. Upon request, the CONTRACTOR shall supply a copy of all permits obtained or applied for to the ENGINEER.

If a private site is utilized, it shall be with the written permission of the property owner on whose property the material is placed. The CONTRACTOR shall make all the necessary arrangements for obtaining suitable disposal locations.

No direct payment shall be made for excess material disposal, but, the cost thereof shall be included in the costs of other items of the Contract.

### **TS 12 Restoration of Disturbed Areas**

All disturbed grass/lawn areas adjacent to the proposed construction shall be mulch restored with sod or mulched seeding, as directed by ENGINEER. Sodding and seeding shall be done in accordance to most recent City of Noblesville Standards.

Restoration shall occur such that positive drainage is established. Backfill shall be placed such that any settlement that occurs shall not be greater than ½" below adjacent curb, ramp, or sidewalk grade.

No direct payment shall be made for this work, but the cost thereof shall be included in the cost of other items in the Contract, except for areas where the prior existing concrete area is greater than the concrete area to be constructed per the construction documents.

### **TS 13 Topsoil**

The CONTRACTOR shall conduct his operations in a manner that the areas designated for the work to be seeded and sodded, shall have a minimum depth of 4 inches of sufficient topsoil, in accordance with INDOT Standard Specifications Sections 621.03, 621.05 and 914.01. The CONTRACTOR shall preserve a sufficient quantity of topsoil from the excavation work and will stockpile if necessary.

No additional compensation shall be allowed for excavation work necessary to retain suitable material for topsoil, stockpiling or placement of topsoil.

Where new curb / sidewalk replaces old, the CONTRACTOR shall use topsoil to adjust grade behind new work accordingly. No direct payment shall be made for this work, but the cost thereof shall be included in the cost of other items in the Contract.

### **TS 14 Barricades**

The CONTRACTOR shall employ all necessary day and night guardsmen, and erect and place necessary barricades and lights, and shall use proper precaution to prevent injury to any person or property, and shall omit no reasonable precautions which tend to the security of all persons and property. No open excavations shall be left unprotected. Additional protective devices shall be furnished, if directed by the ENGINEER, at no additional cost to the OWNER.

No direct payment shall be made for this work, but the cost thereof shall be included in the cost of other items in the Contract.

### **TS 15 Construction Noise**

The CONTRACTOR shall be required to limit construction noise by maintaining his equipment in proper working order, thereby minimizing the effect of construction noise in the project area.

## **TS 16 Contractor's Supervision**

The CONTRACTOR awarded the work will be required to maintain a superintendent with full authority to direct all construction operations and personnel on the site at all times while construction is in progress.

## **TS 17 Erosion, Sediment Control, and Street Cleaning**

Stormwater Management shall be in accordance with 205 of the INDOT Standard Specifications with the addition of the provisions below.

The CONTRACTOR shall provide effective dust/debris control in all phases. Loader-mounted pickup, vacuum truck, power sweepers, or other types of pull type models shall be used in all phases of street cleaning.

The CONTRACTOR shall schedule and conduct his operation to minimize erosion of soils. Construction of drainage facilities and performance of other Contract work, which will contribute to the control of erosion and sedimentation, shall be carried on in conjunction with earthwork operation or as soon thereafter as practicable. The area of bare soils exposed at any one time by construction operation shall be kept to a minimum. Silt fence for perimeter protection shall be installed, as shown on the plans, prior to any land disturbing activities. Prior to suspension of construction operation for appreciable lengths of time, the CONTRACTOR shall shape the earthwork in a manner that will permit storm runoff with a minimum of erosion. Unless otherwise provided for in the Contract, temporary erosion control measures will not be paid for directly, but will be considered as a subsidiary obligation of the CONTRACTOR covered under the various Contract items of work.

Prior to suspension of construction operations for appreciable lengths of time, the CONTRACTOR shall shape the earthwork in a manner that will permit storm runoff with a minimum amount of erosion. Unless otherwise provided for in the Contract, temporary erosion control measures will not be paid for directly, but will be considered as a subsidiary obligation of the CONTRACTOR covered under the various Contract items of work.

The maintenance of all erosion control practices should be done as needed on a weekly basis, after large storms and when directed by the ENGINEER or representative of the City/IDEM. If the CONTRACTOR elects to use a pump to control ground and/or surface water, pump discharge filter bags must be used. The bags need to be located so the outflow does not cause erosion and sedimentation of receiving structures/streams and need to be located preferably on undisturbed, well vegetated areas away from open streams.

An erosion control report shall be completed weekly and within one business day after a half inch or more rain storm event by the CONTRACTOR and shall be kept on site and shall be made available for review upon request. The cost of the report will not be paid for directly but shall be included in the cost of other items.

Vehicle and Equipment Maintenance: Onsite vehicle and equipment maintenance should only be used where it is impractical to send vehicles and equipment offsite for maintenance and repair. If maintenance must occur on site, the area where repairs are to be made must be located away from drainage courses. Drip pans and/or absorbent pads should be used during vehicle and equipment maintenance work that involves fluids, unless the maintenance work is performed over an impermeable surface in a dedicated maintenance area. Inspect onsite vehicles and equipment daily at the startup for leaks, and repair immediately. Properly dispose of used oils, fluids, lubricants and spill cleanup materials. Do not place used oil in a dumpster or pour into a storm drain or watercourse.

Vehicle Fueling: Onsite vehicle and equipment fueling should only be used where it is impractical to send vehicles and equipment offsite for fueling. Drip pans and absorbent pads should be used during vehicle and equipment fueling, unless the fueling is performed over an impermeable surface in a dedicated fueling area. Nozzles used in vehicle and equipment fueling should be equipped with an automatic shutoff to control drips. Fueling operations should not be left unattended. Federal, state, and local requirements should be observed for any stationary above ground storage tanks. Debris Collection: To prevent clogging

of the storm drainage system, litter and debris removal from drainage grates, trash, rocks, and ditch lines should be a priority. Construction debris and waste should be removed from the site biweekly or more frequently as needed. Construction material visible to the public should be stored in an orderly manner. Stormwater runoff should be prevented from contacting stored solid waste.

Concrete Washout: Perform washout of concrete trucks offsite or in designated areas only. Sign stating "Concrete Washout" must be on-site indicating the location of the washout. Do not washout concrete trucks into storm drains, open ditches, streets, or streams. Do not allow excess concrete to be dumped on site, except in designated areas. For onsite washout: locate washout area at least fifty (50) feet from storm drains, open ditches, or bodies of water; do not allow runoff from this area by constructing a temporary berm or holding area large enough for liquid and solid waste; wash out wastes into the designated area where the concrete can set and be broken up and disposed of properly.

The CONTRACTOR shall also provide an offsite pollution prevention plan that addresses all of the following areas outside of right-of-ways:

1. Utility relocation areas.
2. Material hauling and transportation routes/roads.
3. Borrow pits.
4. Temporary staging and material stockpile areas.
5. Temporary disposal areas for waste materials.

The offsite pollution prevention plan shall include all applicable maps, drawings, and necessary erosion control measures that will be used. The offsite pollution prevention plan shall be submitted to the OWNER and ENGINEER within 48 hours of receiving notice of intent to award.

The OWNER and/or ENGINEER shall forward any written documentation regarding stormwater pollution prevention and the project site to the CONTRACTOR within 48 hours of receiving notice. The 48 hours does include any time on Saturday, Sunday, or Federal Holidays.

In instance of an agency with jurisdiction issuing fines or other punitive damages to the OWNER resulting from Construction Stormwater General Permit deficiencies, OWNER shall deduct punitive damage amount from payment to CONTRACTOR.

Any delays to the CONTRACTOR resulting from Construction Stormwater General Permit deficiencies will not be considered by the OWNER for a contract time extension.

#### Typical Construction Sequence

1. Schedule Pre-Construction meeting with City of Noblesville.
2. Post required permits and documentation on site.
3. Install construction entrance, perimeter protection, concrete washout, fueling station, and water quality measures where runoff leaves the site.
4. Clear R/W.
5. Disconnect utilities and then demo structures per specifications. Dispose of materials per spec and backfill area accordingly.
6. Remove topsoil. Disturbed areas shall be kept to a minimum.
7. Grade to subgrade and/or finish grade elevations.
8. Install storm sewer and related construction pollution prevention items. (i.e. - inlet protection, concrete washout, and check dams)
9. Modify subgrade under roadway. Contract shall use measures to keep lime and/or cement from leaving the site via water or wind.
10. Construct roadway pavement, including curbs, sidewalk, and trail. Equipment and material clean up shall be per the SWPPP details and notes. (i.e. – concrete washout)
11. Fine grade and complete final vegetation as called per plan. (Mulched Seeding or Native Vegetation in Water Quality Swales.)
12. Temporary SWPPP measures shall remain in place until all areas are stabilized. (i.e. - inlet protection and check dams).
13. Submit Notice of Termination to IDEM.

#### **TS 18 Notification of Affected Residents**

CONTRACTOR shall provide the ENGINEER with a minimum of ten (10) days notification, regarding his/her intent to start construction.

Notification of Affected Residents will not be paid for directly but shall be included in the cost of other items in the Contract.

#### **TS 19 Construction Schedule**

It is the responsibility of the CONTRACTOR, upon notification of acceptance of Bid, to prepare a construction schedule for establishing the controlling work activity. The schedule shall be in the form of a bar graph. The CONTRACTOR should provide the construction schedule at or before the time of the Preconstruction Conference.

The CONTRACTOR shall not work between the hours of 7:00 pm (local time) and 7:00 am (local time), unless otherwise approved by the OWNER.

Work on observed Federal holidays and adjacent weekends of Federal holidays are strictly prohibited. No work shall be completed outside of these timelines, without the prior written approval of the ENGINEER.

If, in the opinion of the ENGINEER, the CONTRACTOR falls behind the progress schedule, the CONTRACTOR shall take such steps as may be necessary to improve his progress which may require him to increase the number of shifts and/or overtime operations, days of work, and/or the amount of construction planned, and to submit for approval such supplementary schedule or schedules as necessary to demonstrate the manner in which the agreed rate of progress will be regained, all without additional cost to the OWNER.

#### **TS 20 Material Delivery Tickets**

CONTRACTOR, at his/her expense, shall furnish ENGINEER material delivery tickets for bituminous mixture, concrete, and aggregate which is specified for measurement by weight and/or volume. The tickets shall be prepared at the weighing site by the CONTRACTOR or his representative and shall contain the following information: Ticket Serial Number, Date, Source of Supply, Material Designation (size and type), Truck Number, Time Weighed, Gross Weight (DR entered here if scale is direct reading type), Tare, and Net Weight. The original or duplicate tickets shall be provided to the OWNER.

Material delivery tickets shall be grouped by material, then date, and then street when submitted to the ENGINEER.

Material delivery ticket collection will not be paid for directly but shall be included in the cost of other items in the Contract.

#### **TS 21 Pay Items**

CONTRACTOR to furnish and install all materials described in the Special Provisions, Project Plans, and other Contract Documents. The quantities shown in the Itemized Proposal are believed to be sufficient to complete the specified work; however, they are approximate and are shown for purpose of comparing bids. Payment to the CONTRACTOR will be made only for those quantities of work actually completed, except noted otherwise, and accepted in accordance with the specifications.

All pay items are as defined in the 2024 INDOT Standard Specifications, except as noted herein.

## **TS 22 HMA Pavement**

This work shall consist of courses of HMA at the location shown in accordance with Section 401 of the INDOT Standard Specifications, latest edition. For all local (non-federal aid) projects, acceptance and testing requirements for all HMA mixtures shall be in accordance with Section 402, unless indicated herein.

An asphalt tack coat shall be applied between each course of HMA material or as directed by the ENGINEER. Asphalt tack coat shall also be applied in areas of surface milling and asphalt overlay.

## **TS 23 Clearing Right of Way**

Clearing Right of Way shall be per Section 201 of Standard Specifications except with the modifications stated below:

Clearing shall include all area contained within rights-of-way, clearing limits shown on plans, drainage easements, and temporary rights-of-way to construct the roadway improvements, drainage improvements, and temporary access drive which are shown in the construction drawings. Stumps shall be removed to a minimum of three (3) feet below existing grade, grinding is permitted.

All removals shall be covered under the Clearing Right of Way pay item unless a pay item exists in the itemized proposal for the removal in question.

## **TS 24 Standard Specifications**

Wherever in the contract documents the 2018, 2020, or 2022 Standard Specifications are referenced, it shall be interpreted to mean the 2024 Standard Specifications.

## **TS 25 Contract Completion Due to Notice of Termination, NOT**

The time provided between the CSGP intermediate completion date and contract completion date is to allow the Contractor time to perform final remediation as well as inspect and report deficiencies for all erosion control features and to allow for the receipt of the NOT as required under the provisions of the CSGP. All other work on the contract shall be complete before the CSGP intermediate completion date shown on the Proposal page. If the work is not complete on or before the CSGP intermediate completion date shown on the Proposal page, liquidated damages will be assessed in accordance with 108.09.

Prior to the contract completion date, the Contractor shall maintain the project in accordance with 108.04 and 205, and complete all necessary erosion and sediment control inspections and reports. If the NOT is not received by the contract completion date, any required maintenance, inspections and reports will be paid as extra work in accordance with 104.03.

The Contractor shall establish vegetation in accordance with 621 and 622 and achieve a minimum coverage of 70% uniform vegetation density in accordance with CSGP requirements and will be based on the lowest density area on the project within any ground area of 9 sq ft. The Department will have sole discretion in verifying the 70% minimum coverage for the groundcover. If this threshold is not met by the contract completion date, the Contractor may be subject to liquidated damages in accordance with 108.09 if the items related to stormwater control have not been accomplished in accordance with the contract. The liquidated damages, if assessed, will be charged until such time that the Department is satisfied that the contract requirements have been met.

Any agreed upon soil amendments or additional extra work for which no items exist in the Schedule of Pay Items, and are not covered elsewhere in the contract, will be paid for in accordance with 104.03.

Final acceptance will not be granted until the NOT is received and all other work is completed.



## **TS 26 Completion Dates and Liquidated Damages**

### **Substantial Completion**

If the contract is not substantially complete on or before the substantial completion date of 7/25/2025, \$500/day or portion thereof will be assessed as liquidated damages, not as a penalty, but as damages sustained for each calendar day that the contract is not substantially complete. Substantially complete shall be considered all work in the plans and contract documents with the exception of permanent seeding, sodding, plantings, trees, shrubs and mulch.

### **Final Completion**

If the contract is not completed on or before the contract completion date of 8/22/2025, \$100/day or portion thereof will be assessed as liquidated damages, not as a penalty, but as damages sustained for each calendar day that the contract is not complete.

## **TS 27 Roadway Closure**

The work specified shall be arranged and prosecuted such that the project is Substantially Complete. The intersection shall be closed to traffic for not longer than 45 consecutive calendar days. If the necessary work is not completed and is not reopened to traffic within the number of calendar days for the closure period specified, \$500/day or portion thereof will be assessed as liquidated damages, not as a penalty, but as damages sustained for each calendar day for which remains closed to traffic in excess of the number shown above. Substantially complete shall be considered all work in the plans and contract documents with the exception of permanent seeding, sodding, plantings, trees, shrubs and mulch.

## **TS 28 Utility/Right of Way**

### **107.26 Existing Conditions of Utilities, Additional Right-of-Way, and Encroachments**

Such existing conditions are as described below.

#### **(a) Utilities**

The status of all utility companies and organizations potentially involved with the work to be performed are described below as known at the time this contract was prepared.

The facilities of AT&T - Distribution exist within the project limits and are expected to be affected by the proposed construction. There is an aerial copper cable on Ninestar electric poles along the north side of E County Road 300 N. These cables will be removed off of the pole on the northeast corner of the intersection and attached to new poles within the intersection. If questions arise, Tendai Inman of the utility may be contacted at 317 372 9885. Workplan has been received and approved as of 9-12-24

The facilities of Comcast exist within the project limits and are expected to be affected by the proposed construction. There are aerial copper and fiber optic cables on Ninestar electric poles along the north side of E County Road 300 N. There are additional copper and fiber optic cables on the east side of Fortville Pike. The facilities along Fortville pike will need to be relocated once Ninestar Electric poles are moved. If questions arise, William Morris of the utility may be contacted at 317 710 0602. This work plan has not been received.

The facilities of Duke Energy - Transmission exist within the project limits but are not expected to be affected by the proposed construction. There are aerial 69kV lines on the north side of E County Road 300 N. The contractor shall use OSHA clearance guidelines and protective measures to protect these facilities in place. If questions arise, Zach Boston of the utility may be contacted at 317 838 1053. Workplan has been received and approved as of 9-12-24

The facilities of Centerpoint Energy - Gas exist within the project limits and are expected to be affected by the proposed construction. There is an 8 in. Medium Pressure Plastic gas main along the north side of E County Road 300 N. This main will be lowered in sections to avoid project to avoid conflict with the proposed construction. See work plan for more details. The utility will be able to complete its involvement

with the project only after proposed staking and painting has been completed in the vicinity of CenterPoint facilities to be relocated. It is anticipated that the utility will take approximately 120 calendar days to conduct preconstruction activities and approximately 21 calendar days to relocate its facilities. If questions arise, Timmy Langston of the utility may be contacted at 812 348 6703. Notice to proceed was issued on May 31, 2024.

The facilities of Everstream exist within the project limits and are expected to be affected by the proposed construction. There is a handhole at the northeast corner of the intersection and an underground fiber optic cable within a 2 in., orange, poly duct on the north side of E County Road 300 N. There is an additional fiber optic in conduit along the east side of Fortville Pike that originates from the handhole in the intersection. The handhole will be removed and a new handhole will be placed north of the existing. A new duct will be bored across the intersection along E County Road 300 N at a minimum of 60 in. and the duct on the east side of Fortville Pike will be lowered to 60 in. to at Str. No. 112. If questions arise, Eddie Fields of the utility may be contacted at 317 691 0588. Workplan has been received and approved as of 9-12-24

The facilities of Ninestar Communications exist within the project limits and are expected to be affected by the proposed construction. There is an aerial fiber optic cable on electric poles on the north side of E County Road 300 N. and an underground fiber optic cable in conduit on the east side of Fortville Pike that should be the correct dept and not impacted by construction. Contractor to expose and verify depth.. If questions arise, Jason Warrick of the utility may be contacted at 317 694 9305. Workplan has been received and approved as of 9-12-24

The facilities of Ninestar Electric exist within the project limits and are expected to be affected by the proposed construction. There are aerial 3 phase distribution cables on poles owned by Ninestar and Duke Energy transmission on the north side of E County Road 300 N as well as an aerial single phase primary heading north on the east side of Fortville Pike. Poles within the northeast corner of the intersection will be relocated further northeast. If questions arise, Eric Meyer of the utility may be contacted at 317 326 3131. Workplan has been received and approved as of 9-12-24

**(b) Right-of-Way**

All additional right-of-way requirements for the contract have been cleared.

**TS 29 Open Burning of Natural Growth**

Open burning of natural growth is not permitted on this contract.

**TS 30 Saw Cutting**

In all areas where proposed construction matches existing conditions, full depth saw cutting shall be required.

No direct payment will be made for saw cutting but the cost thereof shall be included in the cost of the other items.

**TS 31 Payment for Drives**

When the existing drive is concrete or asphalt, the existing drive shall be sawed at the line where the new construction shall match the existing material. If no removal item is provided, no direct payment shall be made for the sawing or removal of any type of drive, but the cost thereof shall be included in the price bid for the type of driveway or approach being placed.

**TS 32 Grading Behind Walk**

All grading behind walks and curbs is to be completed as shown on the plans and cross sections or as directed by the ENGINEER. Quantities of earth placement or removal in these areas are included within

section volumes; therefore, this work shall not be paid for separately, but the cost shall be included within the item Common Excavation.

**TS 33 Permits**

The following permit is required for the project. The OWNER has applied and secured the necessary documentation.

Indiana Department of Environmental Management (IDEM)  
Construction Stormwater General Permit  
Approved: 01/24/2024

**TS 34 Electrical Insulation Sealant**

The electrical insulation sealant for cable or wire splices as described in 805.05 shall be chosen from the following list:

- (a) Star brite liquid electrical tape, manufactured by Star brite, Inc.
- (b) 3M Scotchkote Electrical Coating, manufactured by 3M Company
- (c) 10 Plyseal Insulating Mastic, manufactured by Plymouth Rubber Europa S.A.
- (c) or approved equal.

**TS 35 Light Pole, 30 FT Effective Mounting Height With 8' Mast Arm**

**Description**

This work shall consist of furnishing and installing standard lighting in accordance with 105.03.

**Materials**

All materials shall be in accordance with 807.02 and as follows:

Highway Illumination Materials 920

Light Poles: The light poles shall be conventional aluminum light poles with non-breakaway base. The E.M.H. of the light pole shall be 30 ft and the arm length shall be 8 ft.

The light pole shall be installed as shown on the plans. The Contractor shall place the poles such that the structural integrity of the poles is maintained.

Light Pole Connections: The light pole connections shall be Type 1, Type 2, or Type 3 based on the required connections as shown on the plans.

**Construction Requirements**

Standard Department Light Pole, 30 ft E.M.H. and 8 ft arm length, with non-breakaway base, shall be installed in accordance with 807 at the locations shown on the plans.

**Method of Measurement**

The light poles will be measured in accordance with 807.18.

**Basis of Payment**

The light poles will be paid for in accordance with 807.19.

**Pay Item**

Light Pole (30' E.M.H., 8' Mast Arm, Non-Breakaway Base)

**Pay Unit Symbol**

EACH

**TS 36 Decorative Stone**

A. Prevailing Specifications: None

B. Additions:

1. This work shall consist of installing decorative stone in locations shown on the plans, including weed barrier fabric.
2. Materials:
  - a. Weed barrier fabric for reinforcement and soil separation to be 3 oz/sq yd minimum thickness. Fabric to be inert to biological degradation and resist naturally encountered chemicals, alkalis, and acids.
  - b. River rock stone consisting of 3/8" to 1-1/2" open graded aggregate with full-range color.
3. Construction Requirements
  - a. Compact subbase approximately 4" below finish grade with a hand-tamp and install weed barrier fabric.
  - b. Install separation fabric to minimize weed growth, and provide support for decorative stone.
  - c. Install river rock stone at the surface of designated areas, to provide the desired finish appearance.
4. Method of Measurement
  - a. Measurement for any Weed Barrier will be incidental to River Rock.
  - b. Measurement for any River Rock will be per Ton.
5. Basis of Payment
  - a. The cost of furnishing and supplying the material, labor, equipment, and necessary incidentals shall be included in the cost of each pay item.

Payment for items in this unique Special Provision will be made under:

Pay Item	Pay Unit Symbol
River Rock.....	Ton

## TS 37 Flag Pole

### DESCRIPTION

#### Summary

Section includes ground-set flagpoles made from aluminum.

#### Action submittals

Product Data: For each type of product.

Include construction details, material descriptions, dimensions of individual components and profiles, operating characteristics, fittings, accessories, and finishes for flagpoles.

#### Delegated Design Submittals: For flagpoles.

#### Closeout Submittals

Operation and Maintenance Data: For flagpoles to include in operation and maintenance manuals.

### MATERIALS

#### Manufacturers

Source Limitations: Obtain flagpoles as complete units, including fittings, accessories, bases, and anchorage devices, from single source from single manufacturer.

#### Performance Requirements

Structural Performance: Flagpole assemblies, including anchorages and supports, to withstand design loads indicated within limits and under conditions indicated.

Wind Loads: Determine according to NAAMM FP 1001. Basic wind speed for Project location is 90 miles per hour.

#### Aluminum Flagpoles

Aluminum Flagpoles: Flagpoles fabricated from seamless extruded tubing complying with ASTM B241/B241M, Alloy 6063, with a minimum wall thickness of 3/16 inch, Exposed Height: 25 feet.

Metal Foundation Tube: Manufacturer's standard corrugated-steel foundation tube, 0.060-inch wall thickness with 3/16-inch steel bottom plate and support plate; 3/4-inch- diameter, steel ground spike; and steel centering wedges welded together. Galvanize foundation tube after assembly. Furnish loose hardwood wedges at top of foundation tube for plumbing pole.

Sleeve for Aluminum Flagpole: foundation sleeve, made to fit flagpole, for casting into concrete foundation.

#### Fittings

Finial Ball: Flush-seam ball, sized as indicated or, if not indicated, to match flagpole-butt diameter.

0.063-inch spun aluminum, finished to match flagpole

Internal Halyard, Winch System: Manually operated winch with control stop device and removable handle, stainless steel cable halyard, and concealed revolving truck assembly with plastic-coated counterweight and sling. Furnish flush access door secured with cylinder lock. Finish truck assembly to match flagpole.

Miscellaneous Materials

Drainage Material: Crushed stone, or crushed or uncrushed gravel; coarse aggregate.

Sand: ASTM C33/C33M, fine aggregate.

Elastomeric Joint Sealant

Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D1187/D1187M.

#### Aluminum Finishes

Natural Satin Finish: AA-M32, fine, directional, medium satin polish; buff complying with AA-M20; seal aluminum surfaces with clear, hard-coat wax.

### CONSTRUCTION REQUIREMENTS

#### Preparation

Prepare uncoated metal flagpoles that are set in foundation tubes by painting below-grade portions with a heavy coat of bituminous paint.

Foundation Excavation: Excavate to neat clean lines in undisturbed soil. Remove loose soil and foreign matter from excavation and moisten earth before placing concrete. Place and compact drainage material at excavation bottom.

Foundation Tube: Place foundation tube, center, and brace to prevent displacement during concreting.

Place concrete. Plumb and level foundation tube and allow concrete to cure.

Sleeves: Locate and secure sleeves in forms by bracing to reinforcement and forms.

Place concrete. Compact concrete in place by using vibrators. Moist-cure exposed concrete for no fewer than seven days or use nonstaining curing compound.

Trowel exposed concrete surfaces to a smooth, dense finish, free of trowel marks, and uniform in texture and appearance. Provide positive slope for water runoff to perimeter of concrete base.

**Flagpole Installation**

General: Install flagpoles where indicated and according to Shop Drawings and manufacturer's written instructions.

Foundation Tube: Place flagpole in tube, seated on bottom plate between steel centering wedges, and install hardwood wedges to secure flagpole in place. Place and compact sand in foundation tube and remove hardwood wedges. Seal top of foundation tube with a layer of elastomeric joint sealant and cover with flashing collar.

**METHOD OF MEASUREMENT**

The complete flagpole system will be measured as each, including all incidentals necessary to install the pole as described for a complete installation.

**BASIS OF PAYMENT**

The accepted quantities of flagpole will be paid for at the contract unit price of each for the complete system installed in place.

Payment shall be made under:

<u>Pay Item</u>	<u>UNIT</u>
Flag Pole	Each

**TS 38 Floodlight**

**Description**

This work shall consist of the installation of a spotlight for the flag, at the base of the flagpole.

**Materials**

Materials shall include the LED floodlight, concrete footer for floodlight, conduit, wiring, and other materials necessary for installation of the floodlight according to manufacturer's recommendations.

The floodlight materials shall be submitted to the City of Greenfield for approval.

**Construction Requirements**

The floodlight shall be installed as shown on the plans, in accordance manufacturer recommendations. Connect the power supply for the floodlight to the nearest street light.

**Method of Measurement**

The floodlight will be measured by each assembly, complete in place, including all incidentals as required by the manufacturer recommendations to create a fully operational installation connected to an existing light pole.

**Basis of Payment**

The floodlight will be paid for at the contract unit price per each.

Payment will be made under:

Pay Item	Pay Unit Symbol
Floodlight	.....EACH

## TS 39 Irrigation System

### PART 1 - GENERAL

#### 1.01 RELATED DOCUMENTS:

- A. Drawings and General Provisions of the Contract, including the INDOT Standard Specifications, apply to work of this section.

#### 1.02 INSPECTION OF SITE

- A. All prospective Bidders are urged to visit the project site and to examine existing conditions and make note of any conditions which may pertain to his class of work. Failure to do so will not relieve bidder of responsibility in connection with his work.

#### 1.01 INSPECTION OF SITE

- A. All prospective Bidders are urged to visit the project site and to examine existing conditions and make note of any conditions which may pertain to his class of work. Failure to do so will not relieve bidder of responsibility in connection with his work.

#### 1.02 DESCRIPTION OF WORK

- A. General:

- 1. The extent of base landscape irrigation as shown on the drawings.
- 2. Unless otherwise specified, the plans and specifications are intended to include everything obviously requisite and necessary for the proper installation and completion of the work, whether or not each necessary item is mentioned herein. The plans and specifications are intended to be cooperative, and any item called for in one and not the other shall be binding as if called for in both.

- B. The system shall provide 100% coverage and uniformly irrigate all areas and perform as required by these plans and specifications:

- 1. Provide an underground irrigation system as shown on the drawings and specifications and as required by these plans and specifications.
  - a) Automatic irrigation system including piping, fittings, sprinkler heads, control wire, quick coupler valves, controllers, and accessories.
  - b) Excavating and backfilling irrigation system work.
  - c) Testing and adjusting of system.
  - d) "As-Built" drawings.

e) Winterization - shutdown - spring start-up.

2. All work required by the plans and specifications shall be accomplished by the Contractor even though minor items required may not be specifically mentioned in the above listing.

C. Drawings: The system layout is diagrammatic. Exact locations of piping, sprinkler heads, valves, and other components may need to be modified by the Contractor in the field at time of installation to allow for actual on-site conditions. Proper spacing of sprinkler heads will be required to obtain satisfactory coverage. Minor adjustments in the system layout will be permitted to clear fixed obstructions. Any major revisions to the irrigation system shall be submitted in writing to the owner for approval. The final system layout must be acceptable to the owner.

D. Verification of Plans and Specifications: It shall be the responsibility of the Contractor to carefully examine the plans and specifications relating to this work for completeness, accuracy, and clarity. It is the Contractor's responsibility to obtain the most current site survey, utility plans, landscape plan and any other document necessary to complete the installation of the irrigation system in cooperation with the site improvements. These documents may be obtained through contact with the owner's authorized representative. Any conflict, errors or clarifications request shall be immediately brought to the attention of the Architect for written interpretation or instructions. No claim for increased compensation for additions, changes, or alterations will be considered unless written authorization is granted by Owner's representative. Otherwise, any additional materials and/or labor due to existing conditions shall be furnished under this contract.

E. The Contractor is responsible for obtaining all permits required for installation of this work.

### 1.03 QUALITY ASSURANCE

A. Manufacturing Qualifications:

1. Provide the landscape irrigation system as a complete unit produced by acceptable manufacturers for all portions of the working equipment which includes heads, valves, controls, and accessories. All irrigation products shall be purchased from a local authorized irrigation supply company.

B. Work and materials shall be in accordance with the latest rules, and other applicable state or local laws. Nothing in the Contract Documents is to be construed to permit work not conforming to these codes.

C. Contractors Qualifications: Bidding Contractors shall have a minimum of three years experience in the construction of a job of similar size and complexity.

1. Provide the General Contractor a list of five equivalent irrigation system installations, performed in the last five years, incorporating the following information:

a) Name and address of product.



- b) Name and address of Owner.
  - (1) Contact person
- (c) Name and address with whom contract was with.
  - (1) Contact person

D. Requirements of regulatory agencies and utilities:

- 1. System shall comply with the latest requirements of all state and local codes and ordinances.
- 2. System shall comply with the latest rules and requirements by all utility companies involved.
- 3. Nothing in the contract documents is to be constructed to permit work not conforming to these rules, codes and ordinances.

E. Electrical devices shall carry Underwriter's Laboratory labels.

F. Required pressure testing shall be the responsibility of the Contractor.

G. Materials, equipment, and methods of installation shall comply with the following codes and standards:

- 1. National Fire Protection Association (NFPA)
- 2. National Electric Code (NEC)
- 3. American Society for Testing and Materials (ASTM)
- 4. The Irrigation Association (IA)
- 5. American Water Works Association (AWWA)

1.04 SUBMITTALS

A. Manufacturer's Data:

- 1. Submit copies of manufacturer's specifications and instructions for all manufactured materials and products if other than those specified herein.

B. Record Drawings:

- 1. After completion of the work and before final acceptance, a set of scaled,

reproducible record drawings, and two sets of prints showing the location of the complete work shall be submitted to the Owner. Final payment and any retainage will not be released until these drawings are submitted and accepted by the Owner.

- C. 1. Submit a weekly irrigation schedule based on an annual evapotranspiration rates, average rainfall etc. amounts or as directed by the Owner.
- D. Construction Schedule:
  - 1. Submit a construction schedule to be approved by the Owner.

#### 1.05 WARRANTY

- A. The Contractor shall furnish a manufacturer's written warranty to the effect that all heads, valves, and controllers will be warranted for a period of one year (or as determined to be more than one year by the manufacturer) , to be free from defects and faulty workmanship, and that any defective heads, valves, or controllers shall be promptly repaired or replaced without additional cost to the Owner in accordance with that warranty.
- B. All materials other than those referred to in Paragraph A above shall be warranted for a period of one full year from the date of final acceptance by the Owner.
- C. All installation labor used on this project will be warranted for one full year from date of final acceptance by the Owner.

### PART 2 - PRODUCTS

#### 2.01 MATERIALS

- A. General:
  - 1. The materials chosen for the design of the sprinkler system have been specifically referred to by manufacturer to enable the Owner to establish the level of quality and performance required by the system design. After award of contract and prior to beginning work, the Contractor shall submit for approval (3) copies of the complete list of materials which he proposes to install. No deviations from the specifications will be allowed.
  - 2. Standard of Quality Acceptable Manufacturers:  
  
Rain Bird Sales, Inc. - Glendora, CA (Rotor Heads, Spray Heads, Control Valves, Valve Boxes & Quick Couplers, Drip, Controller, Rain Sensor)

Hunter Industries- San Marcos, CA 92078 (Rotor Heads, Spray Heads, MP Rotors, Control Valves, & Quick Couplers, Drip, Controller, Rain Sensor)

Hydro-Rain- North Salt Lake, UT (Wireless Rain Sensor, Battery Controller) Flint & Walling-Kendallville, IN (Booster Pump)

Wilkins Division - Paso Robles, CA (Backflow Preventer) Cresline - Evansville, IN (Piping)

Lasco - Brownsville, TN (Fittings)

Leemco, Inc.- Mount Vernon, CA (Joint Restraints)  
Nibco - Elkhart, IN (Isolation Valves)

B. Substitutions

1. Proposed substitutions for materials or equipment must be submitted for approval within (10) days of the project bid date with complete drawing documents for consideration as approved equals. Otherwise, such substitutions will not be permitted. Proposals for substitutions shall be made only by the prime bidders. Manufacturers, distributors, and Sub-Contractors shall not make proposals to the Architect for substitutions.
2. No substitution shall be made unless authorized in writing by the Engineer. Should a substitution be accepted and should the substitute material prove defective or otherwise unsatisfactory for the service intended, and within the guarantee period, the Contractor shall replace this material or equipment with material or equipment specified, at his own expense, and to the satisfaction of the Architect.
3. Contractors submitting bids on substitute materials and equipment must also provide a written performance guarantee certifying that the substitute materials and equipment will provide the specified irrigation requirements.

C. Backflow Preventer

The backflow preventer shall be a 975XL RP or equal (as required) or approved equal and shall meet or exceed specifications and standards set by the State and USC Foundation for Cross- Connection Control and Hydraulic Research. The Contractor shall check with local authorities for code compliance. The backflow shall be sized as shown on drawings. All exposed standpipe and fittings shall be copper or galvanized pipe to 18" below grade.

D. Booster Pump (pressure unknown)

The existing water pressure was not available at the time of design development. The Contractor is required to determine the existing pressure at the irrigation point of connection prior to installation of the system. Report any deviation between the existing pressure and the required pressure in writing to the owner's authorized representative. If the required **70** psi minimum is not available at the point of connection than a booster pump, protective cover, pump start relay and a RP backflow device shall be required and submitted as a change order to the Owner's authorized representative. The irrigation consultant shall determine the appropriate manufactures and models. The booster pump shall be installed per manufacturer's specifications on a concrete pad. The Owners will extend all power to the booster pump. The Contractor shall have the exact power and voltage verified for coordination with the pump prior to installation. A Munro Startbox pump start relay shall

activate and control the pump. The booster pump shall be winterized and stored in an indoor facility during the off-season. Submit a change order to the owner for approval if it is determined that a booster pump is required.

E. Main Line Piping

All main line piping shall be CI 160 PVC SDR 26 standard weight as manufactured by Cresline or approved equal. All mainline 1" - 2 1/2" shall be solvent weld. All mainline 3" and larger shall be PVC gasketed type. Pipe shall carry the N.S.F. seal of approval and meet the following specifications: ASTM 1120/1220, C.S. 256-63, or latest revisions. Size as indicated on drawings.

F. Lateral Line Piping

All lateral lines down stream of the valves shall be CL 200 PVC SDR 21 for 1" pipe, CI 160 PVC SDR 26 for 1 1/4" and larger pipe, standard weight as manufactured by Cresline or approved equal. Pipe shall carry the N.S.F. seal of approval and meet the following specifications: ASTM 1120/1220, C.S. 256-63, SDR 26 or latest revision. Size as indicated on drawings.

All lateral lines 1" and 1 1/4" down stream of the valves shall be 100 psi polyethylene NSF pipe manufactured by Cresline or equal. The pipe shall carry the N.S.F. seal of approval and meet the following specifications: ASTM 1120/1220, C.S. 256-63, SDR 26 or latest revisions. Lateral lines 1 1/2" and larger shall be CI 160 PVC SDR 26 for 1 1/4", standard weight as manufactured by Cresline or equal. Pipe shall carry the N.S.F. seal of approval and meet the following specifications: ASTM 1120/1220, C.S. 256-63, SDR 26 or latest revision.

Size as indicated on drawings.

G. Pipe Fittings

All PVC fittings 1" - 3" shall be solvent weld schedule 40 standard weight. Attachment shall be made with both a primer and a solvent cement as approved by the manufacturer. Glue type saddles may be used so long as they are 3/4 round type units which grip the pipe.

Saddles are to be bored or cut with appropriate equipment and holes are not to be burned into the pipe. All fittings 4" and larger shall be ductile iron with PVC gasket and hub configuration and retaining rings as manufactured by Harco or Leemco. Provide Leemco joint restraints or concrete thrust blocks where necessary on all 3" and larger fittings. Install per manufactures recommendations.

All Poly fittings shall be plastic type insert fittings ASTM D-2609. All joints 1 1/4" or larger shall be double clamped with stainless steel screw driven clamps.

H. Automatic Valves

The remote-control valves shall be a Hunter PGV Series or approved equal, normally closed, 24 VAC 50/60 cycle solenoid actuated globe design capable of having a flow rate of the gallons per minute (GPM) indicated in the drawings. The valve pressure rating shall not be less than

150 psi.

The Drip Irrigation remote control valve kit shall be Hunter PCZ or approved equal, containing the valve, filter, and pressure regulator. Refer to the irrigation plan for specific valve size and installation detail. Install per manufacturers specifications in a commercial grade 12" valve box with locking cover such as Hydro Rain or Rain Bird.

I. Valve - Controller Communication

Communication between the controller and the valves shall be accomplished with copper wire with an exterior jacket which is U.L. listed for direct burial and sprinkler control.

The Contractor shall be responsible for correct wire sizing for distance and voltage loss.

A minimum of 14 gauge wire will be used, and larger gauges used where voltage loss dictates. Common wire color shall be white. Station wires shall be all the same color for the entire run and

number marked at all splices and connections. All field connections will be accomplished with wire nuts and will be made watertight and oxidation resistant through the use of 3M Scotch Kast "400" or DBY electrical insulating resin packs. Other brands are not acceptable. Use of sealant without container package is not permissible.

J. Valve Enclosures

All single automatic valves shall be enclosed in a 10" round, commercial grade, fiberglass valve box with locking cover such as Rain Bird or approved equal. All valve boxes are to be filled with a minimum of 6" of washed pea gravel below pipe level to ensure adequate drainage. Controller station numbers shall be marked on the valve box cover in a permanent manner.

K. Isolation Valves

All isolation valves shall be brass, threaded gate valves as manufactured by Nibco or approved equal. Line size. Enclose in 10" round, commercial grade, fiberglass valve box with locking cover such as Rain Bird or approved equal.

L. Automatic Controller

The automatic controller shall be Hunter PRO-C or approved equal with the number of stations as indicated on the drawing. The controller shall be an eight-station base model, expandable to 32 stations with hot-swappable modules in four or eight station increments without powering down. The cabinet shall be a heavy-duty key-locking cabinet (NEMA 3R rated) with internal junction box. Flexible programming shall include cycle/soak, programmable valve delay, sensor override by station, master valve by station, calendar day off and total program and valve run times. Other options shall include Contractor programming default, seasonal adjust and battery back-up protection. All 120 VAC power to the controllers will be extended by the Owners. Confirm a ground of 15 OHMS or less. Lightning protection devices are to be installed on the primary, secondary and two wire path as required by the manufacturer. Place in the approximate area as shown on the drawings, with final location to be determined by the Owner at time of installation.

M. Rain Sensor

The wireless rain sensor shall be a Hunter WR-CLIK or approved equal. The rain sensor shall send a signal to the controller during a rain event, allowing it to stop any zones from operating. Install per manufacturers instructions.

N. Soil Moisture Sensor Kit

The soil moisture sensor shall be a Hunter WR-CLIK or approved equal. The soil moisture sensor kit shall include one corrosion resistant in-ground soil moisture sensor to control watering based on actual soil moisture content and one controller interface designed for outdoor installation. The sensor shall provide auto-calibration function which simplifies initial configuration. Based on observed soil moisture behavior in the specific soil, the auto-calibration function will set a soil moisture watering threshold that is optimal for the site-specific conditions. This threshold shall be the soil moisture value at which the sensor will allow the automatic irrigation system to water. The sensor shall communicate with the controller interface over valve wires and shall be compatible with all brands of sprinkler timers. Install per manufacturers recommendations.

O. Sprinkler Heads

Small Turf Sprays

The full or part circle pop-up spray head sprinkler shall be Hunter Model PROS Series, capable of covering the radius and pattern as shown on the drawings at a minimum base pressure of 30 psi. The nozzle piston shall have a smooth external surface, riser wiper seal in cap, full-length stainless steel retraction spring, and filter screen. Sprinkler body constructed of non-corrosive heavy-duty

plastic. All parts shall be removable through top of unit by removal of threaded nozzle. The overall pop-up height shall be 4 inches.

Small Shrub Sprays

The full or part circle pop-up spray head sprinkler shall be Hunter Model PROS, capable of covering the radius and pattern as shown on the drawings at a minimum base pressure of 30 psi. The nozzle piston shall have a smooth external surface, riser wiper seal in cap, full-length stainless steel retraction spring, and filter screen. Sprinkler body constructed of non-corrosive heavy-duty plastic. All parts shall be removable through top of unit by removal of threaded nozzle. The overall pop-up height shall be 6 or 12 inches as noted on the plans.

Multi-Stream Rotating Sprinkler

The multi-stream rotating sprinkler shall be a Hunter MP Model PROS Series or approved equal body with a MP Rotator™ nozzle. The sprinkler shall cover the radius (4'-30') and pattern as shown on the drawing at a minimum base pressure of 40 psi. The MP Rotator shall provide matched precipitation with an adjustable arc and radius in a single nozzle. The overall pop-up height shall be 4, 6 or 12 inches as noted on the plans.

Tree Bubblers

The pop-up full-circle bubbler for in-ground installation shall be Hunter Models PCN/PCB. The bubbler shall be constructed of corrosion and UV-resistant plastic, with an integral elastomeric flow bushing for maintaining a constant flow rate over the operating pressure range of 20 to 90 PSI. The maximum flow rate of the bubbler shall be 2 GPM. The bubbler shall be compatible with a plastic filter screen to protect the nozzle from debris in the water and a stainless steel adjustment screw that can be used to regulate the flow.

#### Root Watering System

The Root Watering System shall be a Hunter RZWS. The Root Zone Watering System shall be pre-assembled and constructed of a plastic mesh tube with a removable, perforated end cap. It shall have an internal baffle system to aid in dispersing the water throughout the root zone. The 18 inch and 36 inch models shall have a locking cap to body design which attaches to the tubing. When specified with an integral bubbler, a pre-fabricated ½-inch male threaded swing joint shall be included on the assembly, and the bubbler options shall be either a 0.25 GPM or a 0.50 GPM pressure compensating bubbler, depending on the flow rate desired. An optional filter fabric sleeve shall be available for field installation for use in sandy soil conditions. An optional adjustable check valve shall also be available. When used in reclaimed water situations, all models shall have a purple colored cap available.

#### Intermediate Turf Rotors

The full or part circle sprinkler shall be Hunter I-20. A rotary gear-driven sprinkler for residential and commercial applications. It features a non-strippable drive, automatic arc return, non-reversing 360° capabilities, FloStop® control, a drain check valve, water-efficient nozzles that can be easily changed, and simple arc adjustment.

#### Large Turf Rotors

The full or part circle shall be a Hunter I-25, is a rotary gear-driven sprinkler for commercial applications. It features a non-strippable drive, automatic arc return, non-reversing 360° capabilities, a drain check valve, water-efficient nozzles that can be easily changed, simple arc adjustment, and optional reclaimed water ID.

#### Sports Turf Rotors

The full or part circle sports turf rotor shall be a Hunter I-40. A tough commercial rotor that delivers water with accuracy and efficiency at distances up to 70 feet. Featuring diverse three-port nozzle options, a non-strippable drive, and a thick rubber cover built to prevent injury, it's no wonder this rotor is found most often in stadiums worldwide. With the strength of stainless steel, the I-40 is built to last in the harshest sports, public park, and commercial environments.

#### Synthetic Sports Field Rotor

The part circle synthetic sports field rotor shall be a Hunter I-80. The Rotor is a rotary gear-driven sprinkler for sports turf and large park applications. It features an ultra-robust, dirt-tolerant gear drive that offers the highest torque output of any rotor in the commercial sector.

The sprinkler shall be constructed from corrosion- and impact-resistant ABS plastic, non-strippable gear drive, with a ratcheting, stainless steel riser and a durable, stainless steel riser spring.

Optional opposing nozzle (ON) housing, adjustable from 70° to 360° and equipped with a factory-installed rubber cover.

P. Landscape Dripline

Dripline

Combination distribution/emission dripline shall be Hunter HDL Series or approved equal. All connection fittings shall be approved Hunter parts. Refer to the irrigation legend on the plans for specific flow and spacing requirements. All buried dripline application shall utilize air relief valves unless the product contains emitters with individual check valves. Installation of the air relief valve in a 6" valve box is to occur at all highpoints of individual zones (there may be more than one depending upon layout and topography) to avoid siphoning of particulate matter into emitters. Flush caps (manual) should be installed at ends of all drip zones for the initial clearing/ flushing of the

zone, and for periodic maintenance/ winterization or flushing if upstream breaks occur. Use a 6" valve box with gravel at the bottom for each flush valve.

Planting Beds: Install tubing under a 2"-3" mulch bed and stake every 18" with galvanized tie down stakes. Individual plant material requiring more water may be supplemented using additional

emitters with 1/4" distribution tubing. Refer to the Landscape Dripline detail for specific installation procedures and additional components. Install a manual drain valve at the end points of the drip zone in a valve box.

Turf: (Hunter Eco-Wrap & Eco-Mat) Install 6" below finished grade and stake every 36" with galvanized tie down stakes. Tubing shall be installed in evenly spaced rows approximately 18" apart, starting 2" from the edge of the pavement. Install a manual drain valve at the end points of the drip zone in a valve box. The Hunter Eco-Wrap shall be pre-assembled and constructed with a wrapping of special polypropylene fleece material and pressure-compensating, non-draining inline emitter tubing. The wrapped emitter tubing shall have a nominal outside diameter of 17mm and shall have 0.6 GPH (2,3 l/h) emitters. Emitters shall be uniformly spaced at 12 in (30 cm) intervals. Tubing shall be constructed to landscape grade specifications with a nominal wall thickness not less than 1.1mm and a UV protection rating of seven years.

Hanging Baskets: Connect distribution tubing to 1/2 inch PE pipe from the base of the light pole to the hanging basket as shown on the detail. A 1 gph pressure compensating, self-flushing dripper with a check valve and bug cap shall be installed at the end of the tubing in the basket for water distribution.

Q. Quick Coupling Valves

Quick coupling valves (QCV) shall be Hunter HQ-5RC or approved equal. All brass construction with rubber cover. All quick coupling valves are to be enclosed in a 10" round fiberglass valve box with locking cover such Rain Bird, or Hydro-Rain Specification Grade. Secure quick coupler by mounting on a 1" Lasco brass insert Snap-Lok Swing Joint with stabilizer elbow Model # LG-13S-

212. Provide one (1) matching valve key and swivel adapter for every ten QCV. The quick couplers are to be set at such height that the valve box will not interfere with the operation of the valve key.

R. Sprinkler Risers



Sprinkler risers tapped 3/4" and smaller shall consist of a flexible riser pipe such as Rain Bird Swing Pipe, Blu-Lok or approved equal. Compatible "no-clamp" insert fittings shall be employed if

using this type of pipe.

S. Service line, tap, and valve

Supply in compliance with Irrigation Plans and Details.

## PART 3 - EXECUTION

### 3.01 WATER SUPPLY

The water supply shall be from an existing service line. The tap and meter shall be the responsibility of the Contractor. Install per local code and in accordance with the water purveyors requirements.

Approximate locations shown on plan, verify in the field with owners authorized representative.

### 3.02 SYSTEM DESIGN

- A. Lay out work as accurately as possible to the drawings. The drawings, though carefully drawn, are generally diagrammatic to the extent that all offsets, fittings, and finished site conditions may not be shown.
- B. The Contractor shall be responsible for full and complete coverage of all irrigated areas as to spacing and precipitation rates being matched and shall make any necessary adjustments to the system at no additional charge to the Owner. Head spacing as shown on the drawings is predicated on the water supply being a minimum of **70** static psi at the point of connection. **Contractor shall verify said pressure before beginning the installation.** Report any deviation between the said pressure and the specified pressure to the owners authorized representative. Head spacing shall not exceed 55% of manufacturer's stated diameter.
- C. Any major revisions to the irrigation system must be submitted to the Owner and answered in written form, along with any change in the contract price.

### 3.03 TRENCHING AND BACKFILLING

A. General:

- 1. Pulling, Excavating, and Trenching:
  - a. Perform all excavations as required for the installation of the work included under this section, including shoring of earth banks to prevent cave-ins.
  - b. All lateral pipe (2" and smaller) shall be pulled with a vibratory plow.
  - c. If trenching, trenches shall be wide enough to allow a minimum of 6" between parallel pipelines. If pulling, the same lateral distance shall be

observed.

2. Underground Obstructions:

- a. Any unforeseen underground obstructions which might be encountered during the installation shall be brought to the attention of the owner immediately and work on that portion of the installation shall be suspended.
- b. Any additional expense involved in removing those obstructions or the re-routing of lines shall be submitted to the Owner in writing and approved prior to continuing the installation.

3. Underground Utilities:

- a. It shall be the responsibility of the Contractor to locate or have located all existing public underground utilities on that portion of the site which is affected by his work. All private underground utilities shall be located and marked by the Owner.  
The Contractor shall contact the Owner for verification that all private utilities have been located prior to construction. The Contractor will be responsible for the repair of any cuts, which are made by him in these utilities.

B. Minimum Cover

1. A minimum of 18" cover shall be held over all main lines and control lines. A minimum of 12" of cover shall be maintained over all lateral lines.

C. Backfill

1. All irrigation trenches shall be backfilled and compacted by mechanical means in 6" lifts to a minimum of 90% of the original density. Backfill material shall be of the same soil mix as excavated and free of any rocks or debris larger than 3/4" in diameter. It shall be the Contractor's responsibility to remove all larger debris from the premises and to furnish any additional soil which may be necessary to level the trenches. All disturbed areas are to be re-seeded as specified by owners authorized representative.
2. Contractor shall be responsible for repair of any irrigation trench settling which occurs during the first year after final acceptance by the Owner.
3. Where pipe is pulled into the ground, all domes will be compacted to original grade after pulling.

D. Sleeving Pavements, Walks, Etc.

1. All mainline and lateral piping under any pavement (walks, roads etc.) and structures shall be installed in separate sleeves (min. Schedule 40 PVC) unless noted otherwise. Sleeves to be a minimum of twice (2x) the diameter of the pipe to be sleeved unless otherwise noted. Mainline sleeves shall be a minimum of 24"

below subgrade and lateral sleeves shall be a minimum of 18" below subgrade. Extend sleeves into landscape area 12" minimum. Backfill material shall be free of rubbish, plant matter, frozen materials, and stones larger than 3/8" in maximum dimensions. Provide less than 6" of clearance between each lateral line and not less than 18" of clearance between lateral lines and mainlines.

2. All piping under existing pavement and walkways will be bored with appropriate equipment unless otherwise noted. Where roadway cuts are required, the asphalt is to be saw cut, the sleeve installed, and surface restored to original by professionals engaged in this business.
3. All communication wire will be placed in separate sleeving under all pavement, walks, etc. in excess of 10' in width.
4. All sleeving called for in the drawings shall be sized according to the drawings and/or general notes. If sleeving is necessary in areas other than shown on the drawings, than size two sizes larger than the pipe being sleeved. Sleeving shall be a minimum of Schedule 40 PVC material.
5. If sleeving is not immediately used, then securely cap the ends with duct tape and mark with wooden stakes for future designation.

### 3.04 INSTALLATION

#### A. General

1. Unless otherwise indicated, comply with requirements of the Local Plumbing Code.

#### B. Sprinkler Heads

1. Install heads at proper grade level as per manufacturer's recommendation.
2. Use only Teflon tape for sealing all heads and riser assemblies.

#### C. Circuit Valves

1. Install in valve box, arranged for easy adjustment and removal.
2. Adjust automatic control valves to provide flow at rated operating pressure required for each sprinkler circuit. If an over pressure condition exists, Contractor shall install, at his expense, such pressure compensation devices as are necessary to bring the circuit or heads into proper operating range.

#### D. Piping

1. Lay pipe on solid sub-base, uniformly sloped without humps or depressions.

2. When pipe is pulled into the ground, all PVC pipe shall be solvent welded at least 24 hours before pulling.
3. All trenches shall be snaked, or the pipe snaked within the trench to allow for expansion and contraction.
4. A single strand of 14-1 wire, yellow in color, shall be run with all main line from the point of connection to the end of the main line. This single strand of wire shall be available for main line tracking.
5. Install thrust blocks or Leemco Joint Restraints behind elbows/tees and gate valves along 3" or larger mainlines.

E. Dielectric Protection

1. Use dielectric fittings at connection where pipes of dissimilar metal are joined.

F. Closing of Pipe and Flushing Lines

1. Cap or plug all openings as soon as lines have been installed to prevent the entrance of materials that would obstruct the pipe. Leave in place until removal is necessary for completion of the installation.
2. Thoroughly flush out all main water lines before installing valves.
3. Thoroughly flush out all lateral lines after installation and before attaching heads.

G. Communication Circuitry

1. All communication circuitry shall be run, wherever possible, with the main pipe line.
2. All splices shall be made at a valve box for easy access.
3. A minimum of 12" of either control wire shall be coiled at each valve.

### 3.05 TESTING AND TRAINING

A. Operational Testing

1. Perform
  - a. Demonstrate to the owner that the system meets coverage requirements and that automatic controls function properly.
  - b. Demonstrate to the owner via third part portal that the system meets backflow test requirements.
  - c. Coverage requirements are based on operation of one circuit at a time.

B. Personnel Training

1. Contractor shall be responsible for the training of as many personnel as the Owner shall deem necessary.
2. Contractor shall be responsible for one starting and one winterizing of the system during the appropriate times of the year after final acceptance by the Owner as part of the training of the Owner's personnel.
3. Contractor shall include general troubleshooting and operation of the system with reference to head, valve, and controller operation.
4. Contractor shall furnish a complete operation and maintenance manual to the Owner's personnel. This manual shall include repair parts lists, assembly instructions, trouble-shooting guides, programming instructions, and recommended precipitation rates.

3.06 ADJUSTMENT

- A. After completion of grading, seeding, or sodding, if applicable, Contractor shall return to the job site to perform any final adjustments to the system which might be deemed necessary.
- B. The Contractor will be responsible for any pressure testing and start up of the system when construction is complete. The Contractor will also be responsible for the winterization of the system after the first season of operation.

**PART 4 – METHOD OF MEASUREMENT**

- A. The complete landscape irrigation system will be measured as a lump sum, including water meter and tap, electric connections and wiring, mainline, zone piping, quick couplers, valves, valve boxes, fittings, backflow prevention, testing, and miscellaneous items necessary for a complete installation.
- B. Trenching and backfilling necessary to install the irrigation system will not be measured for payment and shall be included in the cost for the landscape irrigation system installed.

**PART 5 – BASIS OF PAYMENT**

- A. The accepted quantities of the Irrigation System will be paid for at the contract unit price of lump sum for the complete system tested in place.
- B. Water taps and meters will be included as incidental to the Irrigation System. Installed complete in place and in accordance with local utility codes. Cost will include any necessary permits and tapping fees to be secured and paid for by the Contractor.
- C. Payment shall be made under:

<u>Pay Item</u>	<u>UNIT</u>
Irrigation System	Lump Sum

**TS 40 Mulch Hardwood Shredded Bark**

Prevailing Specifications: INDOT 2024 Standard Specifications Section 914

Additions:

- 1. This work shall consist of placing shredded hardwood mulch in planting locations shown on the plans.
- 2. Materials:
  - a. Organic mulch free from deleterious materials and suitable as a top dressing of trees and shrubs consisting of shredded hardwood bark. Size range 3" maximum, 1/2" minimum.
- 3. Construction Requirements
  - a. Tree Planting: Apply 3-inch (101-mm) average thickness of organic mulch in 5' diameter tree ring. Do not place mulch within 6 inches (50 mm) of trunks or stems.
  - b. Planting Bed Mulching: Mulch backfilled surfaces of planting beds and other areas as indicated. Apply 3-inch (101-mm) average thickness of organic mulch, and finish level with adjacent finish grades. Do not place mulch against plant stems.
- 4. Method of Measurement
  - a. Measurement for any Mulch, Hardwood Shredded Bark will be per Cubic Yard.
- 5. Basis of Payment
  - a. The cost of furnishing and supplying the material, labor, equipment, and necessary incidentals shall be included in the cost of this pay item.

Payment for items in this unique Special Provision will be made under:	
Pay Item	Pay Unit Symbol
MULCH, HARDWOOD SHREDDED BARK .....	CUBIC YARD

**TS 41 Outlet Box Electrical Weatherproof**

**Description**

This work shall consist of the installation of a weather proof outlet, box support, wiring, and conduit, including all incidentals necessary, near the base of the flagpole.

**Materials**

Materials shall include the weather proof outlet box, box support, conduit, wiring, and other materials necessary for installation of the outlet box according to manufacturer's recommendations.

Box support shall be Gard-N-Post Product # GP19B, 19" height, black color, by Arlington Industries, Inc. or approved equal.

All outlet box materials shall be submitted to the Engineer for approval.

**Construction Requirements**

The outlet box shall be installed as shown on the plans, in accordance manufacturer recommendations. Connect the power supply for the outlet box to the nearest available electric service.

**Method of Measurement**

The outlet box electrical weatherproof will be measured by each assembly, complete in place. The box support, electrical wiring connections to existing service points, and conduit, and all incidentals as required by the manufacturer recommendations to create a fully operational installation of the outlet box shall be included in the cost of Outlet Box Electrical Waterproof.

**Basis of Payment**

The outlet box electrical weatherproof will be paid for at the contract unit price per each.

**Payment will be made under:**

Pay Item	Pay Unit Symbol
Outlet Box Electrical Weatherproof.....	EACH

## INDEX TO INDOT RECURRING SPECIAL PROVISIONS

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200-R-401 Recycled Foundry Sand  
207-R-781 Subgrade Treatment  
400-R-780 MSCR Binder Specifications  
605-R-787 Curbing  
610-R-788 Approaches and Crossovers  
715-R-764 Pipe Culverts, and Storm and Sanitary Sewers  
720-R-646 Curb Inlet Casting  
801-C-157 Certification of Temporary Traffic Control Devices  
907-M-065 PCC Materials  
921-M-067 Pavement Marking Materials



## 200-R-401 RECYCLED FOUNDRY SAND

*(Revised 05-20-23)***Description**

Recycled foundry sand, RFS, consists of a mixture of residual materials used from ferrous or non-ferrous metal castings and natural sands. The Contractor shall have the option of incorporating RFS into applicable operations in accordance with 105.03.

**Materials**

RFS sources are to be selected from the qualified products list, QPL, of Recycled Foundry Sand. RFS may be substituted for B borrow or borrow upon the approval by the Department's Geotechnical Services Division.

The Contractor shall provide a copy of the Indiana Department of Environmental Management's, IDEM, waste classification certification for Type III or IV residual sands prior to use. The IDEM certification shall clearly identify the stockpiles with regard to their extent and geographical location.

A type A certification in accordance with 916 shall be provided for recycled foundry sand. The results of the gradation test shall be shown on the certification for recycled foundry sand. Consultants on the Department's list of Qualified Geotechnical Consultants shall perform the testing of RFS materials.

RFS use is restricted to the following additional requirements:

1. RFS derived from Type III residual sand shall not be allowed within 100 ft, horizontally, of a stream, river, lake, reservoir, wetland, or any other protected environmental resource area.
2. RFS derived from Type III or Type IV residual sand shall not be placed within 150 ft, horizontally, of a well, spring, or other ground source of potable water.
3. RFS shall not be allowed adjacent to metallic pipes or other metallic structures.
4. RFS shall not be used as encasement material.
5. RFS shall not be used in MSE wall applications.
6. RFS placement shall be at least 2 ft above ground water elevation.

If RFS is used in embankment, excavation and replacement operations as a replacement for B borrow or borrow, the following additional restrictions will be required.

1. Borrow: RFS shall be in accordance with 203.
2. B borrow: RFS shall be in accordance with 211.

**Construction Requirements**

RFS shall be transported in a manner that prevents the release of fugitive dust and loss of material. Adequate measures shall be taken during construction operations to control fugitive dust from RFS. RFS shall not be applied when wind conditions result in problems in adjacent areas or result in a hazard to traffic on any adjacent roadway. The spreading of RFS shall be limited to an amount that shall be encased within the same workday. If weather causes stoppage of work or exposes the RFS to washing or blowing, additional RFS may be spread when the work resumes. Spraying with water, limewater, or other sealing type sprays will be considered to be acceptable methods for dust control.

When RFS is used as borrow or B borrow, the lift thickness and compaction of the materials shall be in accordance with 203.23. The dynamic cone penetrometer, DCP, criteria will be determined by a test section in accordance with ITM 514. The DCP testing will be performed in accordance with ITM 509. The moisture content shall be controlled in accordance with 203.23. The test section shall be constructed in the presence of a representative of the Department's Geotechnical Services Division. When RFS is used as B borrow, the DCP criteria for the granular soils shall be used in accordance with 203.23. Nuclear density testing of RFS will not be allowed.

When RFS is used in embankment construction, the sideslopes of the RFS shall be encased with 1 1/2 ft of non-RFS borrow materials. All RFS shall be encased with a minimum of 1 ft of non-RFS borrow materials prior to the completion of construction operations in a calendar year. The encasement materials shall be placed and compacted concurrently with the RFS lifts. Encasement materials not meeting the AASHTO M 145 Classifications of A-6 and A-7 shall be submitted to the Department's Geotechnical Services Division for approvals.

**Method of Measurement**

RFS applications will be measured in accordance with the respective uses for borrow or B borrow.

**Basis of Payment**

RFS will be paid for at the contract unit price in accordance with the respective uses for borrow or B borrow.

No payment will be made for the transportation, handling, or any special construction requirements such as alternative compaction means or encasement activities, when using RFS materials.

The cost of the use of water, limewater, sprays, or other activities necessary for dust control, shall be included in the cost of the respective pay item.

The cost of geotechnical testing for the use of RFS materials shall be included in the cost of the respective pay item.

**RECYCLED FOUNDRY SAND SOURCE QUALIFICATION CRITERIA**

The following procedures covers the requirements for Recycled Foundry Sand sources or otherwise prescribed subject matter to qualify, be added, maintained, and removed from a Department's QPL.

The procedures for qualification may involve hazardous materials, operations, and equipment. These procedures do not purport to address all

of the safety problems associated with the use of the product. The source's responsibility is to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

### **General Requirements**

1. A source, requesting addition to the QPL, shall provide to the Division of Materials and Tests the following:
  - (a) Name and location of source or manufacturer
  - (b) List of material and specification reference for the material being requested for consideration
  - (c) Average monthly production of the material by size, type or grade
  - (d) Name, address, and phone number of responsible contact person
  - (e) Facility layout or production process of the material
  - (f) Quality parameters of the material
  - (g) Raw material sampling and testing frequency
  - (h) Procedures for conforming materials which provides a positive linkage between the furnished materials and the quality control test data
  - (i) Procedures for non-conforming materials
  - (j) Procedures for marking and tracking materials
  - (k) Procedures for documentation maintenance
  - (l) Finished material sampling and testing frequency
  - (m) Procedures for reviewing and updating the source operations
  - (n) Testing laboratory quality system
  - (o) Names, titles and qualifications of sampling and testing personnel
  - (p) Location and phone number of the laboratory testing office
  - (q) Sample management describing procedures for samples identification, maintenance of the samples prior to testing, sample retention and disposal of samples
  - (r) Testing report procedures
  - (s) Methods used to identify improper test results and procedures followed when testing deficiencies occur

- (t) Statistical analysis of test results, and
- (u) Maintenance of test records.

The application shall be signed and dated by the source's or manufacturer's representative at the time the application is submitted for acceptance. The application shall be maintained to reflect the current status and revisions shall be provided to the Department in writing.

2. Testing may be required which will be performed outside the Department's laboratories. A recognized laboratory shall be the following:

- (a) a State transportation agency testing laboratory,
- (b) a testing laboratory regularly inspected by the AASHTO resource, or
- (c) a testing facility approved by the Department.

**Qualification Requirements**

In addition to the general requirements, the source shall also submit the following to the Division of Materials and Tests.

- (a) Name of Testing Facility
- (b) Dates samples were obtained
- (c) Dates samples were tested
- (d) Test method used for IDEM classification
- (e) Letter from IDEM indicating the waste classification of the materials
- (f) Test results for TCLP and neutral leachate
- (g) Stockpile sampling locations, including depths and available historical testing results
- (h) Gradation test results
- (i) Recycled Foundry Sand (RFS) Source Certification.

The Recycled Foundry Sand (RFS) source certification is included as Attachment A. A new approval submission shall be required when re-sampling is required in accordance with 329 IAC 10-9-4(e)(2). (In accordance with 329 IAC 10-9-4 (e)(2) for foundry waste, re-sampling is conducted: at two-year intervals whenever the process changes or according to a schedule for re-sampling by the IDEM Commissioner based on variability noted in previous sampling and other factors affecting the predictability of waste characteristics.)

When metal concentration of the Type III residual sand exceeds 80% of the allowable limits within IDEM classification, an indemnification clause is required. The "Recycled Foundry Sand (RFS) Indemnification Clause" is included as Attachment B.

**Maintaining Qualification**

Test reports shall be generated in accordance with specification requirements for the material and submitted monthly to the Division of Materials and Tests. If the material is not produced by the source in a given month, the monthly submittal shall state:

"No \_\_\_\_\_ was manufactured during \_\_\_\_\_."  
Material month/year

Samples of material may be obtained randomly for verification at the source or at the point of incorporation into the work in accordance with 106.02.

The source shall provide written notification of any changes, revisions or updates of their operations, source name or address, contact person or product name to the Division of Materials and Tests.

To maintain approval, a summary of new stockpile test results for the acceptance analysis shall be submitted monthly indicating testing every 2,000 t. Tested and approved RFS stockpiles shall be properly signed for easy identification. If no new stockpiles are created in a given month, a letter indicating, "no new RFS stockpiles for month/year were created" shall be submitted to the Division of Materials and Tests.

**Removal from QPL**

A source will be removed from the QPL for the following, but not limited to, reasons:

- (a) test failures determined by Department verification sampling,
- (b) monthly test reports not provided for three consecutive months,
- (c) test reports generated by the source which indicate non-compliance with specification requirements, or
- (d) performance of the product no longer meets the intended purpose.

**Attachment A**

**RECYCLED FOUNDRY SAND (RFS) SOURCE CERTIFICATION**

This is to certify recycled foundry sand (RFS) stockpiles geographically located as follows:

RFS \_\_\_\_\_  
\_\_\_\_\_

RFS was produced by the \_\_\_\_\_  
Company located in \_\_\_\_\_ (City), and \_\_\_\_\_  
(State) and was shipped for use on Indiana Department of Transportation projects is Type \_\_\_\_\_ (III or IV) material according to the IDEM's restricted waste criteria. If any metal concentration exceeds 80% of the allowable limits for a Type III material the foundry shall provide the Department with an acceptable indemnification clause. The \_\_\_\_\_ RFS source also agree that processes and stockpiles associated with the production of such RFS may be inspected and sampled

at regular intervals by properly identified representatives of the Department or a duly assigned representative.

\_\_\_\_\_ (Date of Signing) \_\_\_\_\_ (RFS Producer)

\_\_\_\_\_ (Title)

\_\_\_\_\_ (Signature)

State of \_\_\_\_\_ SS: County of \_\_\_\_\_

Subscribed and sworn to before me by \_\_\_\_\_

of the firm of \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_

\_\_\_\_\_ Notary Public

My Commission Expires: \_\_\_\_\_

This certification has been reviewed and approved by:

\_\_\_\_\_  
(INDOT Representative) Date

**Attachment B**

**RECYCLED FOUNDRY SAND (RFS) INDEMNIFICATION CLAUSE**

\_\_\_\_\_ RFS producer shall indemnify, defend, exculpate, and hold harmless the State of Indiana, its officials, and employees from any liability of the State of Indiana for loss, damage, injury, or other casualty of whatever kind or to whomever caused, arising out of or resulting from a violation of the federal or Indiana Occupational Safety and Health Acts (OSHA), the Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), or any other environmental law, regulation, ordinance, order or decree (collectively referred to hereinafter as "Environmental Laws"), as a result of the supply, testing, and application of residual sand or other materials supplied under this Contract by \_\_\_\_\_ source, whether due in whole or in part of the negligent acts or omissions of: (1) \_\_\_\_\_ Foundry, its agents, officers, or employees, or other persons engaged in the performance of the contract; or (2) the joint negligence of them and the State Of Indiana, its officials, agents, or employees.

This contract shall include, but not be limited to, indemnification from: (1) any environmental contamination liability due to the supply, testing, and application of residual sand in road base, embankments, or other projects designated by the Department as agreed to by the parties, and (2) any liability for the clean up or removal of residual sand, or materials incorporating such sand, pursuant to any Environmental Law.

The RFS producer also agrees to defend any such action on behalf of the State of Indiana, to pay all reasonable expenses and attorneys fees for such defense, and shall have the right to settle all such claims. Provided, however, that no liability shall arise for any such fees or expenses incurred prior to the time that \_\_\_\_\_ Foundry shall

have first received actual and timely written notice of any claim against the State which is covered by this Indemnification Agreement. If timely written notice of any claim hereunder is not received by \_\_\_\_\_ Foundry, and \_\_\_\_\_ Foundry is thereby prejudiced in its ability to defend or indemnify, then to the extent of such prejudice, this Indemnification Agreement shall be void.

This Indemnification Agreement does not create any rights in any third party, and is solely for the benefit of the State of Indiana and its agents, officials, and employees.

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207-R-781 SUBGRADE TREATMENT

(Adopted 10-19-23)

SECTION 207, BEGIN LINE 9, DELETE AND INSERT AS FOLLOWS:

**207.02 Materials**

Materials shall be in accordance with the following:

Coarse Aggregate, Class D or Higher, Size No. <del>5, 8, 43, 53, or 73</del> .....	904.03
Fly Ash, Class C.....	901.02
<del>Geocell Confinement System.....</del>	<del>918.04</del>
Geogrid, Type IB .....	918.05
Geotextile Properties for Pavement or Subgrade Stabilizations.....	918.02(e)
Geotextile .....	918.02
Lime .....	913.04(b)
Portland Cement, Type I.....	901.01(b)
<i>Portland-Limestone Cement, Type IL</i> .....	<i>901.01(b)</i>
Water .....	913.01

~~Air cooled blast furnace slag shall not be used for subgrade treatment Type ID, Type IV, and Type IVA.~~

Soil Property	Test Method	Requirements
Dry Weight Organic Material	AASHTO T 267	≤ 3%
Max Dry Density	AASHTO T 99	≥ 100 pcf
Liquid Limit	AASHTO T 89	≤ 50
Soluble Sulfate	ITM 510	≤ 1000 ppm
Notes: Only soils meeting <del>these</del> <i>the above</i> requirements will be allowed within the specified thickness of the subgrade treatment in cut sections.  Only soils meeting <del>these</del> <i>the above</i> requirements will be allowed within 24 in. of the finished subgrade elevation in fill sections.		

Recycled concrete pavement processed into *coarse* aggregate-sized material, *No. 53, and ACBF* shall not be used as coarse aggregate in ~~any~~ subgrade treatment ~~types~~*when an underdrain is specified.*

**CONSTRUCTION REQUIREMENTS**

**207.03 Construction Requirements**

**(a) Subgrade Construction Methods**

The subgrade shall be constructed ~~uniformly~~ transversely across the width of the pavement including shoulders or curbs *in a uniform manner* unless shown otherwise on the plans, by one of the following methods:

1. chemical modification in accordance with 215,



2. aggregate No. 53 in accordance with 301, *or*
3. ~~geosynthetic in accordance with 214 placed under coarse aggregate in accordance with 301, or~~
43. soil compaction to 100% of maximum dry density.

~~Longitudinally, the treatment may vary depending on the method of construction.~~

### **(b) General Requirements**

All rock greater than 3 in. shall be removed or broken off and placed at least 6 in. below the specified subgrade. Holes or depressions resulting from the removal of unsuitable material shall be filled with soils in accordance with 207.02, *structure backfill*, or B borrow and compacted in accordance with 203.23.

Coal within the specified thickness of the subgrade shall be excavated if directed, and disposed of in accordance with 202.02.

SECTION 207, BEGIN LINE 69, DELETE AND INSERT AS FOLLOWS:

~~Finishing within this tolerance by blading or other mechanical means without the use of side forms will be allowed. If these methods do not finish within this tolerance, side forms shall be used.~~

### **207.04 Subgrade Treatment Types**

The subgrade treatment type shall be as specified on the contract plans. If required, the subgrade foundation shall be corrected as directed by the Engineer prior to subgrade treatment.

Type	Subgrade Description
I	24 in. of soil compacted in accordance with 203.23
IA	{blank}
IBC	14 in. chemical soil modification using cement
IBL	14 in. chemical soil modification using lime
IC	12 in. coarse aggregate No. 53 in accordance with 301
<del>ID</del>	<del>12 in. coarse aggregate with Type 2B geotextile in accordance with 918.02(e)</del>
II	6 in. coarse aggregate No. 53 in accordance with 301
III	In-place compaction in accordance with 203.23
<del>IV</del>	<del>12 in. coarse aggregate No. 53 with Type IB geogrid in accordance with 214</del>
<del>IVA</del>	<del>12 in. coarse aggregate with geocell confinement system in accordance with 214</del>
V	3 in. of subgrade excavated and replaced with 3 in. coarse aggregate No. 53

~~Type ID subgrade treatment shall be constructed with 9 in. of coarse aggregate No. 53 over 3 in. of coarse aggregate No. 5 or No. 8. Geotextile Type 2B in accordance with 918.02(e) shall be placed above and below the layer of No. 5 or No. 8 coarse aggregate. Prior to placement of the 3 in. coarse aggregate No. 53 as part of the subgrade treatment Type V, the grade shall be proofrolled, and then the coarse aggregate shall be~~

*compacted to 100% prior to the placement of the pavement.*

In areas where shallow utilities are encountered or chemical modification is not allowed, the Contractor may submit a request to the Engineer to substitute Type IC for Type IBC or Type IBL. *Oscillatory rollers in accordance with 409.03(d)5 shall be operated at locations indicated on the plans but the vertical impact force capability shall not be used.*

SECTION 207, BEGIN LINE 96, DELETE AND INSERT AS FOLLOWS:

In sections where rock, shale, sandstone or its mixtures are encountered, these materials shall be undercut ~~24~~12 in. below the subgrade ~~elevation~~ surface and replaced with coarse aggregate No. 53 ~~or No. 73~~ and compacted in accordance with 301.06. ~~Geotextiles used shall be in accordance with 918.02. Type IBC and Type IBL will not be allowed when shallow rock is encountered within 12 in. from the bottom of the subgrade treatment. Type IC shall be used in areas where shallow rock is encountered.~~

All irregularities and holes shall be graded with ~~either~~ coarse aggregate No. 53 ~~or No. 73~~. If an aggregate base is part of the HMA pavement structure, the 24 in. excavation depth shall be reduced by the thickness of the aggregate base.

~~The 3 in. compacted aggregate as part of the subgrade treatment Type V shall be compacted to 100% prior to the placement of the pavement.~~

SECTION 207, BEGIN LINE 118, DELETE AND INSERT AS FOLLOWS:

~~Geosynthetic specified for use in addition to that required for the specified subgrade treatment will be measured in accordance with 214.05.~~

The undercutting of rock, where encountered, will be measured in accordance with 203.27(b).

Testing, sampling, *proofrolling*, coarse aggregates, chemicals for modification, water, *and* excavation, ~~geogrid, geotextile, and geocell confining system~~ for specified subgrade treatment types will not be measured.

SECTION 207, BEGIN LINE 143, DELETE AND INSERT AS FOLLOWS:

The cost of subgrade treatments including testing, sampling, *proofrolling*, coarse aggregates, chemicals for soil modification with cement or lime, water, *and* excavation, ~~geogrid, geotextile and geocell confinement system~~ for specified subgrade treatment types shall be included in the cost of the pay item.

The cost of excavation and grading of existing railroad ballast and railroad bed material shall be included in the cost of subgrade treatment, Type V.

~~Geosynthetic specified for use in addition to that required for the specified subgrade treatment will be paid for in accordance with 214.06.~~

SECTION 301, BEGIN LINE 15, DELETE AS FOLLOWS:

### **301.02 Materials**

Materials shall be in accordance with the following:

Coarse Aggregate, Class D or Higher .....904.03  
Geosynthetic Materials.....918

~~ACBF shall not be used for subgrade treatment Type ID, Type IV, and Type IVA.~~

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## 400-R-780 MSCR BINDER SPECIFICATIONS

(Adopted 10-19-23)

The Standard Specifications are revised as follows:

SECTION 401, BEGIN LINE 47, DELETE AND INSERT AS FOLLOWS:

The ESAL category identified in the pay item correlates to the following ESAL ranges.

ESAL Category	ESAL
2 <del>±</del>	< 3,000,000
3	3,000,000 to < 10,000,000
4 <del>±</del>	≥ 10,000,000
* A category 2 mixture shall replace a category 1 mixture and a category 4 mixture shall replace a category 5 mixture.	

The plant discharge temperature for any mixture shall not be more than 315°F whenever PG ~~64-2258S-28~~ or PG ~~70-2258H-28~~ binders are used or not more than 325°F whenever PG ~~76-2258E-28~~ binder is used. QC/QA HMA may be produced using a water-injection foaming device. The DMF shall list the minimum and maximum plant discharge temperatures as applicable to the mixture.

SECTION 401, BEGIN LINE 97, DELETE AND INSERT AS FOLLOWS:

The percent draindown of open graded mixtures shall not exceed 0.30% in accordance with AASHTO T 305. Open graded mixtures may incorporate recycled materials and fibers. The recycled materials shall be in accordance with 401.06. The fiber type and minimum dosage rate shall be in accordance with AASHTO M 325. The binder for open graded mixtures may have ~~the upper temperature classification reduced by 6°C from the specified binder grade~~ a traffic loading designation of H if fibers are incorporated into the mixture or if 3.0% ~~reclaimed asphalt shingles~~ RAS by weight of the total mixture is used.

SECTION 401, BEGIN LINE 114, DELETE AND INSERT AS FOLLOWS:

A PG binder grade or source change will not require a new mix design. If the ~~upper temperature classification~~ traffic loading designation of the PG binder is lower than the original PG grade, a new TSR value is required.

SECTION 401, AFTER LINE 173, INSERT AS FOLLOWS:

*If a pay item is designated as PG 58S-28 and a surface mixture, the binder grade used shall be PG 58H-28 when the Binder Replacement is less than or equal to 15.0%.*

SECTION 401, BEGIN LINE 404, DELETE AND INSERT AS FOLLOWS:

applicable portion of the mixture for each. The temperature of each mixture at the time of spreading shall be less than 315°F whenever PG ~~64-2258S-28~~ or PG ~~70-2258H-28~~ binders are used or not more than 325°F whenever PG ~~76-2258E-28~~ binder is used. No mixture shall be placed on a previously paved course that has not cooled to below 175°F. For mixtures compacted in accordance with 402.15, the temperature of each mixture at the time of spreading shall not be less than 245°F.

SECTION 401, BEGIN LINE 1004, DELETE AND INSERT AS FOLLOWS:

QC/QA-HMA, \_\_\_\_\_, 58, \_\_\_\_\_, \_\_\_\_\_ mm ....TON  
 (ESAL<sup>(1)</sup>) (PG<sup>(2)</sup>) (Course<sup>(3)</sup>) (Mix<sup>(4)</sup>)

<sup>(1)</sup> ESAL Category as defined in 401.04

<sup>(2)</sup> Number represents the high temperature binder grade. *Letter represents traffic loading designation.* Low temperature grades are - ~~22~~28

<sup>(3)</sup> Surface, Intermediate, or Base

<sup>(4)</sup> Mixture Designation

SECTION 402, BEGIN LINE 36, DELETE AND INSERT AS FOLLOWS:

The DMF will be based on the ESAL and mixture designation as follows:

Mixture Type	Type B*	Type C	Type D
Design ESAL	< 3,000,000	3,000,000 to < 10,000,000	≥ 10,000,000
Surface	4.75 mm	4.75 mm	4.75 mm
	9.5 mm	9.5 mm	9.5 mm
	12.5 mm	12.5 mm	12.5 mm
Surface – PG Binder	<del>64-2258S-28</del>	<del>70-2258H-28</del>	<del>70-2258E-28</del>
Intermediate	9.5 mm	9.5 mm	9.5 mm
	12.5 mm	12.5 mm	12.5 mm
	19.0 mm	19.0 mm	19.0 mm
	25.0 mm	25.0 mm	25.0 mm
Intermediate – PG Binder	<del>64-2258S-28</del>	<del>64-2258H-28</del>	<del>70-2258E-28</del>
Base	19.0 mm	19.0 mm	19.0 mm
	25.0 mm	25.0 mm	25.0 mm
Base – PG Binder	<del>64-2258S-28</del>	<del>64-2258S-28</del>	<del>64-2258S-28</del>
*A Type B mixture shall replace a Type A mixture.			

A Type C mixture may be used in lieu of a Type B mixture. A Type D mixture may be used in lieu of a Type C or a Type B mixture.

Surface 4.75 mm mixtures shall not be used when the required lay rate shown on the plans is greater than 100 lb/sq yd. Surface 12.5 mm mixtures shall not be used when the required lay rate shown on the plans is less than 195 lb/sq yd.

The plant discharge temperature for any mixture shall not be more than 315°F whenever PG ~~64-2258S-28~~ or PG ~~70-2258H-28~~ binders are used *or not more than 325°F whenever 58E-28 binder is used.* HMA may be produced using a water-injection foaming device. The DMF shall list the minimum and maximum plant discharge temperatures as applicable to the mixture.

SECTION 402, BEGIN LINE 180, DELETE AND INSERT AS FOLLOWS:

The temperature of each mixture at the time of spreading shall be less than 315°F whenever ~~64-2258S-28~~ or PG ~~70-2258H-28~~ binders are used *or not more than 325°F whenever 58E-28 binder is used.* The temperature of each mixture at the time of spreading shall not be less than 245°F. No mixture shall be placed on a previously paved course that has not cooled to less than 175°F.

SECTION 406, BEGIN LINE 9, DELETE AND INSERT AS FOLLOWS:

**406.02 Materials**

The type and grade of asphalt material shall be in accordance with the following:

- Asphalt Emulsion, SS-1h, AE-NT .....902.01(b)
- PG Asphalt Binder, PG ~~64-2258S-28~~.....902.01(a)

SECTION 408, BEGIN LINE 12, DELETE AND INSERT AS FOLLOWS:

**408.02 Materials**

Materials shall be in accordance with the following:

- Asphalt Binder, PG ~~64-2258S-28~~\* .....902.01(a)
- Asphalt Emulsion for Crack Filling, AE-90S .....902.01(b)
- Fine Aggregates, No. 23 or No. 24 .....904.02
- Joint Sealing Materials.....906.02(a)2

\* A PG ~~64-2258S-28~~ asphalt binder shall be used to fill cracks on a surface that is milled in accordance with 306, and polypropylene fibers shall be used only in conjunction with warranted micro-surfacing.

SECTION 902, BEGIN LINE 3, DELETE AND INSERT AS FOLLOWS:

**902.01 Asphalt**

Asphalt is defined as a cementitious material obtained from petroleum processes. Asphalts shall be sampled and tested in accordance with the applicable requirements of 902.02.

**(a) Performance Graded Asphalt Binders**

~~Performance graded asphalt~~PG binders shall be from a supplier on the QPL of Performance-Graded Asphalt Binder Suppliers. A PG binder will be considered for inclusion on the QPL by following ITM 581.

~~Performance graded, PG asphalt binders shall be in accordance with the following:~~

GRADE	<del>58-28</del>	<del>64-22</del>	<del>64-28</del>	<del>70-22</del>	<del>70-28</del>	<del>76-22</del>
<b>ORIGINAL BINDER</b>						
Flash Point, minimum, °C	230					
Viscosity, maximum, 3 Pa·s, Test Temp, °C	135					
DSR, G*/sin δ (delta), minimum, 1.00 kPa, Test Temp. @ 10 rad/s, °C	58	64	64	70	70	76
<b>ROLLING THIN FILM OVEN RESIDUE</b>						
Mass Loss, maximum, %	1.00					
DSR, G*/sin δ (delta), minimum, 2.20 kPa, Test Temp. @ 10 rad/s, °C	58	64	64	70	70	76
<b>PRESSURE AGING VESSEL (PAV) RESIDUE</b>						
PAV Aging Temperature, °C	100 (Note 1)					
DSR, G* <del>sin</del> δ (delta), maximum, 5,000 kPa, Test Temp. @ 10 rad/s, °C (Note 3)	19	25	22	28	25	31
Physical Hardening	Report (Note 2)					
Creep Stiffness, S, maximum, 300 MPa, m-value, minimum, 0.300, Test Temp. @ 60 s, °C	-18	-12	-18	-12	-18	-12

Notes:	1. <del>Oven temperature tolerance shall be <math>\pm 0.5^{\circ}\text{C}</math>.</del>
	2. <del>Physical Hardening is performed on a set of asphalt beams according to AASHTO T 313, Section 12.1, except the conditioning time is extended to 24 h <math>\pm 10</math> minutes at <math>10^{\circ}\text{C}</math> above the minimum performance temperature. The 24 h stiffness and m-value are reported for information purposes only.</del>
	3. <del>Binders that have a <math>G^*\sin \delta</math> (delta) of 5,001 to 6,000 Kpa will be considered acceptable if the phase angle is 42 degrees or greater.</del>

~~A PG 58-28 or PG 64-22 binder may be modified by in-line blending with styrene butadiene rubber, SBR, polymer latex at the HMA plant in accordance with ITM 581. A PG 58-28 may be modified to a PG 64-28 and a PG 64-22 may be modified to a PG 70-22. A Type A certification in accordance with 916 shall be provided for SBR polymer latex. The results of the following shall be shown on the certification.~~

Property	Requirements
Total Polymer Solids, % by weight	60-72
Butadiene, % by weight, min.	68
Residual Styrene, % by weight, max.	0.1
Ash, % of total polymer solids by weight, max.	3.5
pH	9-11
Viscosity, Brookfield model RVF, Spindle No. 2 @ 20 rpm @ $25^{\circ}\text{C}$ , max.	2,000

~~The minimum SBR polymer latex content shall be 2.5 %. The SBR polymer latex content may be reduced below the minimum content provided, if the following requirements are met:~~

- ~~1. An AASHTO accredited laboratory shall blend the PG binder and SBR polymer latex at the proposed SBR polymer latex content and test and grade the modified PG binder in accordance with AASHTO M 320.~~
- ~~2. The laboratory test results verifying the blend and compliance with 902.01(a) shall be submitted to the Engineer for approval.~~
- ~~3. The source of the PG Binder or SBR polymer latex shall not be changed.~~

~~PG binders shall be in accordance with AASHTO M 332 and in accordance with the elastic response requirements in AASHTO R 92.~~

### **1. Sampling**

An acceptance sample and backup sample shall be taken from the asphalt delivery system at the HMA plant. A copy of a load ticket identifying the binder source shall be submitted with the samples. The Engineer will take immediate possession of the samples.

### **2. PG Binder Testing**

The Department will perform complete testing in accordance with AASHTO M 320/332. Complete PG binder testing will consist of RTFO DSR and PAV BBR testing. *Elastic response in accordance with AASHTO R 92 will also be tested.* Rotational viscosity

and flashpoint tests are not required. If the material is not in accordance with the specifications, the material will represent one week of HMA production and be adjudicated as a failed material in accordance with 105.03.

### **3. Appeals**

If the Contractor does not agree with the acceptance test results, a request may be made in writing for additional testing. The appeal shall be submitted within 15 calendar days of receipt of the Department's written results. The basis of the appeal shall include complete AASHTO M 320332 test results.

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605-R-787 CURBING

(Adopted 02-15-24)

The Standard Specifications are revised as follows:

SECTION 605, BEGIN LINE 8, DELETE AND INSERT AS FOLLOWS:

**605.02 Materials**

Materials shall be in accordance with the following:

Coarse Aggregate, Class D or Higher, Size No. 53 .....	904.03
<del>Concrete .....</del>	<del>502</del>
Joint Materials .....	906
Joint Mortar .....	907.12
Precast Concrete Curbing .....	905.04
Reinforcing Bars .....	910.01

*Concrete shall be in accordance with 502 except the minimum modulus of rupture shall be 550 psi at 28 days.*

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610-R-788 APPROACHES AND CROSSOVERS

*(Adopted 02-15-24)*

SECTION 610, BEGIN LINE 12, DELETE AND INSERT AS FOLLOWS:

**610.02 Materials**

Materials shall be in accordance with the following:

Aggregate Base .....	301.02
Geogrid, Type IB .....	918.05
HMA .....	402.03
<del>PCCP.....</del>	<del>502.02</del>
Prime Coat.....	405.02
Seal Coat .....	404
Subbase .....	302.02
Tack Coat .....	406.02

*Concrete shall be in accordance with 502 except the minimum modulus of rupture shall be 550 psi at 28 days.*

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715-R-764 PIPE CULVERTS, AND STORM AND SANITARY SEWERS

(Revised 11-17-23)

The Standard Specifications are revised as follows:

SECTION 715, BEGIN LINE 41, DELETE AND INSERT AS FOLLOWS:

**(a) Type 1 Pipe**

Type 1 pipe shall be used for culverts under mainline pavement and public road approaches and shall be in accordance with the following:

Clay Pipe, Extra Strength.....	907.08
Corrugated Aluminum Alloy Pipe and Pipe-Arches.....	<del>908.04</del> <sup>B</sup>
Corrugated Polyethylene Pipe, Type S .....	* <sup>A</sup>
Corrugated Polypropylene Pipe .....	* <sup>A</sup>
Corrugated Steel Pipe and Pipe-Arches .....	<del>908.02</del> <sup>B</sup>
Non-Reinforced Concrete Pipe, Class 3.....	907.01
Polymer Precoated Galvanized Corrugated Steel Pipe and Pipe-Arches.....	<del>908.08</del> <sup>B</sup>
Profile Wall Polyethylene Pipe, Closed .....	* <sup>A</sup>
Profile Wall Polyethylene Pipe, Ribbed.....	* <sup>A</sup>
Profile Wall PVC Pipe .....	* <sup>A</sup>
Reinforced Concrete Horizontal Elliptical Pipe.....	907.03
Reinforced Concrete Pipe .....	907.02
Smooth Wall Polyethylene Pipe.....	* <sup>A</sup>
Smooth Wall PVC Pipe.....	* <sup>A</sup>
Spiral Rib Steel Pipe .....	<del>908.02</del> <sup>B</sup>
Structural Plate Pipe and Pipe-Arches .....	<del>908.09</del> <sup>B</sup>

\*<sup>A</sup> All thermoplastic pipes shall be from the QPL of Thermoplastic Pipe and Liner Pipe Sources in accordance with 907.16.

<sup>B</sup> All metal pipes shall be from the QPL of Metal Pipe Sources in accordance with 908.01.

**(b) Type 2 Pipe**

Type 2 pipe shall be used for storm sewers and shall be in accordance with the following:

Clay Pipe, Extra Strength.....	907.08
Corrugated Polyethylene Pipe, Type S .....	* <sup>A</sup>
Corrugated Polypropylene Pipe .....	* <sup>A</sup>
Fully Bituminous Coated and Lined Corrugated Steel Pipe and Pipe-Arches.....	<del>908.07</del> <sup>B</sup>
Non-Reinforced Concrete Pipe, Class 3.....	907.01
Polymer Precoated Galvanized Corrugated Steel Pipe and Pipe-Arches Type IA and Type IIA.....	<del>908.08</del> <sup>B</sup>
Profile Wall Polyethylene Pipe, Closed .....	* <sup>A</sup>
Profile Wall Polyethylene Pipe, Ribbed.....	* <sup>A</sup>
Profile Wall PVC Pipe .....	* <sup>A</sup>
Reinforced Concrete Horizontal Elliptical Pipe.....	907.03
Reinforced Concrete Pipe .....	907.02

- Smooth Wall Polyethylene Pipe.....\*<sup>A</sup>
- Smooth Wall PVC Pipe.....\*<sup>A</sup>
- \*<sup>A</sup> All thermoplastic pipes shall be from the QPL of Thermoplastic Pipe and Liner Pipe Sources in accordance with 907.16.
- <sup>B</sup> All metal pipes shall be from the QPL of Metal Pipe Sources in accordance with 908.01.

**(c) Type 3 Pipe**

Type 3 pipe shall be used for culverts under all drives and field entrances. All Type 1 pipe materials are acceptable.

**(d) Type 4 Pipe**

Type 4 pipe shall be used for drain tile and longitudinal underdrains and shall be in accordance with the following:

- Clay Pipe\*\* .....907.08
- Corrugated Polyethylene Drainage Tubing.....\*<sup>A</sup>
- Corrugated Polyethylene Pipe, Type S\*\* .....\*<sup>A</sup>
- Corrugated Polyethylene Pipe, Type SP .....\*<sup>A</sup>
- Drain Tile\*\* .....907.10
- Non-Reinforced Concrete Pipe .....907.01
- Perforated Clay Pipe\*\* .....907.09
- Perforated PVC Semicircular Pipe.....\*<sup>A</sup>
- Profile Wall PVC Pipe .....\*<sup>A</sup>
- \*<sup>A</sup> All thermoplastic pipes shall be from the QPL of Thermoplastic Pipe and Liner Pipe Sources in accordance with 907.16.
- \*\* These materials shall be used for drain tiles only.

**(e) Type 5 Pipe**

Type 5 pipe shall be used for broken-back pipe runs where coupled or jointed pipe is desirable and shall be in accordance with the following:

- Corrugated Aluminum Alloy Pipe and Pipe-Arches.....908.04<sup>B</sup>
- Corrugated Polyethylene Pipe, Type S .....\*<sup>A</sup>
- Corrugated Polypropylene Pipe .....\*<sup>A</sup>
- Corrugated Steel Pipe and Pipe-Arches .....908.02<sup>B</sup>
- Fully Bituminous Coated and Lined Corrugated Steel Pipe and Pipe-Arches.....908.07<sup>B</sup>
- Polymer Precoated Galvanized Corrugated Steel Pipe and Pipe-Arches.....908.08<sup>B</sup>
- Profile Wall Polyethylene Pipe, Closed .....\*<sup>A</sup>
- Profile Wall Polyethylene Pipe, Ribbed.....\*<sup>A</sup>
- Profile Wall PVC Pipe .....\*<sup>A</sup>
- Smooth Wall Polyethylene Pipe.....\*<sup>A</sup>
- Smooth Wall PVC Pipe.....\*<sup>A</sup>
- Spiral Rib Steel Pipe .....908.02<sup>B</sup>
- \*<sup>A</sup> All thermoplastic pipes shall be from the QPL of Thermoplastic Pipe and Liner Pipe Sources in accordance with 907.16.
- <sup>B</sup> All metal pipes shall be from the QPL of Metal Pipe Sources in accordance with 908.01.

SECTION 715, BEGIN LINE 142, INSERT AS FOLLOWS:

**(i) Underdrain Outlet Pipe**

Pipe for underdrain outlets and drain tile outlets shall be PSM PVC pipe, profile wall PVC pipe, smooth wall polyethylene pipe, or smooth wall PVC pipe from the QPL of Thermoplastic Pipe and Liner Pipe Sources in accordance with 907.16 and 907.24. Schedule 40 PVC pipe in accordance with 907.24(b) is also allowable.

SECTION 715, BEGIN LINE 165, DELETE AND INSERT AS FOLLOWS:

**(l) Roadway Drain Casting Extensions**

Pipe used for extending roadway drain castings located in a bridge deck shall be in accordance with ~~907.23~~907.24(b), 907.28, or 908.10. Pipe support brackets and all hardware shall be galvanized in accordance with ASTM A153, class D or ASTM B695, class 40, type I. A Type C certification in accordance with 916 shall be provided for the pipe brackets.

SECTION 907, BEGIN LINE 216, DELETE AND INSERT AS FOLLOWS:

**907.16 Thermoplastic Pipe Requirements**

A QPL of ~~†~~Thermoplastic ~~¶~~Pipe and ~~‡~~Liner ~~¶~~Pipe Sources will be maintained by the Department. The QPL will specify the manufacturer and thermoplastic pipe designation. All of these materials shall comply with the applicable AASHTO or ASTM requirements listed in the following table and will only be accepted from qualified manufacturers. The manufacturer is defined as the plant which produces the thermoplastic pipe. The manufacturer shall become qualified by establishing a history of satisfactory quality control of these materials as evidenced by the test results performed by the manufacturer's testing laboratory.

Summary of Thermoplastic Pipe Specification Requirements				
Pipe Material	Standard Specification	AASHTO	ASTM	Manufacturer Requirement
Corrugated Polyethylene Drainage Tubing	907.17(a)	M 252		ITM 806, Procedure O
Corrugated Polyethylene Pipe	907.17(b)	M 294*		ITM 806, Procedure O
Corrugated Polypropylene Pipe	907.19	M 330		ITM 806, Procedure O
Perforated PVC Semicircular Pipe	907.18		D3034	ITM 806, Procedure A
Profile Wall HDPE Liner Pipe	907.25(b)		F894	ITM 806, Procedure A or 916, Type A Certification
Profile Wall PVC Liner Pipe	907.25(c)		F949	ITM 806, Procedure A or 916, Type A Certification
Profile Wall PVC Pipe	907.22 907.24(c)	M 304		ITM 806, Procedure O
Profile Wall Polyethylene Pipe	907.20		F894	ITM 806, Procedure A
<del>Schedule 40</del> PVC Plastic	907.24(b)		D1785	916,

Pipe, <i>Schedule 40</i>			<del>or</del> D2665	Type C Certification
<i>Slotted Vane Drain Pipe</i>	908.14	M 278	F679	ITM 806, Procedure A
Smooth Wall Polyethylene Pipe	907.21 907.24(d)		F714	ITM 806, Procedure A
Smooth Wall PVC Pipe	907.23 907.24(e)	M 278	F679	ITM 806, Procedure A
Solid Wall HDPE Liner Pipe	907.25(a)		F714	ITM 806, Procedure Q or 916, Type A Certification
Type PSM PVC Pipe and Fittings	907.24(a)		D3034	ITM 806, Procedure A
* Pipe in accordance with AASHTO M 294 shall be manufactured with virgin materials.				

SECTION 907, BEGIN LINE 291, DELETE AND INSERT AS FOLLOWS:

**(b) ~~Schedule 40~~ PVC Plastic Pipe, *Schedule 40***

~~Pipe~~ PVC plastic pipe shall be in accordance with ASTM D1785 when *Schedule 40* is specified ~~or D2665~~ and shall have a minimum pipe stiffness of 150 psi at 5% deflection when determined in accordance with ASTM D2412. Material furnished under this specification shall reference ASTM D1785 ~~or ASTM D2665~~ in the product print line. A Type C certification in accordance with 916 shall be provided for the ~~Schedule 40~~ PVC plastic pipe.

SECTION 908, BEGIN LINE 3, DELETE AND INSERT AS FOLLOWS:

**908.01 ~~Blank~~ Metal Pipe Requirements**

A QPL of Metal Pipe Sources will be maintained by the Department. The QPL will specify the manufacturer and pipe designation. All of these materials shall comply with the applicable AASHTO or ASTM requirements listed in the following table and will only be accepted from qualified manufacturers. The manufacturer is defined as the plant which produces the metal pipe, pipe-arch, or arch. The manufacturer shall establish and maintain a history of satisfactory quality control of these materials. This history will be based on achieving and maintaining a "Compliant" status with the AASHTO PEAS program in accordance with ITM 806, Procedure O.

<i>Summary of Metal Pipe Specification Requirements</i>				
<i>Pipe Material</i>	<i>Standard Specificati on</i>	<i>AASHTO</i>	<i>ASTM</i>	<i>Manufacturer Requirement</i>
<i>Cast Iron Soil Pipe</i>	908.10		A74	<i>Buy America Certification</i>
<i>Corrugated Aluminum Alloy Pipe and Pipe-Arches</i>	908.04	M 196		ITM 806, Procedure O
<i>Corrugated Steel Pipe and Pipe-Arches</i>	908.02	M 36		ITM 806, Procedure O
<i>Fully Bituminous Coated Corrugated</i>	908.07	M 36		ITM 806, Procedure O

<i>and Lined Steel Pipe and Pipe-Arches</i>				
<i>Polymer Precoated Galvanized Corrugated Steel Culvert Pipe and Pipe-Arches</i>	908.08	<i>M 245</i>		<i>ITM 806, Procedure O</i>
<i>Slotted Drain Pipe</i>	908.14	<i>pipe: M 36</i>	<i>grate: A36, Grade 36</i>	<i>ITM 806, Procedure O</i>
<i>Steel Pipe</i>	908.11		<i>A139, grade B or A53 Type E, grade B</i>	<i>ITM 806, Procedure O</i>
<i>Structural Plate Pipe, Pipe-Arches, and Arches; Aluminum Alloy</i>	908.09(b)	<i>M 219</i>		<i>ITM 806, Procedure O</i>
<i>Structural Plate Pipe, Pipe-Arches, and Arches; Steel</i>	908.09(a)	<i>M 167 and LRFD Bridge Construction Specifications</i>		<i>ITM 806, Procedure O</i>

720-R-646 CURB INLET CASTING

(Revised 05-20-23)

The Standard Specifications are revised as follows:

SECTION 910, AFTER LINE 405, INSERT AS FOLLOWS:

*Where a 6 in. curb height is specified, a monolithic frame and curb box may be used in place of one with modular components, provided the monolithic casting's dimensions match those shown on the plans.*

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## 801-C-157 CERTIFICATION OF TEMPORARY TRAFFIC CONTROL DEVICES

(Revised 05-23-13)

**Category I Devices**

The Contractor shall certify that the following temporary traffic control devices to be used do not exceed the maximum values shown in the table below, and are considered crashworthy at Test Level 3 in accordance with NCHRP 350.

Device	Composition	Max. Weight	Max. Height
Single Piece Traffic Cones	Rubber	20 lb	36 in.
	Plastic	20 lb	48 in.
Tubular Markers	Rubber	13 lb	36 in.
	Plastic	13 lb	36 in.
Single Piece Drums	High Density Plastic	77 lb	36 in.
	Low Density Plastic	77 lb	36 in.
Delineators	Plastic, Fiberglass	N/A	48 in.

No lights, signs, flags, or other auxiliary attachments are included in the weight of the devices listed above. Reflective sheeting or reflective buttons are included on delineators. Maximum weights, including ballast, do not exceed the values shown in the table. "Single piece" refers to the construction of the body of the drum exclusive of a separate base, if any.

Type A or type C warning lights in accordance with the following specifications will be allowed on drums if they are firmly attached with vandal resistant 1/2 in. diameter by 4 in. cadmium plated steel bolt with nut and a 1 1/2 in. high cup washer.

1. The weight shall be no more than 5 lb.
2. The lens diameter shall be 7 to 8 in.
3. The height of the light shall be 11 to 14 in.

**Category II Devices**

Category II temporary traffic control devices include type III barricades, vertical panels, portable sign standards, and other light-weight traffic control devices.

Category II temporary traffic control devices shall be in accordance with the NCHRP 350, Test Level 3.

A form will be provided at the preconstruction conference for the Contractor to complete and return to the Engineer prior to the placement of category I or II traffic control devices.

## 901-M-065 PCC MATERIALS

*(Adopted 05-18-23)*

The Standard Specifications are revised as follows:

SECTION 901, BEGIN LINE 346, INSERT AS FOLLOWS:

**901.04 Silica Fume Used as a Pozzolanic Mineral Admixture****(a) General**

Silica fume will be accepted from one of the suppliers on the QPL of Pozzolan Sources. Silica fume from more than one of these suppliers shall not be mixed or used alternatively in the same construction unless authorized in writing. *Repulpable bags, shreddable bags, or any other type of bags or packaging shall not be incorporated into the concrete mixture.* Silica fume will be subject to random assurance sampling and testing by the Department. Failure of the random samples to meet the specified requirements will be cause for removal of the silica fume supplier from the QPL.

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## 921-M-067 PAVEMENT MARKING MATERIALS

*(Adopted 06-15-23)*

The Standard Specifications are revised as follows:

SECTION 921, BEGIN LINE 104, DELETE AND INSERT AS FOLLOWS:

**(e) Pavement Marking Beads**

~~A Type C certification in accordance with 916 shall be provided for the pavement marking beads.~~ *Pavement marking beads and supplemental elements shall be selected from the QPL of Pavement Marking Beads.*

SECTION 921, BEGIN LINE 124, DELETE AS FOLLOWS:

**4. Supplemental Elements**

These shall be for wet weather retro-reflectivity and shall be used for thermoplastic and multi-component longitudinal line markings but shall not exhibit a characteristic of toxicity referenced in AASHTO M 247. ~~The supplemental elements shall be selected from the QPL of Pavement Marking Beads.~~

~~A Type C certification in accordance with 916 shall be furnished for the supplemental elements.~~

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