

INDIANA DEPARTMENT OF NATURAL RESOURCES

DIVISION OF ENGINEERING
SPECIFICATIONS AND BIDDING DOCUMENTS
PAVING IMPROVEMENTS 2018

SPICE VALLEY
PUBLIC ACCESS SITE
IN LAWRENCE COUNTY

PROJECT #ENG1902871101

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INSTRUCTIONS TO BIDDERS

PROJECT ESTIMATED BY DEPARTMENT OF ADMINISTRATION, PUBLIC WORKS DIVISION
TO BE BID AT ONE HUNDRED FIFTY THOUSAND DOLLARS (\$150,000) AND ABOVE

01 GENERAL

- A. This project is estimated by the Public Works Division, Indiana Department of Administration (the Owner), as stated in the Notice to Bidders, at One Hundred Fifty Thousand Dollars (\$150,000) and above.
- B. QUALIFICATION BY THE CERTIFICATION BOARD IS REQUIRED FOR THIS PROJECT PRIOR TO BID OPENING DATE. For information and procedure contact Executive Secretary, Certification Board, Indiana Department of Administration, 402 W. Washington St., Room W467, Indianapolis, Indiana 46204 or phone (317) 232-3005.

02 PROJECT NUMBER, DESCRIPTION AND LOCATION is as stated in the Notice to Bidders.

03 TITLE AND DEFINITIONS

Said building and/or land upon which it stands is the property of the State of Indiana. All references to the title owner of said property hereinafter will be by the term "State" and all references to the person, firm, or corporation awarded the contract for the project will be by the term "Contractor". All references to Designer shall refer to the consulting person or firm employed to contract with the Public Works Division, Indiana Department of Administration to provide architectural, engineering or other consulting services for the project, or to the Public Works Division. The preparation and issuance of contracts for this project are the responsibility of the Commissioner of the Indiana Department of Administration acting with approval of the Governor.

Contract: A written agreement between two or more parties enforceable by law.

Contractor: A person who has entered into or seeks to enter into a contract with Public Works Division.

Prime Contractor: A person or business which is primarily responsible for providing goods and service or performing a specific service, etc. under contract. A prime contractor can also be a Minority Business Enterprise.

Subcontractor: A person or a business who has a direct contract with a prime contractor who is under contract to provide goods and services or perform a specific service.

Joint Venture: An association of two or more businesses to carry out a single business enterprise for profit for which purpose they combine their property, capital, efforts, skills and knowledge.

Manufacturer: A supplier that produces goods from raw materials or substantially alters them before resale.

Minority or Women Business Enterprise (M/WBE): A business concern which is certified as at least fifty-one percent (51%) owned and controlled by a woman or women or, one or more of the individuals classified as a minority group which includes: African Americans, Hispanic Americans, Asian Americans, and other racial minorities.

Supplier: Any person or entity engaged to furnish goods, materials and/or equipment, but no on-site labor, is capable of furnishing such goods, materials and/or equipment either directly from its own stock or by ordering materials and/or equipment directly from a manufacturer, and is engaged to furnish such goods, materials and/or equipment directly to a prime contractor or one of its subcontractors.

04 PRE-BIDDING, BIDDING AND POST BIDDING REQUIREMENTS

- A. The Director, Public Works Division will authorize the Designer to issue bidding documents, construction documents and addenda to bidders.
- B. It is recommended that all Bidders visit the site prior to submitting bid, and become thoroughly familiar with the existing site conditions and work to be performed, as indicated in the bidding documents, construction documents and addenda. Extra compensation or extension of time will not be allowed for failure to examine the site prior to bidding.
- C. During the bidding period, should questions arise as to the meaning of any part of the bidding documents, construction documents or addenda that may affect the Bidder, the Bidder shall contact the Designer and/or Public Works Division and submit a written request for clarification. The Designer and/or Public Works Division will make such clarification only by written Addendum that will be mailed to each document holder or may be obtained at the office of the Designer and/or Public Works Division. By submitting a bid, the Bidder acknowledges procurement of all Addenda. No written request for clarification will be accepted by the Designer and/or Public Works Division later than fourteen (14) calendar days prior to the scheduled bid date.

- D. Bid as described in Contractor's Bid (DAPW 13) shall include Base Bid (in figures and in words) and Alternates as specified in Section entitled Alternates. In verifying bids, word amounts shall have precedence over figure amounts.
- E. Alternate amount(s) shall be listed where indicated. Add Alternates are not to be included in the Base Bid Scope of Work. Deduct Alternates are to be included in the Base Bid Scope of Work. The bid form must be signed. Note that by signing the bid document, the Bidder is acknowledging the procurement of all addenda and is certifying that the bid recognizes all items in all addenda.
- F. A bid by a corporation shall be in the legal name of the corporation followed by the word "by" and the signature of the president. The secretary of the corporation shall sign indicating his/her authority to sign. A Certificate of Corporate Resolution (DAPW 41) is required with and as a part of the bid if anyone other than the president of the corporation is signing bid documents.
- G. *The Form 96A-Questionnaire and Financial Statement is no longer required to be submitted.* The Director, Public Works Division reserves the right to request additional financial information or contractor experience as a basis for rejection of bid or award of contract.
- H. Each Bidder must file with his bid a Non-Collusion Statement (DAPW-121) signed by the same authorized person(s) who signed the bid.
- I. Each Bidder must file with his bid a completely filled in and executed Bid Bond (DAPW 15A) in accordance with IC 4-13.6-7-5. The bid bond penal sum shall be the minimum amount of five percent (5%) of the bid including all additive alternates.
- J. Each Bidder must file with his bid a completed M/WBE Participation Plan and Good Faith Effort Work Sheet (DAPW 26SUP2). Refer to the Supplement to the General Conditions for M/WBE Participation Policy (DAPW 26SUP1) for specific requirements.
- K. Each Bidder must file with his bid, the completed Contractor's Affidavit of Subcontractors Employed (DAPW 12) only if he proposes to perform any work with a subcontract amount of \$150,000.00 or more.
- L. Each bidder must file with his bid an Employee Drug Testing Plan (DAPW 150A) in accordance with IC 4-13-18 (P.L. 160-2006), or evidence that the contractor is subject to a collective bargaining agreement containing drug testing requirements that comply with IC 4-13-18.
- M. Each Bidder must include his Federal ID number or Social Security number on page 1 of 3 of the Bid Form (DAPW 13). All required bid documents must contain original hand written signatures.
- N. All documents required by statute, rule or these instructions to be included in the bid, must be submitted together in a single sealed envelope, plainly marked with the Name of Bidder, Project Identification, Project Number, Bid Time and Bid Date. Bids shall be rejected if all required documents are not in the single sealed envelope.
- O. A Bidder with proper identification may withdraw his bid at any time prior to the scheduled time for receipt of the bids; however, no bid may be withdrawn without written consent of the Director, Public Works Division for a *period of sixty (60) days after the date of the bid opening*, or unless extended in accordance with IC 4-13.6-4. Bids received after the designated due time for any reason, shall be rejected and returned unopened to the Bidder. The Director, Public Works Division reserves the right to reject any or all bids.
- P. Subcontractors whose work will equal or exceed One Hundred Fifty Thousand Dollars (\$150,000.00) must attain a Certificate of Qualification by the Certification Board before commencing any work on this project. Note paragraph 01. (B) above.
- Q. All Bidders (corporations) must be in good standing with the Indiana Secretary of State.

05 SIGNATURE AFFIDAVIT

- A. A Signature Affidavit (DAPW-14) containing the Bidder's authorized signature(s), properly notarized, may be submitted as a signature supplement to all other bid documents, except the bid bond, including:
 1. Contractor's Bid (DAPW 13)
 2. Non-Collusion Statement (DAPW-121)
 3. Contractor's Affidavit of Subs Employed (DAPW 12)
 4. M/WBE Participation Plan and Good Faith Effort Work Sheet (DAPW 26 SUP 2)
- B. All documents herein before required with the bid may be unsigned if the signature affidavit is submitted, except for the BID BOND. BIDDER MUST SIGN THE BID BOND.

NOTE: SIGNING THE SIGNATURE AFFIDAVIT OR BID FORM IS ACKNOWLEDGMENT OF PROCUREMENT OF ALL ADDENDA AND CERTIFICATION BY BIDDER THAT THE BID RECOGNIZES ALL ITEMS IN ALL ADDENDA.

06 WORK BY CONTRACTOR

The Contractor shall perform a minimum of 15% of the value of work (measured in dollars of the total contract price) with his own forces, and not more than 85% of the value of work is to be subcontracted.

07 SUBSTITUTIONS

The materials, products, systems and equipment described in the bidding documents, construction documents and addenda establish a standard or required function, dimension, appearance and quality that shall also be met by any proposed substitution. No substitution by manufacturer, or trade name of product named, or of a quality specified will be considered unless written request for approval has been submitted by the Bidder and has been received by the Designer and/or Public Works Division at least fourteen (14) calendar days prior to the date for receipt of bids. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including drawings, cuts, performance and test data and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment or work that incorporation of the substitute would require shall be included. The burden of proof of the merit of the proposed substitute is upon the proposer. The Designer and/or Public Works Division decision of approval or disapproval of the proposed substitution shall be final. Products, materials or systems not specified or approved prior to bidding, shall not be accepted for use in this project. All such substitutions accepted shall be acknowledged by addendum. See paragraph. 04 (C).

08 NONDISCRIMINATION

Pursuant to IC 22-9-1-10, the Contractor and subcontractors, if any, shall not discriminate against any employee or applicant for employment, to be employed in the performance of this contract, with respect to his hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of his race, religion, color, sex, disability, national origin, or ancestry. Breach of this covenant may be regarded as a material breach of the contract. Pursuant to IC 5-16-6-1, the contractor agrees:

- A. that in the hiring of employees for the performance of work under this contract or any subcontract hereunder, no contractor, or subcontractor, nor any person acting on behalf of such contractor or subcontractor shall, by reason of race, religion, color, sex, disability, national origin or ancestry, discriminate against any citizen of the State of Indiana who is qualified and available to perform the work to which the employment relates; and
- B. that no contractor, subcontractor, nor any person on his behalf shall, in any manner, discriminate against or intimidate any employee hired for the performance of work under this contract on account of race, religion, color, sex, national origin or ancestry; and
- C. that there may be deducted from the amount payable to the contractor by the State of Indiana or by any municipal corporation thereof, under this contract, a penalty of five dollars (\$5.00) for each person for each calendar day during which such person was discriminated against or intimidated in violation of the provisions of the contract; and
- D. that this contract may be canceled or terminated by the State of Indiana or by any municipal corporation thereof, and all money due or to become due hereunder may be forfeited, for a second or any subsequent violation of the terms or conditions of this section of the contract.

09 EMPLOYMENT ELIGIBILITY VERIFICATION

The Contractor affirms under the penalties of perjury that he/she/it does not knowingly employ an unauthorized alien.

The Contractor shall enroll in and verify the work eligibility status of all his/her/its newly hired employees through the E-Verify program as defined in IC 22-5-1.7-3. The Contractor is not required to participate should the E-Verify program cease to exist. Additionally, the Contractor is not required to participate if the Contractor is self-employed and does not employ any employees.

The Contractor shall not knowingly employ or contract with an unauthorized alien. The Contractor shall not retain an employee or contract with a person that the Contractor subsequently learns is an unauthorized alien.

The Contractor shall require his/her/its subcontractors, who perform work under this contract, to certify to the Contractor that the subcontractor does not knowingly employ or contract with an unauthorized alien and that the subcontractor has enrolled and is participating in the E-Verify program. The Contractor agrees to maintain this certification throughout the duration of the term of a contract with a subcontractor.

The State may terminate for default if the Contractor fails to cure a breach of this provision no later than thirty (30) days after being notified by the State.

The contractor 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 22-5-17 whose final case result is final nonconfirmation may not be employed on the public works project.

A contractor may not pay cash to any individual employed by the contractor for work done by the individual on the public works project.

A contractor 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. A contractor must be in compliance with IC 22-3-5-1 and IC 22-3-7-34. A contractor must be in compliance with IC 22-4-1 through IC 22-4-395. A contractor must be in compliance with IC 4-13-18-1 through IC 4-13-18-7.

10 NOTICE OF AWARD

- A. Prior to execution of the Contract, in accordance with IC 4-13.6-5-2, the Director of Public Works may require additional submittals from Bidder/s to clarify contractor's experience and plans for performing the proposed work. Submittals which may be required include a critical path construction schedule which coordinates all significant tasks sequences and durations; schedule of values, and documentation of efforts to include minority and woman owned businesses in the proposed work. The Director may require Bidder/s to provide a comprehensive list of subcontractors and suppliers within 24 hours of receipt of bids.
- B. Prior to execution of the Contract, the successful Bidder shall furnish a completed Domestic Steel Affidavit (DAPW-11) to Public Works Division, Indiana Department of Administration as part of the contract. The Domestic Steel Affidavit is included for Bidder's review but need not be submitted at the time of the bid opening. Definition of Steel Products:
- "Steel products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated, or otherwise similarly processed, or processed by a combination of two (2) or more of such operations, from steel made in the United States by the open hearth, basic oxygen, electric furnace, Bessemer or other steel making process.
- C. Prior to execution of the Contract, the successful Bidder shall furnish a completed Contractor's Bond for Construction (DAPW 15) (combined performance and payment bond) to Public Works Division, Department of Administration as part of the contract. The Bond form is included for Bidder's review but need not be submitted at the time of the bid opening.
- D. Prior to execution of the Contract, the successful Bidder shall furnish a completed Contractor's Certificate of Insurance (DAPW 16) to Public Works Division, Department of Administration as part of the contract. The Insurance form is included for Bidder's review but need not be submitted at the time of the bid opening.
- E. Prior to execution of the Contract, the State of Indiana will issue to the successful Bidder a letter stating that his bid was the lowest responsible and responsive bid and that the enclosed contract document is submitted to him for his consideration. If he finds it in accordance with the bid documents, it is to be returned to Public Works Division by certified mail or in person within ten (10) calendar days after receipt for further execution and with the caution that a contract will not exist until it is signed by all signatories required. Failure to execute the proper contract and furnish the ancillary documents shall constitute reason to surrender the bid bond.
- F. Concurrent with execution of the Contract, the successful Bidder may be required to furnish executed copies of Contractor-Subcontractor agreements as required in Article 5 of the General Conditions.

11 SUMMARY

All required bid documents must contain original hand written signatures. Complete documents to be submitted with this bid:

- A. The Bid Bond (DAPW-15A) must be signed by both the Bidder and Bonding Company. The Bonding Company must also attach a Power of Attorney. Bid bond information, may be on the Bonding Company's standard form.
- B. The Contractor's Bid (DAPW-13)
 - Page 1: State the amount of the bid in figures and words.
 - Page 2: State the amount of the alternate(s), indicate add, deduct or no change (READ CAREFULLY).
 - Page 3: Authorized signature of the Company. If the signature affidavit is completed and submitted with the bid, this page must be submitted but need not be signed or notarized.
- C. The Signature Affidavit (DAPW-14) must contain the completed authorized signatures properly notarized and submitted with the bid as a supplement.

This Signature Affidavit shall fulfill all of the signature requirements. NOTE: The Signature Affidavit does not apply to the Bid Bond (DAPW 15A). The Bid Bond document must be fully completed with all required signatures and submitted with the bid.
- D. The Non-Collusion Statement (DAPW-121) must be signed by the same authorized person(s) who signed the bid documents. If the signature affidavit is completed and submitted with bid, this form shall be submitted, but need not be signed.
- E. For corporations, if anyone other than the president of the corporation signs, a Certificate of Corporate Resolution (DAPW 41) giving signature authority for the signer must be included.
- F. M/WBE Participation Plan and M/WBE Good Faith Effort Work Sheet (DAPW 26SUP2) must be completed and signed by the same authorized person who signed the bid documents.
- G. The completed Contractor's Affidavit of Subcontractors Employed (DAPW-12) whose subcontract amount will be \$150,000.00 or more.
- H. The completed plan for Contractor's Employee Drug Testing Plan (or statement of collective bargaining agreement).
- I. One copy only of the Bid Documents is required. Bidders may remove and use the Documents included in the project specifications or use reproductions of the Documents.

12 INDIVIDUAL BIDS SHALL BE REJECTED BY THE DIRECTOR, PUBLIC WORKS DIVISION FOR THE FOLLOWING REASONS (IC 4-13.6-5-2; IC 4-13.6-6-1; 25 IAC 2-6-5)

- A. If the bid envelope is not sealed at the time of submission; if the envelope does not clearly identify the project number and description; if the name of the Bidder is not clearly indicated on the outside of the envelope and/or if the envelope is not date and time stamped by Public Works Division prior to the stated time for receipt of bids.
- B. If the estimated base bid cost exceeds \$150,000.00 and the bidding contractor is not certified by Public Works Certification Board to offer bids in one of the specified categories.
- C. If the bidding contractor is under suspension by the Director of Public Works or by the Public Works Certification Board.
- D. If the bidding contractor is a trust and does not identify all beneficiaries and empowered settlors of the trust.
- E. If the contractor's drug plan is not included in the bid documents pursuant to and complies with IC 4-13-18

13 INDIVIDUAL BIDS MAY BE REJECTED BY THE DIRECTOR, PUBLIC WORKS DIVISION FOR THE FOLLOWING REASONS (25 IAC 2-6-5)

- A. If the Contractor's Bid (DAPW 13) Non-Collusion Statement (DAPW 121) and/or Bid Bond (DAPW 15A) are not signed and notarized as required by these instructions, or the Signature Affidavit (DAPW 14) and the Bid Bond (DAPW 15A) are not signed and notarized as allowed as an alternative.
- B. If all required bid or alternate(s) amounts, or unit prices are not submitted with the bid when specifically called for by the specifications issued for the project.

- C. When the Bidder adds any provision reserving the right to accept or reject the award, or if the Bidder adds conditions or alternates to his bid not requested (voluntary alternates), or if there are unauthorized additions or irregularities of any kind which tend to make the proposal incomplete, indefinite or ambiguous as to its meaning or amount.
- D. When no bids received are under or within funds that can be appropriated, or within the Designer's estimate or when situations develop which make it impossible or not practical to proceed with the proposed work.
- E. If, subsequent to the opening of the bids, facts exist which would disqualify the Bidder, or that such Bidder is not deemed by the Director, Public Works Division to be responsive or responsible.
- F. If an out-of-state contractor is not registered with the Indiana Secretary of State or if any bidding contractor is not in good standing with the Secretary of State.

CONTRACTOR'S AFFIDAVIT OF SUBS EMPLOYED

Public Works Project Number: _____ Date: _____

Project Description: _____

Prime Contractor: _____

Form Submitted for Bid: _____ Contract: _____ or Payment No.: _____

The following companies are subcontractors on this project for the amount indicated:

Subcontractor Name	Subcontract For	Subcontract Amount	Revised Amount	DAPW Certified Y/N	MBE WBE	On Site Y/N

_____ being duly sworn upon oath, deposes and says that he is _____ of the firm of _____ and is familiar with the affidavit herewith and that these entries are complete and true.

STATE OF _____)
 COUNTY OF _____) SS:

_____ personally appeared before me, a Notary Public, in and for said County and State, this ___ day of _____, 20___, after being duly sworn upon his oath, says that the facts alleged in the foregoing affidavit are true.

My Commission Expires: _____

 NOTARY PUBLIC - SIGNATURE

 NOTARY PUBLIC PRINTED NAME

(SEAL)

GENERAL BID FOR PUBLIC WORKS

CONTRACTOR'S BID

For _____
(Insert class of work)

Project Number _____

Project Description (Title) _____

Date _____

To: Department of Administration, Public Works Division
Room W467
402 West Washington Street
Indianapolis, Indiana 46204

Pursuant to notices given, the undersigned proposes to furnish and install work
in accordance with the construction documents prepared by:

(Designer Name, Address, Telephone)

for the sum of _____
(State amount in words)

_____ \$ _____
(State amount in figures)

If required add attachment for all unit prices called for in the Specifications.

_____ Federal I.D. Number or Social Security Number

Contractor's Email address _____
(Contract and Purchase Order will be sent to email address provided)

Bidder ID Number _____

(If you do not have an Indiana Department of Administration Bidder ID Number, please obtain one online at:
<http://www.in.gov/idoa/2464.htm>)

ALTERNATE BIDS

Add Alternates Are Not to be included as part of the Base Bid Scope of Work.

Deduct Alternates are items of work that Are to be included in the Base Bid Scope of Work, and deducted from the project as described herein.

The work shall be as described in Section, ALTERNATES.

Bidder shall provide a response to each alternate specified. Response must indicate the amount to be ADDED to the base bid, DEDUCTED from the base bid, or that there is NO CHANGE.

Failure to respond to all alternates may cause the bid to be rejected.

BIDDER SHALL CHECK APPLICABLE BOX for each listed alternate.

Alternate No. ___ ADD ___ DEDUCT ___ NO CHANGE ___ AMOUNT \$ _____

Alternate No. ___ ADD ___ DEDUCT ___ NO CHANGE ___ AMOUNT \$ _____

Alternate No. ___ ADD ___ DEDUCT ___ NO CHANGE ___ AMOUNT \$ _____

Alternate No. ___ ADD ___ DEDUCT ___ NO CHANGE ___ AMOUNT \$ _____

Alternate No. ___ ADD ___ DEDUCT ___ NO CHANGE ___ AMOUNT \$ _____

Alternate No. ___ ADD ___ DEDUCT ___ NO CHANGE ___ AMOUNT \$ _____

Ethics Compliance. The Contractor and its agents shall abide by all ethical requirements that apply to persons who have a business relationship with the State, as set forth in Indiana Code § 4-2-6 et seq., the regulations promulgated there under, and Executive Order 04-08, dated April 27, 2004. If the Contractor is not familiar with these ethical requirements, the Contractor should refer any questions to the Indiana State Ethics Commission, or visit the Indiana State Ethics Commission website at <<<<http://www.in.gov/ethics/>>>>. If the Contractor or its agents violate any applicable ethical standards, the State may, in its sole discretion, terminate this contract immediately upon notice to the Contractor. In addition, the Contractor may be subject to penalties under Indiana Code § 4-2-6-12.

Pursuant to IC 22-9-1-10, the Contractor and subcontractors, if any, shall not discriminate against any employee or applicant for employment, to be employed in the performance of this contract, with respect to his hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of his race, religion, color, sex, disability, national origin, or ancestry. Breach of this covenant may be regarded as a material breach of the contract.

IN TESTIMONY WHEREOF, the Bidder (a sole proprietor) has hereunto set his hand
this ___ day of _____, 20__.

Proprietorship (Company Name)

(INDIVIDUAL)

Bidder (Owner)

IN TESTIMONY WHEREOF, the Bidder (a partnership) has hereunto set their hands
this ___ day of _____, 20__.

Company Name

Partner

Partner

IN TESTIMONY WHEREOF, the Bidder (a corporation) has caused this proposal to be signed by its
President or other authorized signatory and Secretary this _____ day of _____, 20__.

Corporation Name

By President or Other Authorized Signatory

Secretary

If the bid is signed by other than the President, a Corporation Resolution designating other authorized signatory shall be submitted with this bid unless already on file with the Certification Board of the Public Works Division.

BY SIGNING THIS BID THE BIDDER ACKNOWLEDGES PROCUREMENT OF ALL ADDENDA AND
CERTIFIES THAT THIS BID RECOGNIZES ALL ITEMS IN ALL ADDENDA.

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____
(Contractor's Name and Address)

as Principal, hereinafter called the Principal, and the _____
(Bonding Company Name)

a corporation duly organized under the laws of the State of _____
as Surety, hereinafter called the Surety, are held and firmly bound unto Public Works Division/Department of
Administration, State of Indiana, as Obligee, hereinafter called the Obligee,

in the sum of _____ Dollars (\$ _____)
for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our
heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for: (insert State Project Number, Description and Location)

Project No. _____

Project Description: _____

Project Location: _____

NOW THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a contract
with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the
bidding or contract documents with good and sufficient surety for the faithful performance of such contract and for
the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the
Principal to enter such contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference
not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the
Obligee may in good faith contract with another party to perform the work covered by said bid, then this obligation
shall be null and void, otherwise to remain in full force and effect.

Signed and sealed this _____ day of _____, 20____.

(Witness)

(Principal)

By: _____
(Title)

(Surety)

Witness)

(Attorney-in-fact)

I. MINORITY AND WOMEN'S BUSINESS ENTERPRISES PARTICIPATION PLAN

A Respondent is expected to submit in each response a Minority and Women's Business Enterprises Participation Plan in accordance with IC 4-13-16.5 and 25 IAC 5. The Plan must show that there are, participating in the proposed contract, Minority Business Enterprises (MBE) and Women Business Enterprises (WBE) listed in the Minority and Women's Business Enterprises Division (MWBD) directory of certified firms. Respondents must indicate the name of the MBE and WBE with which it will work, the contact name and phone number at the firm(s), the service supplied by the firm(s), the specific dollar amount from this contract that will be directed toward each firm, and the approximate date these products and/or services will be utilized. If participation is met through use of vendors who supply products and/or services, the Respondent must also indicate the vendor's tax ID number as well as provide a description of products and/or services provided to the Respondent that are directly related to this proposal and the cost of direct supplies for this proposal. All prime contractors, including MBE and WBE prime contractors, must meet the contract goals through use of subcontractors. MBE and WBE prime contractors will get no credit toward the contract goal for the use of its own workforce. The State does not accept national plans.

Failure to meet these requirements will affect the evaluation of your Proposal. The Department reserves the right to verify all information included in the Plan.

Respondents are encouraged to contact and work with MWBD to design a plan to meet established goals. MWBD's website address is www.IN.gov/idoa/minority/ and contains a complete list of all the Department's certified MBE's and WBE's.

**Minority & Women's Business Enterprises Participation
Letter of Commitment**

A signed letter(s), on company letterhead, from the MBE and/or WBE must accompany the Plan. This letter(s) shall state and will serve as acknowledgement from the MBE and/or WBE of its amount of participation, the scope of products and/or services, and approximate date these products and/or services will be utilized.

By submission of the Proposal, the Respondent acknowledges and agrees to be bound by the regulatory processes involving the State's M/WBE Program. Questions involving the regulations governing the Plan should be directed to MWBD's Compliance Unit at 317/232-3061

MBE/WBE PARTICIPATION PLAN

RFP # / Bid # / Quote # _____ DUE DATE _____

(Circle One)

RFP / BID / QUOTE NAME _____

(Circle One)

RESPONDENT _____

ADDRESS _____

CITY/STATE/ZIP _____

PHONE () _____

The following MBE and/or WBE's listed in the MWBD directory will be participating in the contract:

<u>MBE/WBE</u>	<u>P HONE</u>	<u>COMPANY NAME</u>	<u>SCOPE OF PRODUCTS/SERVICES</u>	<u>UTILIZATION DATE</u>	<u>AMOUNT</u>

*If additional room is necessary, indicate here _____. Please attach a separate page.

THIS DOCUMENT MUST BE INCLUDED IN YOUR RESPONSE

**Indiana Department of Administration
Public Works and State Office Building Commission
GOOD FAITH EFFORTS WORKSHEET**

BIDDER _____ BID/PROJECT NUMBER _____

CONTRACT GOALS 7% MBE 5% WBE

List the M/WBEs contacted and complete the following information for each. Copies of all communications to and from each vendor should be maintained.

Company Name and Address	MBE	WBE	Type of Contact	Date of Contact	Date Response Due	Goods Or Services Requested	Result (Include Price Quote)

Indicate **Good Faith Efforts** made to utilize MWBEs. Check and explain all that apply or should be considered. Please provide evidence of the efforts that you want to be considered. A complete description of each criteria may be found in the **Indiana Department of Administration Public Works and State Office Building Commission MWBE Participation Policy**.

MBE and WBE Barrier Assistance	Describe
Advertisement	Describe
Agency Assistance	Describe
Other Criteria	Describe

CERTIFICATE OF CORPORATE RESOLUTION

I, _____, do hereby certify that I am the Secretary
Type Name
of _____, a corporation duly organized and
existing under and by virtue of the Laws of the State of Indiana;

I further certify that a regular/special meeting of the members of the Board of Directors of said corporation, duly called held and convened in conformity with the Charter and By Laws of said corporation, on the _____ day of _____, 20____, a quorum being present and voting thereon, the following resolution was duly adopted, to-wit:

I further certify that the foregoing resolution is a full, true, and complete copy as the same appears on record in the Minute Record Book of said corporation of which I am the legal custodian; that the same has not been altered, amended or repealed and is now in full force and effect.

In Witness Whereof, I have hereunto set my hand for said corporation this _____ day
of _____, 20_____.

By: _____
(Signature)

(must be signed by principal of organization)

STATE OF }
 } SS:
COUNTY OF }

personally appeared before me, a Notary Public, in and for said County and State, this
day of _____, 20____, after being duly sworn upon his oath, says that the facts
alleged in the foregoing affidavit are true.

My Commission Expires:

NOTARY PUBLIC - SIGNATURE

(SEAL)

NOTARY PUBLIC PRINTED NAME

NON-COLLUSION STATEMENT

The undersigned attests, subject to the penalties for perjury, that the undersigned is the Contractor, or that the undersigned is the properly authorized representative, agent, member or officer of the Contractor. Further, to the undersigned's knowledge, neither the undersigned nor any other member, employee, representative, agent or officer of the Contractor, directly or indirectly, has entered into or been offered any sum of money or other consideration for the execution of this Contract other than that which appears upon the face hereof. **Furthermore, if the undersigned has knowledge that a state officer, employee, or special state appointee, as those terms are defined in IC 4-2-6-1, has a financial interest in the Contract, the Contractor attests to compliance with the disclosure requirements in IC 4-2-6-10.5.**

Signature

Printed Name

Title

Company

DOMESTIC STEEL AFFIDAVIT

STATE OF _____ }
 } SS:
 COUNTY OF _____ }

PROJECT NO: _____

I hereby swear, under penalties of perjury, that the steel products furnished for this project shall conform to the following Indiana Code Definitions and contract provisions:

IC 5-16-8-1 Definitions:

"Steel products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated, or otherwise similarly processed, or processed by a combination of two (2) or more of such operations, from steel made in the United States by the open hearth, basic oxygen, electric furnace, Bessemer or other steel making process.

"United States" refers to the United States of America. The term includes all territory, continental or insular, subject to the jurisdiction of the United States.

IC 5-16-8-2 Public agency contract provisions; rules for determining reasonable pricing.

Sec. 2. (a) Each public agency shall require that every contract for the construction, reconstruction, alteration, repair, improvement or maintenance of public works contain a provision that, if any steel or foundry products are to be used or supplied in the performance of the contract or subcontract, only steel or foundry made in the United States shall be used or supplied in the performance of the contract or any of the subcontracts unless the head of the public agency determines, in writing, that the cost of steel or foundry products is deemed to be unreasonable.

 (Signature)

 (Printed name)

 (Attest)
 (Vice President/Secretary/Treasurer)

 (Printed or typed name of company)

STATE OF _____ }
 } SS:
 COUNTY OF _____ }

_____ personally appeared before me, a Notary Public, in and for said County and State, this ____ day of _____, 20____, after being duly sworn upon his oath, says that the facts alleged in the foregoing affidavit are true.

My Commission Expires:

 NOTARY PUBLIC - SIGNATURE

 (SEAL)

 NOTARY PUBLIC PRINTED NAME

CONTRACTOR'S BOND FOR CONSTRUCTION

KNOW ALL MEN BY THESE PRESENT, that _____
(Contractor)

_____ of _____
(Address) (City, State)

as principal and _____
(Bonding Company)

_____ (Address) (City, State) (Zip Code)

as surety, are firmly bound unto the State of Indiana in the penal sum of \$ _____ Dollars, for the payment of which, well and truly to be made, we bind ourselves, jointly and severally, and our joint and several heirs, executors, administrators and assigns, firmly by these present, this _____ day of _____, 20_____.

THE CONDITIONS OF THE ABOVE OBLIGATION ARE SURE, THAT, WHEREAS the State of Indiana acting by and through the Commissioner, Department of Administration, has entered into a certain written contract dated _____ of _____

_____ (Project Number and Description)

_____ situated in _____
Indiana, in accordance with the construction documents approved and adopted by said Commissioner, Department of Administration, which are made a part of this bond.

NOW THEREFORE, if the said _____
(Contractor)

_____, shall well and faithfully do and perform the same in all respects according to the plans and specifications adopted by said Commissioner, Department of Administration, and according to the time, terms and conditions specified in said contract and incurred by him or any subcontractor in the prosecution of said work, including labor, service and materials furnished, then this obligation shall be void; otherwise to remain in full force, virtue and effect. This bond shall adhere to the requirements of IC 4-13.6-7-6 and IC 4-13.6-7-7.

IN WITNESS WHEREOF, we hereunto set our hands and seals this _____ day
of _____, 20_____.

By: _____ (Seal)
(Contractor)

By: _____ (Seal)
(Bonding Company)

By: _____
(Attorney-in-fact)

CONTRACTOR'S CERTIFICATE OF INSURANCE

This certifies to the addressee shown below that the following described policies, subject to their terms, conditions, and exclusions, have been issued to:

NAME AND ADDRESS OF INSURED: _____

COVERING (show State project number, name and location) _____

ADDRESSEE: PUBLIC WORKS DIVISION/DEPARTMENT OF ADMINISTRATION DATE: _____

TYPE OF INSURANCE	POLICY NUMBER	EFFECTIVE DATE	EXPIRATION DATE	LIMITS	
1. General Liability a. Bodily Injury Including Personal Injury				Each Person - Premises and Operations	\$ _____
				Each Person - Elevators	\$ _____
				Each Person - Independent Contractor	\$ _____
				Each Person - Products Completed Including Operations	\$ _____
				Each Person - Contractual	\$ _____
				Each Occurrence -	\$ _____
				Aggregate - Products Completed Including Operations	\$ _____
b. Property Damage				Each Occurrence - Premises and Operations	\$ _____
				Each Occurrence - Elevators	\$ _____
				Each Occurrence - Independent Contractor	\$ _____
				Each Occurrence - Products Completed Including Operations	\$ _____
				Each Occurrence - Contractual	\$ _____
				Aggregate -	\$ _____
				Aggregate - Operations Protective Products and Contractual	\$ _____
2. Automobile Liability a. Bodily Injury b. Property Damage				Each Person	\$ _____
				Each Occurrence	\$ _____
				Each Accident	\$ _____
3. Excess Liability Umbrella					\$ _____
4. a. Workmen's Compensation b. Employer's Liability				Statutory Workmen's Compensation	\$ _____
				One Accident And Aggregate Disease	\$ _____
5. Builder's Risk					\$ _____

UNDER GENERAL LIABILITY POLICY OR POLICIES

- | | YES | NO |
|---|-------|-------|
| 1. Does Property Damage Liability Insurance shown include coverage for XC and U hazards? | _____ | _____ |
| 2. Is Occurrence Basis Coverage provided under Property Damage Liability? | _____ | _____ |
| 3. Is Broad Form Property Damage Coverage provided for this Project? | _____ | _____ |
| 4. Is Personal Injury Coverage included? | _____ | _____ |
| 5. Is coverage provided for Contractual Liability (including indemnification provision) assumed by insured? | _____ | _____ |

UNDER AUTOMOBILE LIABILITY POLICY OR POLICIES

- | | | |
|---|-------|-------|
| 1. Does coverage shown above apply to non-owned and hired automobiles? | _____ | _____ |
| 2. Is Occurrence Basis Coverage provided under Property Damage Liability? | _____ | _____ |

In the event of cancellation, fifteen (15) days written notice shall be given to the party to whom this certificate is addressed.

NAME OF INSURANCE COMPANY _____

ADDRESS _____

SIGNATURE OF AUTHORIZED REPRESENTATIVE _____

CONTRACTOR'S EMPLOYEE DRUG TESTING

IC 4-13-18 IS ADDED TO THE INDIANA CODE AS A NEW CHAPTER TO READ AS FOLLOWS [EFFECTIVE JULY 1, 2006]:

Chapter 18. Drug Testing of Employees of Public Works Contractors

Sec. 1. This chapter applies only to a public works contract awarded after June 30, 2006.

Sec. 2. As used in this chapter, "bid" includes a quotation.

Sec. 3. (a) As used in this chapter, "contractor" refers to a person who:

- (1) submits a bid to do work under a public works contract; or
- (2) does any work under a public works contract.

(b) The term includes a subcontractor of a contractor.

Sec. 4. As used in this chapter, "public works contract" refers to:

- (1) a public works contract covered by IC 4-13.6;
- (2) a public works contract covered by IC 5-16 and entered into by a state agency; or
- (3) a state highway contract covered by IC 8-23-9;

when the estimated cost of the public works project is one hundred fifty thousand dollars (\$150,000) or more.

Sec. 5. (a) A solicitation for a public works contract must require each contractor that submits a bid for the work to submit with the bid a written plan for a program to test the contractor's employees for drugs.

(b) A public works contract may not be awarded to a contractor whose bid does not include a written plan for an employee drug testing program that complies with this chapter.

(c) A contractor that is subject to a collective bargaining agreement shall be treated as having an employee drug testing program that complies with this chapter if the collective bargaining agreement establishes an employee drug testing program that includes the following:

- (1) The program provides for the random testing of the contractor's employees.
- (2) The program contains a five (5) drug panel that tests for the substances identified in section 6(a)(3) of this chapter.

(3) The program imposes disciplinary measures on an employee who fails a drug test. The disciplinary measures must include at a minimum, all 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) drug 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.

(D) The employee successfully completes a rehabilitation program recommended by a substance abuse professional if the employee fails more than one (1) drug test.

A copy of the relevant part of the collective bargaining agreement constitutes a written plan under this section.

Sec. 6. (a) A contractor's employee drug testing program must satisfy all of the following:

- (1) Each of the contractor's employees must be subject to a drug test at least one (1) time each year.
- (2) Subject to subdivision (1), the contractor's employees must be tested randomly. At least two

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percent (2%) of the contractor's employees must be randomly selected each month for testing.

(3) The program must contain at least a five (5) drug panel that tests for the following:

- (A) Amphetamines.
- (B) Cocaine.
- (C) Opiates (2000 ng/ml).
- (D) PCP.
- (E) THC.

(4) The program must impose progressive discipline on an employee who fails a drug test. The discipline must have at least the following progression:

(A) After the first positive test, an employee must be:

- (i) suspended from work for thirty (30) days;
- (ii) directed to a program of treatment or rehabilitation; and
- (iii) subject to unannounced drug testing for one (1) year, beginning the day the employee returns to work.

(B) After a second positive test, an employee must be:

- (i) suspended from work for ninety (90) days;
- (ii) directed to a program of treatment or rehabilitation; and
- (iii) subject to unannounced drug testing for one (1) year, beginning 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, beginning 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 is described in this subdivision.

(b) An employer complies with the requirement of subsection (a) to direct an employee to a program of treatment or rehabilitation if the employer does either of the following:

(1) Advises the employee of any program of treatment or rehabilitation covered by insurance provided by the employer.

(2) If the employer does not provide insurance that covers drug treatment or rehabilitation programs, the employer advises the employee of agencies known to the employer that provide drug treatment or rehabilitation programs.

Sec. 7. (a) The public works contract must provide for the following:

(1) That the contractor implement the employee drug testing program described in the contractor's plan.

(2) Cancellation of the contract by the agency awarding the contract if the contractor:

- (A) fails to implement its employee drug testing program during the term of the contract;
- (B) fails to provide information regarding implementation of the contractor's employee drug testing program at the request of the agency; or
- (C) provides to the agency false information regarding the contractor's employee drug testing program.

(b) The provisions of the public works contract relating to cancellation of the contract by the agency awarding the contract apply to cancellation of the public works contract under this section.

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STATE OF INDIANA
GENERAL CONDITIONS

ARTICLE 1 CONTRACT DOCUMENTS

1.1 Definitions

1.1.1 The Contract Documents

The Contract Documents consist of the Agreement, the Instructions to Bidders, the Contractor's Proposal (Bid), the Conditions of the Contract (General and Supplementary), Drawings, Specifications, and Addenda issued prior to bidding, Change Orders, any written interpretation issued as a field order by the Designer pursuant to Article 1.2, and all field orders for minor changes in the Work by the Designer pursuant to Article 12.3.

1.1.2 The Contract

The Contract Documents form the Contract for construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral.

1.1.3 The Work

All labor, material, equipment, systems and services necessary to produce the result called for in the Contract Documents.

1.1.4 The Project

The Project is the total construction designed by the Designer of which the Work performed under the Contract Documents may be the whole or a part.

1.2 Execution, Correlation, Intent and Interpretations

1.2.1 The Contract Documents shall be signed by the Owner and the Contractor. The signature process may be done electronically at the discretion of the Owner.

1.2.2 By executing the Contract the Contractor represents that he has visited the site and correlated his observations with the requirements of the Contract Documents, and has no major question pertaining thereto.

1.2.3 The Contract Documents are complementary, and what is called for by any one shall be as binding as if called for by all. The intention of the Documents is to include all labor, equipment, supervision and materials, for the proper execution and completion of the Work, and also to include those things that may be reasonably inferable from the Contract Documents as being necessary to produce the intended results. Words that have a well-known technical or trade meaning are used herein, in accordance with such recognized meaning.

1.2.4 Written interpretations necessary for the proper execution of the Work, in the form of drawings or otherwise will be issued with reasonable promptness by the Designer. Such interpretations shall be consistent with and reasonably inferable from the Contract Documents, and may be issued by field order subject to Owner's approval.

1.3 Copies Furnished and Ownership

1.3.1 The Contractor will be furnished 5 copies of drawings and specifications and any other information necessary for the execution of the Work.

1.3.2 All drawings, specifications, and copies thereof furnished by the Designer are his property. They are not to be used on any other Project, and, with the exception of one Contract set for each party to the Contract, are to be returned on request to the Designer at the completion of the Work.

ARTICLE 2 DESIGNER

2.1 Definition

2.1.1 The Designer is the person or organization identified as Designer of the Project, and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The terms Designer, Engineer, Architect, (and in certain projects Director, Public Works Division or his authorized representative), shall mean the Designer.

2.2 Administration of the Contract

2.2.1 The Designer will provide general administration of the Contract, including the functions hereinafter described.

2.2.2 Unless stated otherwise, the Designer shall be the Owner's representative during the construction phase. He shall have authority to act on behalf of the Owner only to the extent expressly provided in the Contract Documents or otherwise in writing, which will be shown to the Contractor. The Designer will advise and consult with the Owner and all of the Owner's instructions to the Contractor shall be issued through the Designer.

2.2.3 The Designer shall have access to the Work at all times wherever it is in storage, preparation and progress. The Contractor shall provide facilities for such access so that the Designer and Owner's Site Representative may perform their functions under the Contract Documents.

2.2.4 The Designer will make no less than weekly visits to the site when work is in progress to familiarize himself generally with the progress and quality of the Work and to determine in general if the Work is proceeding in accordance with the Contract Documents. He will not be required to make exhaustive or continuous on-site inspection to check the quality or quantity of the Work. On the basis of his on-site observations as Designer, he will keep the Owner informed of the progress of the Work, and will endeavor to guard the Owner against defects and deficiencies in the Work of the Contractor.

2.2.5 Based on such observation and the Contractor's applications for payment, the Designer will determine the amount owed to the Contractor and will issue Certificates for Payment in such amounts.

2.2.6 The Designer will be, in the first instance, the interpreter of the requirements of the Contract Documents and the judge of the performance thereunder. He will promptly render such interpretations as he may deem necessary for the proper execution or progress of the Work.

2.2.7 All interpretations and decisions of the Designer will be consistent with the intent of the Contract Documents. He will exercise his best efforts to insure faithful performance by the Contractor.

2.2.8 Claims, disputes and other matters in question relating to the execution or progress of the Work or interpretation of the Contract Documents shall be referred initially to the Designer for decision and be subject to written appeal within fifteen (15) days by the Contractor. The Designer shall submit his decision promptly in writing to the Director, Public Works Division, who shall have full authority to render the final and binding decision.

2.2.9 The Designer will have responsibility to recommend to the Owner the rejection of work that does not conform to the Contract Documents. Whenever the Designer considers it necessary or advisable, he shall recommend to the Owner the stoppage of the Work or any portion thereof, and to recommend special examination or testing of the Work (whether or not fabricated, installed, or completed).

2.2.10 The Designer will review and approve or take other appropriate action upon the Contractor's submittals such as shop drawings, product data and samples, but only for conformance with the design concept of the Work and with the information given in the Contract Documents. Such action shall be taken with reasonable promptness so as to cause no delay. The Designer's approval of a specific item shall not indicate approval of all assembly of which the item is a component.

2.2.11 The Designer will prepare change orders in accordance with Article 12.

2.2.12 The Designer will conduct reviews to determine the dates of Substantial Completion and Final Completion, will receive and forward to the Owner for the Owner's review written warranties and related documents required by the Contract and assembled by the Contractor, and will issue a final Certificate for Payment upon compliance with the requirements of Article 9.7.

2.2.13 The Designer, together with representatives from the Contractor and the Owner will conduct a review of the Work nine (9) months after the date of substantial completion to determine any work not in compliance with the Contract Documents at that time. A list of items to be corrected or completed will be forwarded to the Contractor for corrective action prior to the expiration of the one year warranty period.

2.2.14 The duties, responsibilities and limitations of authority of the Designer as the Owner's representative during construction as set forth in Articles 1 through 14 of these General Conditions shall not be modified or extended without written consent of the Owner.

2.2.15 The Designer will not be responsible for the acts or omissions of the Contractor, Subcontractor, or any of their superintendents, supervisory staffs, agents or employees, or any other persons performing any of the Work.

2.2.16 In case of the termination of the employment of the Designer, the Owner shall appoint a Designer against whom the Contractor makes no reasonable objections, whose status under the Contract shall be that of Designer.

ARTICLE 3 OWNER

3.1 Definition

3.1.1 The Owner is the State of Indiana, represented by the Commissioner; Department of Administration acting through the Director, Public Works Division and the Director's designated project manager.

3.2 Information and Service Required of the Owner

3.2.1 The Owner will furnish, through the Designer, surveys, describing known physical characteristics, legal limits and utility locations for the property on which the Project is to be erected, if in the Owner's possession.

3.2.2 Information or services under the Owner's control shall be furnished by the Owner with promptness to avoid delay in the orderly progress of the Work.

3.2.3 The Owner shall issue all instructions to the Contractor through the Designer unless specified elsewhere in these documents.

3.2.4 If the Contractor fails to correct defective work as required by Article 13 or persistently fails to carry out the Work in accordance with the Contract Documents, the Owner, by a written order may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the Owner to stop the Work shall not give rise to any duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Article 6.1.

3.3 Owner's Site Representative

3.3.1 Notwithstanding the obligations of the Designer as Owner's representative during construction, the Owner may employ an on-site representative to observe the progress of the Work.

3.3.2 The Owner's Site Representative shall function as an observer only. He shall report his findings to the Designer for review and any required further action. The Owner's Site Representative is not authorized to make changes in the Work or to interpret the Contract Documents.

3.3.3 The Owner's Site Representative shall have at all times access to the Work wherever it is in storage, preparation and progress. He may attend meetings at the site and he may review and approve the Contractor payment requests.

ARTICLE 4 CONTRACTOR

4.1 Definition

4.1.1 The Contractor is the person or organization identified as such in the Agreement. He is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Contractor means the Contractor or his authorized representative.

4.2 Review of Contract Documents

4.2.1 The Contractor shall carefully study and compare the Contract Documents and shall at once report to the Designer and the Owner any error, inconsistency or omission he may discover. The Contractor shall perform no portion of the Work at any time without Contract Documents or, where required, approved shop drawings, product data or samples for such portion of the Work.

4.3 Supervision and Construction Procedures

4.3.1 The Contractor shall supervise and direct the Work, using his best skill and attention. He shall be solely responsible for the quality of the Work and for all construction techniques, sequences, and procedures, and for coordinating all portions of the Work.

4.3.2 The Contractor shall not be relieved from his obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Designer in administration of the Contract, or by inspections, tests or approvals required or performed under Paragraph 7.9 by persons other than the Contractor.

4.4 Labor and Materials

4.4.1 Unless otherwise specified in Division 1, the Contractor shall provide and pay for all labor, material, equipment, tools, construction equipment, machinery, transportation, and other facilities and services necessary for the proper execution of the Work.

4.4.2 Unless otherwise specified in Division 1, the Contractor shall provide and pay for all electric current, water, heat, and telephone services and shall maintain necessary discipline to prevent waste.

4.4.3 If any item of work shall be the subject of a jurisdictional dispute as to the craft to be used for said work, the Contractor shall aid in such inter-craft resolution and if arbitrated, abide by the decision, holding the Owner free of involvement in the dispute, and if time is lost by the dispute, extra work days will only be considered through the provisions of Article 12.2. He will do whatever he can to eliminate any embarrassment to the Owner caused by picketing, etc.

4.4.4 The Contractor shall at all times enforce strict discipline and good order among his employees, and shall not employ on the Work any unfit person or any one employee unskilled in the Work assigned to him or unqualified as a tradesman in the trade involved.

4.5 Warranty and Guarantee

4.5.1 The Contractor warrants and guarantees that all materials and equipment incorporated in the Project shall be new unless otherwise specified, and all work will be of the highest quality, free from faults and defects, and in strict conformance with the Contract Documents for a period of one year from the date of substantial completion. All work not so conforming to the Contract Documents may be considered defective. If required by the Designer, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. The warranties and guarantees provided in this Article and elsewhere in the Contract Documents shall be in addition to and not in limitation of any other warranty or guarantee or remedy called for the Contract Documents or otherwise prescribed by law. The Contractor, together with the Designer and representatives from the Owner, shall review the Work nine (9) months after the date of substantial completion to determine any work not in compliance with the Contract Documents. The Contractor shall correct such non-complying work prior to the expiration of the one year warranty.

4.6 Permits, Fees and Notices

4.6.1 The Contractor shall secure and pay for all permits, fees and licenses necessary for the execution of the Work.

4.6.2 The Contractor and Subcontractors must submit an "Exemption Certificate for Construction Contractors" (Form ST-105) to each supplier in order to obtain exemption from the Indiana Gross Tax (i.e., sales and use tax).

4.6.3 The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations, and orders of any public authority bearing on the conduct of the Work. If he observes that any of the Contract Documents are at variance therewith in any respect, he shall promptly notify the Designer in writing, and any necessary changes shall be adjusted by change order. If he performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Designer, he shall bear all cost arising from such non-conformance.

4.7 Cash Allowances

4.7.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. These allowances cover the net cost of the materials and equipment delivered and unloaded at the site which cost shall be determined by the Owner through proper procedures for receiving quotes or bids as required by law. The Contractor's handling costs on the site, labor, installation costs, overhead, profit, and other expenses shall be included in the Contract sum and not in the allowance. The Contractor shall cause the Work required by these allowances to be performed by such persons as the Designer may direct, but he will not be required to employ persons against whom he has a reasonable objection. If the net cost above, when determined, is more than or less than the allowance, the Contract Sum will be adjusted accordingly by change order.

4.8 Superintendent

4.8.1 The Contractor shall keep on the Project, during the entire contract time, a competent superintendent and necessary assistants, all satisfactory to the Designer and the superintendent shall not be changed, except with the consent of the Owner, unless the superintendent proves to be unsatisfactory to the Contractor and ceases to be in his employ. The superintendent shall represent the Contractor and shall have full authority to act on his behalf. All communications given the superintendent shall be as binding as if given by the Contractor. Important communications shall be confirmed in writing.

4.9 Responsibility for Those Performing the Work

4.9.1 The Contractor shall be responsible for the quality of the Work, for acts and omissions of all the Subcontractors, their superintendents, their supervisory staffs, agents, or employees and of all other persons performing any of the Work under a Contract with the Contractor.

4.10 Progress Schedule

4.10.1 Unless otherwise indicated in Division 1, the Contractor, immediately after being awarded the Contract, shall prepare and submit for the Designer's approval a progress schedule for the Work in relation to the entire Project. This schedule in bar graph form, or other form approved by the Owner, shall indicate the dates for the starting and completion of the various stages of construction, and in addition, will state the contractual completion date. The contract completion date, based on the construction period stated in the notice to bidders, shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by change order. A more detailed schedule may be required elsewhere in the documents.

4.11 Record Documents at the Site

4.11.1 The Contractor shall maintain for the Owner as part of the Contract one record copy of all drawings, specifications, addenda, shop drawings, change orders and other modifications at the site in good order, and marked to record all changes made during construction. These shall be available to the Designer and the Owner's Site Representative at all times while Work is in progress. All changes made during construction shall be recorded monthly and reviewed by the Designer before approval of each partial progress payment. The record documents shall be submitted to the Designer prior to the Contractor's final payment.

4.12 Shop Drawings and Samples

4.12.1 Shop drawings are all drawings, diagrams, illustrations, schedules, brochures, and other data, which are prepared by the Contractor, or any Subcontractor, manufacturer, supplier, or distributor, and which illustrate the Work.

4.12.2 The Contractor shall submit all shop drawings and samples required by the Contract or by the Designer in a timely manner, allowing sufficient time for the Designer's review so as not to cause any delay in the Work or in work by any other Contractor.

4.12.3 At the time of such submission, the Contractor shall furnish or verify all field measurements, field construction criteria, materials, catalog numbers, and the like and shall individually check, coordinate and stamp with his approval each submission, and shall in writing call the Designer's attention to any deviations in the shop drawings or samples from the requirements of the Contract Documents.

4.12.4 The Designer will check and approve, with reasonable promptness so as to cause no delay, these shop drawings and samples only for conformance with the design concept of the Project, and with the information given in the Contract Documents. The Designer's approval of a separate item will not indicate approval of the assembly in which the item functions.

4.12.5 The Designer's approval of shop drawings or samples shall not relieve the Contractor of responsibility for any deviation from the requirements of the Contract Documents unless the Contractor has in writing called the Designer's attention to such deviation at the time of submission and the Designer has given written approval to the specific deviation, nor shall this relieve the Contractor from errors or omissions in the shop drawings or samples.

4.12.6 No work requiring a shop drawing or sample submission shall be commenced until the submission has been approved by the Designer. All such work shall be in accordance with approved shop drawings and samples.

4.13 Use of Premises

4.13.1 The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents, and shall not unreasonably encumber the premises with any materials or equipment.

4.14 Cutting and Patching

4.14.1 The Contractor shall do all cutting, fitting or patching of his work that may be required to make its several parts come together properly and shall not endanger any work by cutting, excavating, or otherwise altering the Work or any part of it. Costs caused by defective or ill-timed work shall be borne by the party responsible therefore.

4.15 Cleaning Up

4.15.1 The Contractor shall at all times keep the premises free from accumulation of waste materials or rubbish caused by his operations. At the completion of the Work, he shall remove all waste material and rubbish from and about the building as well as all his tools, scaffolding and surplus materials. Contractor shall clean all glass surfaces, lights and fixtures, ceilings, walls and shall leave the Work dusted, swept and wet mopped clean, unless more exactly specified.

4.15.2 In case of dispute the Owner may remove the rubbish and charge the cost to the several Contractors as the Designer shall determine to be just.

ARTICLE 5 SUBCONTRACTORS

5.1 Definition

As used in this article "contractor tier" refers collectively to the following classes of contractors on a public works project:

- (1) "Tier 1 contractor" includes each person that has a contract with the public agency to perform some part of the work on, supply some of the materials for, or supply a service for, a public works project. A person included in this tier is also known as a "prime contractor" or a "general contractor".
- (2) "Tier 2 contractor" includes each person that has a contract with a tier 1 contractor to perform some part of the work on, supply some of the materials for, or supply a service for, a public works project. A person included in this tier is also known as a "subcontractor".
- (3) "Tier 3 contractor" includes each person that has a contract with a tier 2 contractor to perform some part of the work on, supply some of the materials for, or supply a service for, a public works project. A person included in this tier is also known as a "sub-subcontractor".
- (4) "Lower tier contractor" includes each person that has a contract with a tier 3 contractor or lower tier contractor to perform some part of the work on, supply some of the materials for, or supply a service for, a public works project. A person included in this tier is also known as a "lower tier subcontractor".

A Subcontractor is a person or entity who has a direct Contract with the Contractor to perform any of the Work at the site. The term Subcontractor is referred to throughout the Contract Documents as if singular in number and masculine in gender and means a Subcontractor or his authorized representative. The term Subcontractor does not include any separate Contractor or his Subcontractors.

5.2 Award of Subcontracts and Other Contracts for Portions of the Work

5.2.1 Unless otherwise required by the Contract, the Contractor shall furnish to the Owner, with his bid on the prescribed form, the names of all persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each of the principal portions of the Work with an installed value of \$150,000.00 or more. The Designer will promptly reply to the Contractor in writing stating whether or not the Owner or the Designer, after due investigation, has reasonable objection to any such proposed person or entity. Failure of the Owner or Designer to reply within fourteen (14) days shall constitute notice of no reasonable objection.

5.2.2 The Contractor shall not subcontract with any such proposed person or entity to which the Owner or the Designer has made reasonable objection. The Contractor shall not be required to subcontract with anyone to whom he has a reasonable objection.

5.2.4 If the Owner or the Designer has reasonable objection to any such proposed person or entity, the Contractor shall submit a substitute to whom the Owner or the Designer has no reasonable objection.

5.2.5 The Contractor shall make no substitution of any Subcontractor, person or entity previously selected, if the Owner or Designer makes reasonable objection to such substitution.

5.2.3 The Contractor and his subcontractors shall employ only licensed plumbers and shall provide to the Owner the names and license numbers of all plumbers engaged in the Work. The Contractor shall submit this documentation with any monthly progress payment request that includes plumbing labor.

5.3 Subcontractual Relations

5.3.1 By an appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by the terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by these Documents, assumes toward the Owner. Said agreement shall preserve and protect the rights of the Owner under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor the benefit of all rights, remedies and redress against the Contractor that the Contractor, by these Documents, has against the Owner. Provisions of Article 9 for progress payments, retainage and payment for stored material shall be incorporated without modification in all Contractor-Subcontractor agreements. The Contractor shall require each Subcontractor to enter into similar agreements with his Sub-subcontractors. Prior to execution of the Contractor-Subcontractor agreement, the Contractor shall provide all Subcontractors a complete copy of all proposed Contract Documents for the Project to which the Subcontractor will be bound by this Paragraph 5.3. Each Subcontractor shall similarly make available to his Sub-Subcontractors copies of such Documents. Executed copies of all agreements shall remain on file with the Contractor and be available for review by the Owner at the Owner's discretion.

ARTICLE 6 SEPARATE CONTRACTS

6.1 Owner's Right to Let Separate Contracts

6.1.1 The Owner reserves the right to let other contracts in connection with other portions of the Project under these or similar General Conditions.

6.1.2 When separate contracts are awarded for different portions of the Project, "the Contractor" in the Contract Documents in each case shall be the Contractor who signs each separate contract with the Owner.

6.1.3 When separate contracts are awarded for portions of the Project, the General Construction Contractor shall be responsible for the overall coordination of all separate contracts for the Project.

6.2 Mutual Responsibility of Contractors

6.2.1 The Contractor shall afford each other Contractor reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work, and each shall properly connect and coordinate his work with all others as coordinated by the General Contractor.

6.2.2 If any part of the Contractor's work depends on proper execution or results upon the work of any other separate Contractor, the Contractor shall inspect and promptly report to the Designer any discrepancies or defects that shall cause his work to fail or be non-conforming. Failure of the Contractor to so inspect and report shall constitute an acceptance of the other Contractor's work as fit and proper for the reception of his work.

6.2.3 Should the Contractor cause damage to any separate Contractor on the Project, the General Contractor agrees, upon due notice, to settle with such other Contractor by agreement, if at all possible without involving the Owner. The Owner will be involved only after evidence is presented that sureties cannot settle the problem.

6.2.4 Any costs caused by defective or ill-timed work shall be borne by the party responsible.

ARTICLE 7 MISCELLANEOUS PROVISIONS

7.1 Delinquent State Taxes (IC. 4-13-2-14.5). The Public Works Division may allow the Department of State Revenue access to the name of each person who is either:

- (1) Bidding on a Contract to be awarded under this chapter; or
- (2) A Contractor or Subcontractor under this chapter.

If the Public Works Division is notified by the Department of State Revenue that a bidder is on the most recent tax warrant list, a Contract may not be awarded to that bidder until the bidder provides a statement from the Department of State Revenue that the Bidder's delinquent tax liability has been satisfied. The Department of State Revenue may notify:

- (1) The Department of Administration; and
- (2) The Auditor of State;

that a Contractor or Subcontractor under this chapter is on the most recent tax warrant list, including the amount owed in delinquent taxes. The Auditor of State shall deduct from the Contractor's or Subcontractor's payment the amount owed in delinquent taxes. The Auditor of State shall remit this amount to the Department of State Revenue and pay the remaining balance to the Contractor or Subcontractor.

7.2 Choice of Law

7.2.1 The Contract shall be governed by the laws of the State of Indiana.

7.3 Assignment

7.3.1 The Contractor shall not assign the Contract or sublet it as a whole without the written consent of the Owner, nor shall the Contractor assign any monies due or to become due to him hereunder, without the previous written consent of the Owner.

7.4 Written Notice

7.4.1 Written notice shall be deemed to have been duly served if delivered in person to the individual or member of the firm or to an officer of the corporation for whom it was intended, or sent by registered or certified mail to the last business address known to him who gives the notice.

7.5 Claims for Damages

7.5.1 Should either party to the Contract suffer injury or damage to person or property because of any act or omission of the other party or any of his employees, agents or others for whose acts he is legally liable, claim shall be made in writing to such other party within seven (7) days of the first observance of such injury or damage.

7.6 Performance Bond and Labor and Material Payment Bond

7.6.1 For projects advertised with an estimated base bid amount of One Hundred Fifty Thousand Dollars (\$150,000) or more, the Contractor shall furnish and pay for an approved one hundred percent (100%) combination performance and payment bond (Contractor's Bond for Construction, Public Works Division Form DAPW 15). This bond shall adhere to the requirements of IC. 4-13.6-7-6 and IC. 4-13.6-7-7 as amended and shall cover the faithful performance of the Contract and the payment of all obligations arising thereunder, including reimbursement for any stored materials paid for but returned to materialmen, with such sureties as the Owner may approve. The combination bond shall remain in effect throughout the entire construction period and in addition for a period of one year from the date of final acceptance. The Contractor shall deliver the required bonds to the Owner prior to execution of the Contract by the Owner unless authorized to the contrary in writing by the Owner. All bonds must be issued by bonding companies, which are licensed and approved by the Indiana Insurance Commission.

7.7 Owner's Right to Carry Out the Work

7.7.1 If the Contractor should default or neglect to carry out the Work properly or fail to perform any provision of the Contract, the Owner may, after giving seven (7) days written notice to the Contractor, without prejudice to any other remedy it may have, make good such deficiencies. In such case, an appropriate change order shall be issued deducting the cost thereof including the cost of the Designer's additional service made necessary by such default, neglect or failure of the Contractor, from the payments then or thereafter due the Contractor, provided, however, that the Designer shall approve both such action and the amount charged to the Contractor. If such payments due to the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

7.8 Royalties and Patents

7.8.1 The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the Owner harmless from liability of any nature or kind including costs and expenses for or on account of any patented or unpatented invention, process, article or appliance manufactured or used in the performance of this Contract, including its use by the Owner.

7.9 Tests & Substitution of Materials

7.9.1 If the Contract Documents, laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction require any work to be inspected, tested, or approved, the Contractor will give the Designer timely notice of its readiness and of the date fixed for such inspection, testing, or approval so that the Designer may observe the same. The Contractor shall bear all cost of such inspections, tests, and approvals unless otherwise provided.

7.9.2 If, after the commencement of the Work, the Designer, with approval of the Owner in writing, determines that the Work requires special inspection, testing, or approval for which subparagraph 7.9.1 does not provide, he will, upon written authorization from the Owner, order such special inspection, testing or approval. If such special inspection or test reveals a failure of the Work to fulfill the requirements of the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, the Contractor shall bear all costs thereof; otherwise the Owner shall bear such costs. An appropriate change order shall be issued.

7.9.3 Required certificates of inspection, testing or approval shall be secured by the Contractor and promptly delivered by him to the Designer.

7.9.4 Observations by the Designer of the inspections, tests, or approvals required by Article 7 will be promptly made, and where practicable at the source of supply at no additional cost to the Owner.

7.9.5 Neither the observations of the Designer in his administration of the Contract, nor inspections, tests or approvals by persons other than the Contractor shall relieve the Contractor from his obligations to perform the Work in accordance with the Contract Documents.

7.9.6 All building construction and work, alterations, repairs, plumbing, mechanical, and electrical installations and appliances connected therewith, shall comply with the Rules and Regulations of the Department of Fire and Building Services, State Board of Health, local ordinances, Rules for Licensure of Building Trades, and other statutory provisions pertaining to this class of work; such rules and regulations and local ordinances to be considered as a part of these specifications.

7.9.7 Where in these specifications, one or more certain materials, trade names, or articles of certain manufacture are mentioned, it is done for the express purpose of establishing a basis of durability and efficiency and not for the purpose of limiting competition. Approval of other acceptable products for those specified may be obtained by requesting to the Designer no later than fourteen (14) days in advance of bid date with all documentation required for the Designer to evaluate any approval. If approval is granted, the subject product will be added by addendum.

7.9.8 Should there be a reason for change of materials after award of the Contract, the following criteria shall apply:

- a. Original material no longer manufactured,
- b. Delivery not possible within time specified for job, and/or
- c. Unavailability due to causes beyond the control of the Contractor.

7.9.9 After agreement by the Designer and the Owner that a change is necessary, the Contractor shall present a request for substitution to the Designer. The burden of proof of the merit of the proposed substitute is upon the proposing party. The decision of the Designer and the Owner regarding the substitution shall be final.

7.10 Certificate of Qualification

7.10.1 In accordance with IC. 4-13.6-4 as amended, all Contractors and Subcontractors performing work for the State of Indiana on projects estimated to be in excess of one hundred fifty thousand dollars (\$150,000.00), must hold a valid Certificate of Qualification issued by the Public Works Certification Board. The Instructions to Bidders define the procedure for certification and bidding.

7.10.2 The Contractor must perform at least fifteen (15) percent of the total Contract Sum of the Work with his own forces. The Contractor shall submit copies of his payroll records, if requested by the Owner, showing the hours, rates and total costs for all personnel on his payroll detailed to the degree to ensure compliance with this paragraph and any Wage Determination provisions.

7.11 Appropriation

7.11.1 The Contract specifically limits payments to be made in accordance with appropriations made and funds made available under laws of the State of Indiana.

7.12 Federal Wage Determination if required

7.12.1 If a Davis-Bacon wage determination is included in the Contract Documents, it shall be used as the minimum wage and benefits to be paid for the trades indicated.

7.12.2 Contractor shall submit a schedule of hourly wages to be paid to each employee (including those of his subcontractors) engaged in work on the site. This submittal shall be on Contractor's letterhead stationery and shall be signed by the Contractor and notarized. A copy of this submittal shall be conspicuously posted at the site.

7.12.3 Said rates shall in no case be less than those set out in the Davis-Bacon wage schedule a copy of which is herein bound or is on file with the Owner if it is required.

7.12.4 The Contractor shall provide (and require each Subcontractor to provide) weekly payroll records listing employees engaged in work on the site for the week and the hourly rates for base pay and benefits paid to each employee listed. The payroll record form shall include a statement by the Contractor/Subcontractor certifying the accuracy and completeness of the information provided. Payroll records shall be maintained by the Contractor during the course of the Work until the end of the required warranty period.

7.13 Out-of-State Contractors

7.13.1 Proof of payment by Out-of-State Contractors of Indiana Gross Income Tax, as provided in IC. 6-2.1-5-1.1 (b) and 6-2.1-5-1.1 (a) (d) as amended shall be submitted before final payment will be approved.

7.13.2 Out-of-State Corporations must be authorized to do business in the State, IC. Title 23 prior to submitting bids. Forms may be obtained by contacting the Secretary of State, State of Indiana, Indianapolis, Indiana.

7.14 Material Delivery

7.14.1 Shipments of material to be used by the Contractor or any Subcontractor under this Contract should be delivered to the job site only during the regular working hours of the Contractor or Subcontractor. If a delivery is made during other than the normal working hours of the Contractor or Subcontractor, his authorized agent must be on duty to receive such material. No employee of the Owner is authorized to receive any shipments designated for the Contractor or Subcontractor.

7.15 Weather

7.15.1 The Contractor shall at all times provide protection against weather, rain, wind, storms, frost or heat, so as to maintain all work, materials, apparatus and fixtures free from injury or damage. At the end of the day's work, all new work likely to be damaged shall be covered.

7.15.2 During cold weather, the Contractor shall protect all work from damage. If low temperature makes it impossible to continue operations safely, in spite of cold weather precaution, the Contractor shall cease work and shall so notify the Owner and Designer.

7.15.3 Any work damaged by failure to provide protection above required, shall be removed and replaced with new work at the Contractor's expense.

7.15.4 The Contractor shall provide and maintain on the premises, where directed, watertight storage shed (or sheds) for storage of all materials, which might be damaged by exposure to weather.

7.16 Fire Hazards

7.16.1 Wherever and whenever any burning, welding, cutting or soldering operation is in progress, or equipment is in use, or any work involving a fire hazard, is performed, the Contractor responsible for such operation shall have at all times acceptable fire extinguisher or protection within five (5) feet of the operation.

7.17 Dismissal

7.17.1 Any foreman or workman employed by the Contractor or by any Subcontractor who, in the opinion of the Director, Public Works Division and/or the Designer, does not perform his work in a proper and skillful manner, or is disrespectful, intemperate, disorderly, intoxicated or otherwise objectionable shall at the written request of either of the above, be forthwith discharged by the Contractor or Subcontractor employing such foreman or workman and he shall not be employed again on any portion of the Work without the written consent of the Director of the Division of Public Works and the Designer. Should the Contractor fail to furnish suitable and sufficient machinery, equipment or personnel for the proper prosecution of the Work, the Owner or Designer may withhold all payments that are or may become due, or may suspend the Work until such orders are upheld.

ARTICLE 8 TIME

8.1 Definitions

8.1.1 Unless otherwise provided, the Contract Time is the period of time allotted in the Contract Documents for Substantial Completion of the Work as defined herein, including authorized adjustments thereto.

8.1.2 The date of commencement of the Work is the date established in a notice to proceed. If there is no notice to proceed, it shall be the date of the Governor's signature on the Owner-Contractor Agreement or such other date as may be established therein.

8.1.3 The Date of Substantial Completion of the Work, or designated portion thereof, is the date certified by the Director, Public Works Division when construction is sufficiently complete, in accordance with the Contract Documents, so the Owner may occupy or utilize the Work, or designated portion thereof, for the use for which it is intended.

8.1.4 The term day as used in the Contract Documents shall mean calendar day unless otherwise specifically designated.

8.2 Progress and Completion

8.2.1 All time limits stated in the Documents are of the essence of the Contract.

8.2.2 The Contractor shall begin the Work on the date of commencement as defined herein. He shall carry the Work forward expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

8.2.3 The Owner fully expects the Contractor to employ any and all means necessary to complete the Work within the Contract Time. Conduct of the Owner's affairs, such as unforeseen site conditions or delay in processing change orders, shall not be viewed as justification for delaying the Project unless the Owner can be shown to have breached the Contract. Contractor must employ all reasonable means to execute the Project in a timely manner and in conformance with the Contract Documents even if the Contractor or Designer seeks legal remedy against the Owner for claim of damage.

8.3 Delays and Extensions of Time

8.3.1 If the Contractor is delayed at any time in the progress of the Work by any act or neglect of the Owner or the Designer, or by any employee of either, or by any separate Contractor employed by the Owner, or by changes ordered in the Work, or by labor disputes, fire, unusual delay in transportation, adverse weather conditions not reasonable to anticipate, unavoidable casualties, or

any causes beyond the Contractor's control, or by delay authorized by the Owner pending arbitration, or by any other cause which the Designer determines may justify the delay, then the Contract Time shall be extended by a Change Order for such reasonable time as the Designer may determine.

8.3.2 Claims for extension of time shall be made in writing to the Designer. In case of a continuing delay only one claim is necessary. The Contractor shall provide an estimate of the probable effect of such delay on the progress of the Work.

8.3.3 If no agreement is made stating the dates upon which interpretations as provided in Article 2.2 shall be furnished, then no claim for delay shall be allowed on account of failure to furnish such interpretations until fifteen days after written request is made for them, and not unless such claim is reasonable.

8.3.4 This Paragraph 8.3 does not exclude the recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

9.1 Contract Sum

9.1.1 The Contract Sum is the total amount payable by the Owner for the performance of the Work under the Contract Documents.

9.2 Schedule of Values

9.2.1 Before the first application for payment, the Contractor shall submit to the Owner a schedule of various parts of the Work, including quantities if required by the Owner, aggregating the total Contract Sum, divided so as to facilitate payments to Subcontractors in accordance with Article 5.3, made out in such form as the Owner and the Contractor may agree upon, and supported by such data to substantiate its correctness as the Owner may require. Each item in the Schedule of Values shall include its proper share of overhead, profit, and other general charges. This schedule, when approved by the Owner, shall be used as a basis for the Contractor's Applications for Progress and Final Payments.

9.3 Progress Payments

9.3.1 Completed work: The Contractor shall submit to the Designer an itemized Application for Payment, supported by such data substantiating the Contractor's right to payment as the Designer may direct. The Owner shall make payments on account of the Contract, upon issuance of Certificates of Payment certified by the Designer and the Owner's Representative, for labor and materials incorporated into the Work at the rate of ninety four (94%) percent of such value until fifty (50%) percent of the value of the Work is completed. After that fifty (50%) percent, no further retainage will be deducted. The Director, Public Works Division has the option to require that three (3%) percent of the value of the Work be retained throughout the duration of the entire Contract. The retainage schedule shall be determined prior to award of Contract. Retainage may be paid with final payment at the discretion of the Director, Public Works Division, but shall not be paid in any event until a minimum of sixty one (61) days after all work is completed.

9.3.2 Materials Stored: Payments may be made on account for materials or equipment not incorporated in the Work, but delivered and suitably stored at the site. With written approval of the Owner, materials may be stored at another location other than the Work site if properly identified as the property of the Owner and properly protected. Storage of material at the place of business of the vendor is not acceptable (25 IAC 2-9-2). Such payments shall be conditional upon the submission by the Contractor of one of the following: 1) receipts marked by the supplier as paid; 2) supplier's final waiver of lien listing specific materials involved; 3) invoice with copy of canceled check showing payment; or 4) such other evidence of payment as the Owner may require in lieu thereof to establish ownership of all items except those listed as miscellaneous materials below. For the aggregate of miscellaneous stored materials for which payment is requested and above proof of payment is not available, a complete list will be provided along with the affidavit of payment. Upon certification by the Owner's representative that the listed materials are suitably stored, payment can be made. Miscellaneous materials are defined as pipe, fittings, wire, conduit, etc., normally stored as stock items in Contractor's warehouse. For materials stored other than at the construction site applicable insurance and transportation to the site shall be provided by the Contractor.

9.3.3 As stored materials are incorporated into the Work, the value shall be removed from the total value of stored materials requested in successive payments. Proof of ownership through one of the above methods will be required for additional materials. When, in the judgment of the Owner, retainage for completed work is not sufficient in relation to excessive amounts requested for stored materials or equipment, the Owner may elect to place the retainage for such materials or equipment in escrow. This retainage shall apply as a credit toward retainage due to be held for completed work on future payments.

9.3.4 The Contractor warrants that title to all work, materials and equipment covered by an Application for Payment will pass to the Owner either by incorporation in the construction or upon the receipt by the Contractor of payment, whichever occurs first, free and clear of all liens, claims, security interest or encumbrances, hereinafter referred to in this Article 9 as "liens"; and that no Work, materials or equipment covered by an Application for Payment will have been acquired by the Contractor, or by any other person performing work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest

therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person.

9.3.5 The Contractor shall accompany each application for payment request with a certification that he paid to all Subcontractors (fabricators) within ten (10) days of receipt of payment that pro rata amount of funds he has received from the Owner for the value of work or services (fabricated materials or equipment) performed by the Subcontractor (supplied by fabricator) contained in previous progress payments. The Contractor's inclusion of a value of subcontract work in his progress pay estimate is prima facie evidence of acceptance of work having such a value; therefore, if the Owner receives a certification from a Subcontractor that he has not been paid such amounts as were included in the Contractor's partial billing and subsequently paid to the Contractor by the Owner, then the Owner will hold all subsequent partial payment requests until satisfactory evidence is received from the Subcontractor that he has been paid such amounts presented to the Owner by the Contractor, paid to the Contractor by the Owner, and not distributed by the Contractor to the Subcontractor. The making of an incorrect certification of either partial payment or final payment may be considered by the Owner to be a breach of contract, and it may exercise all of its prerogatives set out in the Contract in addition to the remedies for falsifying an affidavit. Such an action could result in a suspension of qualification with the State Certification Board for a period of up to two (2) years.

9.4 Certificates for Payment

9.4.1 When the Contractor has made application for payment as above, the Designer will issue a Certificate of Payment to the Owner for such amount as he determines to be properly due, or state in writing his reasons for withholding a certificate as provided in Articles 9.5.1.

9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Designer to the Owner, based on the Designer's observations at the site as provided in Article 2.2.4 and the data comprising the Application for Payment, that the Work has progressed to the point indicated, and that, to the best of his knowledge, information and belief, the quality of work is in accordance with the Contract Documents subject to an evaluation of the Work as a functioning whole upon substantial completion, to the results of any subsequent tests called for in the Contract documents, to minor deviations correctable prior to the next certificate for payment and to any specific qualifications stated in his certificate, and that the Contractor is entitled to payment in the amount certified.

9.4.3 The Designer's final Certificate for Payment will constitute a further representation that the conditions precedent to the Contractor's being entitled to final payment as set forth in Article 9.7 have been fulfilled. However, by issuing a Certificate, the Designer shall not thereby be deemed to represent that he has made any examination to ascertain how or for what purpose the Contractor has used the monies paid on account of the Contract Sum.

9.4.4 The Owner shall make payment as soon as the fiscal procedure of the State can process same after receipt from the Designer of the Certificate for Payment. The fiscal procedure by the State can include, but not be limited to, review by the Owner's using agency, verification of the Certificate by the Owner's Site Representative, review for accuracy of form and calculation by the Owner's accountant, review by the Owner's project management and execution by the Director, Public Works Division and others.

9.4.5 No certificate for a progress payment or progress payment for partial or entire occupancy of the Project by the Owner shall constitute an acceptance of work not in accordance with the Contract Documents.

9.4.6 Pursuant to IC. 4-13.6-7-2 all Contract awards of One Million Dollars (\$1,000,000) or above, if elected by the Contractor, an escrow agent will be selected by the State with whom the retainage funds for this Contract will be deposited and held until receipt of notice from the Director, Public Works Division (Escrow Form DAPW 32A) and from all other necessary parties as specified in and in accordance with the procedures and provisions of said Act.

9.5 Payments Withheld

9.5.1 The Designer (or Owner) will not approve an application in whole or in part, if in his opinion, he is unable to make representations to the Owner as provided in Article 9.4. The Designer (or Owner) will not approve Application for Payment or, because of subsequent inspections, may nullify the whole or any part of the Certificate for Payment previously issued to such extent as may be necessary in his opinion to protect the Owner from loss because of:

- A. defective work not remedied,
- B. claim filed or reasonable evidence indicating probable filing of claims,
- C. failure of the Contractor to make payments properly to Subcontractors or for materials, equipment or labor,
- D. reasonable doubt that the Contract can be completed for the unpaid balance,
- E. damage to another Contractor,
- F. reasonable indication that the Owner may be damaged by delay in receiving use of the Work as scheduled, or,
- G. unsatisfactory prosecution of the Work by the Contractor.

9.5.2 When the above grounds are removed, payment shall be processed for amounts withheld.

9.6 Failure of Payment

9.6.1 If the Designer should fail to issue any Certificate for Payment, through no fault of the Contractor, or if the Owner should fail to pay the Contractor in a reasonable time considering the fiscal procedures of the State for processing same after receipt from the Designer the amount certified by the Designer, then the Contractor may, after seven (7) additional days, give written notice to the Owner and Designer, that work will stop until payment of the amount owing has been received.

9.7 Substantial Completion and Final Payment

9.7.1 When advised by the Contractor that the Work or a designated portion thereof is substantially complete, the Designer; the Director, Public Works Division, and the Contractor shall determine jointly by inspection that the Work is substantially complete. If they determine that the Work is substantially complete, the Contractor shall then prepare a Certificate of Substantial Completion with an accompanying list of incomplete items of work (punch list), and submit it to the Designer for his signature and subsequent forwarding for approval by the Director, Public Works Division. The Certificate shall fix the date of Substantial Completion and shall state the responsibilities of the Owner and the Contractor for maintenance, heat, utilities and insurance.

9.7.2 Upon approval of the above, and notice that the Work is ready for final acceptance, the Designer, the Contractor and Owner will promptly make final review, and when they find the Work acceptable under the Contract and the Contract fully performed, the Contractor shall promptly submit the final Certificate for Payment with all other required documents, showing that the Work has been completed in accordance with the terms and conditions of the Contract, and that the entire balance in said final certificate, is due and payable.

9.7.3 Neither the final payment nor any part of the retained percentage shall become due until the Contractor shall submit to the Designer releases or waivers of all liens arising out of the Contract; an affidavit that the releases and waivers include all the labor, materials, and equipment for which a lien could be filed and that all payrolls, material bills, and other indebtedness connected with the Work for which the Owner or its property might in any way be responsible have been paid or otherwise satisfied; and such other data establishing payment or satisfaction of all such obligations as the Owner may require. If any such lien or claim remains unpaid, the Contractor shall refund to the Owner all monies that the latter may be compelled to pay in discharging such lien or claim, including all costs.

9.7.4 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor, and the Designer so confirms, the Owner shall, upon certification by the Designer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted, or such portion as may be available from funds not already released to an escrow agent pursuant to IC 4-13.6-7. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

9.7.5 The making of final payment shall constitute a waiver of all claims by the Owner except those arising from:

- A. unsettled liens,
- B. faulty work appearing after Substantial Completion,
- C. failure of the Work to comply with the requirements of the Contract Documents,
- D. terms of any special guarantees required by the Contract Documents.

9.7.6 If upon Substantial Completion of the Work there are any remaining uncompleted minor items, the Owner shall withhold, until those items are completed, an amount equal to two hundred percent (200%) of the value of each item as determined by the Designer or Owner.

9.7.7 The acceptance of final payment shall constitute a waiver of all claims by the Contractor, except those previously made in writing and still unsettled and covered by other agreed arrangements.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

10.1 Safety Precautions and Programs

10.1.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work.

10.2 Safety of Person and Property

10.2.1 The Contractor shall take all necessary precautions for the safety of, and will provide all necessary protection to prevent damage, injury, or loss to:

- A. all employees on the Project and all other persons who may be affected thereby,
- B. all the Work and all materials and equipment to be incorporated therein, whether in storage on or off the site, and,
- C. other property at the site or adjacent thereto, including trees, shrubs, lawns, pavements, roadways, structures and

utilities not designated for removal, relocation or replacement in the course of construction.

10.2.2 The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury, or loss. He shall erect and maintain, as required by the conditions and progress of the Work, all necessary safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations, and notifying owners and users of adjacent utilities.

10.2.3 All damage or loss to all property specified herein caused directly or indirectly, in whole or in part, by the Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, shall be remedied by the Contractor, except damage or loss attributable solely to faulty Contract Documents or to the acts or omissions of the Owner, or Designer or their employees, or for those whose acts either of them may be liable.

10.2.4 The Contractor shall designate a responsible member of his organization on the Work whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent, unless otherwise designated in writing by the Contractor to the Owner and the Designer.

10.2.5 When the use or storage of explosives or other hazardous materials or equipment is necessary for the prosecution of the Work, the Contractor shall carry on such activities under the supervision of properly qualified personnel.

10.2.6 The Contractor shall not overload, or permit any part of the Work to be loaded so as to endanger its safety.

10.2.7 All excavations creating a trench of five (5) or more feet in depth shall strictly adhere to the shoring and other safety requirements called for and described under Indiana OSHA Regulation 29 C.F.R. 1926, Subpart "P", for trench safety systems.

10.3 Emergencies

10.3.1 In an emergency affecting the safety of persons or property, the Contractor shall act, at his discretion, to prevent threatened damage, injury or loss. Any additional compensation or extension of time claimed by the Contractor because of emergency work shall be determined as provided for in Article 12, Changes in the Work, and he shall notify the Owner of such a decision within seven (7) days of the event giving rise to such claim.

ARTICLE 11 INSURANCE

11.1 General Requirements for Insurance

11.1.1 The Contractor will be required to furnish to the Owner, evidence that he has complied with all items of insurance listed herein. All insurance policies/certificates shall be on file with the Owner prior to release of the signed Contract and commencement of work.

11.1.2 The Contractor shall purchase and maintain, with a company or companies licensed to do business in Indiana, such insurance as will protect him from claims set forth below, arising out of or resulting from the Contractor's operations under the Contract, whether such operations be by the Contractor or by any Subcontractor or by anyone directly or indirectly employed by any of them:

- A. claims under Workmen's Compensation Acts and other employee benefit acts;
- B. claims for damages because of bodily injury, personal injury, occupational sickness or disease, or death of his employees;
- C. claims for damages because of bodily injury, personal injury, sickness, disease or death of any person other than his employees;
- D. claims for damages to tangible property, including loss of use thereof.

11.1.3 This insurance shall be written for not less than any limits of liability specified herein, or required by law, whichever is greater. Policies or certificates of insurance, acceptable to the Owner, shall be filed with the Owner prior to execution of the Contract. These Certificates shall contain a provision that coverages afforded under the policies will be for the life of the Work.

11.1.4 Policies (certificates) shall show name and complete address of the Company, expiration date or dates, and policy number or numbers. Policies shall not be canceled until at least thirty (30) days prior written notice has been given to the Owner and acknowledged by the Owner in writing.

11.2 Property Insurance

11.2.1 The Contractor shall furnish and maintain, at the Contractor's expense, Fire, Extended Coverage, Vandalism, and Malicious Mischief Insurance (Builder's Risk), in the sum of 100% of the Contract amount. Builder's Risk insurance shall cover the structure on/in which the Work of this Contract is to be done including items of labor and material connected therewith, whether in or adjacent to the structure insured; material in place or to be used as part of the permanent construction, including surplus materials; shanties, protective fences, bridges, or temporary structures; miscellaneous materials and supplies incident to the Work; scaffolding, staging, towers, forms, and equipment, if included in the cost of the Work. This insurance need not cover any tools owned by mechanics, or any tools, equipment, scaffolding, staging, towers, and forms owned or rented by the Contractor, the capital value of which is not included in the cost of the Work.

11.2.3 Any loss under this Article 11.2 is to be adjusted with the Owner, and made payable to the Owner as trustee for the insured, as their interests may appear.

11.3 Liability Insurance

11.3.1 The Contractor and their subcontractors (if any) shall secure and keep in force during the term of this Contract the following insurance coverages (if applicable) covering the Contractor for any and all claims of any nature which may in any manner arise out of or result from Contractor's performance under this Contract:

- A. Commercial general liability, including contractual coverage, and products or completed operations coverage (if applicable), with minimum liability limits not less than \$700,000 per person and \$5,000,000 per occurrence unless additional coverage is required by the State. The State is to be named as an additional insured on a primary, non-contributory basis for any liability arising directly or indirectly under or in connection with this Contract.
- B. Automobile liability for owned, non-owned and hired autos with minimum liability limits of \$700,000 per person and \$5,000,000 per occurrence. The State is to be named as an additional insured on a primary, non-contributory basis.
- C. The Contractor shall provide proof of such insurance coverage by tendering to the undersigned State representative a certificate of insurance prior to the commencement of this Contract and proof of workers' compensation coverage meeting all statutory requirements of IC §22-3-2. In addition, proof of an "all states endorsement" covering claims occurring outside the State is required if any of the services provided under this Contract involve work outside of Indiana.
- D. The Contractor's insurance coverage must meet the following additional requirements:
 - 1. The insurer must have a certificate of authority or other appropriate authorization to operate in the state in which the policy was issued.
 - 2. Any deductible or self-insured retention amount or other similar obligation under the insurance policies shall be the sole obligation of the Contractor.
 - 3. The State will be defended, indemnified and held harmless to the full extent of any coverage actually secured by the Contractor in excess of the minimum requirements set forth above. The duty to indemnify the State under this Contract shall not be limited by the insurance required in this Contract.
 - 4. The insurance required in this Contract, through a policy or endorsement(s), shall include a provision that the policy and endorsements may not be canceled or modified without thirty (30) days' prior written notice to the undersigned State agency.
 - 5. The Contractor waives and agrees to require their insurer to waive their rights of subrogation against the State of Indiana.
- E. Failure to provide insurance as required in this Contract may be deemed a material breach of contract entitling the State to immediately terminate this Contract. The Contractor shall furnish a certificate of insurance and all endorsements to the State before the commencement of this Contract.
- F. Boiler and Machinery Explosion Insurance shall be required when the Work includes boiler, other pressure

vessels or steam piping installation or repair.

- G. After June 30, 2015, this entire Article will apply to any contractor that will be on the construction site pursuant to IC 5-16-13 and an acceptable certificate of insurance will be provided by each and every contractor

ARTICLE 12 CHANGES IN THE WORK

12.1 Change Orders

12.1.1 The Owner, without invalidating the Contract, may order changes in the Work consisting of additions, deletions, or modifications, with the Contract Sum and the Contract Time being adjusted accordingly. All such changes in the Work shall be authorized by Change Order, and shall be executed under the applicable conditions of the Contract Documents.

12.1.2 A Change Order is a written order to the Contractor compiled and reviewed by the Designer, prepared by the Owner and then signed by the Owner and the Contractor. The order is issued after the execution of the Contract authorizing a change in the Work, and documenting any adjustment in the Contract Sum and/or the Contract Time. The Contract Sum may be changed only by change order.

12.1.3 The value of any work involved in a change in the Work shall be determined in one or more of the following ways, in order of priority listed:

- A. by mutual acceptance of a lump sum. For all amounts over \$500, the Contractor shall provide a complete listing of quantities and unit prices of materials, hours of labor with cost per hour, and separate agreed percentages for any overhead and profit. The maximum aggregate increase for overhead and profit (including all home office and field office overhead) for any Subcontractor or for the Contractor performing his own work is fifteen (15%) percent; the maximum increase for a Contractor on work performed by a Subcontractor is five (5%) percent. If the cost of performance and payment bond(s) is shown as a separate line item in the Contractor's schedule of values for the project, then an increase will be permitted to provide for the additional cost of the bond(s). If the cost of the bond(s) is not indicated on the Contractor's schedule of values for the Project, any increase in cost for bond(s) shall be included in the Contractor's allowed overhead. For listings under \$500, list lump sum for each item, or,
- B. by unit prices named in the Contract or subsequently agreed upon, or,
- C. by cost plus a mutually acceptable fixed or percentage fee.

12.1.4 Should conditions be encountered below the surface of the ground that are:

- A. at variance with the conditions indicated by the Contract Documents, and
- B. different than could be expected after a reasonable viewing of the site by the bidders, and
- C. not evident from available soil samples,

then the Contract sum may be equitably adjusted by Change Order upon claim by Contractor made within a reasonable time after the first observance of the conditions.

12.1.5 If the Contractor claims that a written interpretation issued pursuant to Article 1.2 or a written order for a minor change issued pursuant to Article 12.3 involves additional cost or time, the Contractor shall make such claim as provided in Article 12.2.

12.2 Claims for Additional Cost or Time

12.2.1 If the Contractor wishes to make a claim under the provisions of the Contract Documents for an increase in the Contract Sum or an extension in the Contract Time, he shall give the Designer written notice thereof within fifteen (15) days after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor and authority received in writing from the Owner before proceeding to execute the Work, except in an emergency endangering life or property. No such claim shall be valid unless so made. Any approved change in the Contract Sum or Contract Time resulting from such claim shall be incorporated in a Change Order, initiated by the Designer and executed by the Owner. If the Designer does not initiate or the Owner execute a Change Order within a reasonable time in response to the request, such lack of action shall be construed as prima facie evidence of rejection of the request. For the purpose of this section "reasonable time" is expected not to exceed 30 days after receipt by the Owner.

12.3 Minor Changes in the Work

12.3.1 The Designer shall have authority, with Owner's approval, to order minor changes in the Work not involving an increase in the Contract Sum or an extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such change may be affected by written field order, with copy transmitted to the Owner. Such minor changes need not be approved in writing by the Owner; however, the Owner may provide written approval of any substitution of significant materials or equipment.

12.4 Field Orders

12.4.1 The Designer may issue written field orders, which interpret the Contract Documents in accordance with Article 1.2.4 without change in Contract Sum or Contract Time. The Contractor shall carry out such field orders promptly. The Designer shall

transmit copies of field orders to the Owner.

ARTICLE 13 EXAMINATION AND CORRECTION OF WORK

13.1 Examination of Work

13.1.1 If any portion of the Work should be covered contrary to the request of the Designer or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Designer, be uncovered for his observation and shall be replaced at the Contractor's expense.

13.1.2 Examination of questioned work may be ordered by the Designer with the approval of the Owner, and if so ordered the Work must be uncovered by the Contractor. If such work were found in accordance with the Contract Documents, the cost of re-examination and replacement shall, by appropriate change order, be charged to the Owner. If such work be found not in accordance with the Contract Documents, the Contractor shall pay such costs, unless it is found that the defect in the Work was caused by a separate Contractor employed as provided in Article 6 and in that event, the separate Contractor shall pay such costs.

13.2 Correction of Work before Substantial Completion

13.2.1 The Contractor shall promptly remove from the site all work rejected by the Designer as failing to conform to the Contract Documents, whether or not incorporated in the Project, and the Contractor shall promptly replace and re-execute his own work in accordance with the Contract Documents and without cost to the Owner and shall bear the cost of repair to or replacement of all work of separate Contractors destroyed or damaged by such removal or replacement.

13.2.2 If the Contractor does not remove such rejected work within a reasonable time, fixed by written notice from the Designer, the Owner may remove and store the material at the expense of the Contractor. If the Contractor does not agree to pay or credit the Contract with the cost of such removal within ten days thereafter, the Owner may acquire a lien upon such property and materials. If proceeds of lien foreclosure do not cover all costs, which the Owner has then borne, the difference shall be deducted from the amount to be paid to the Contractor.

13.3 Correction of Work after Substantial Completion

13.3.1 The Contractor shall correct all faults and deficiencies in the Work which appear within one year of the date of substantial completion or such longer period of time as may be prescribed by the terms of any special guarantees called for by the Contract Documents, and he shall pay for all damage to other work caused thereby. The Contractor shall remove all defective work where necessary.

13.3.2 If the Contractor does not correct such faulty or defective work and remove defective work where necessary, within a reasonable time fixed by the Designer in writing, the Owner may do the corrective work and remove the defective work, as described in Article 13.2 above.

13.3.3 All costs attributable to correcting and removing faulty or defective work shall be borne by the Contractor.

13.3.4 The obligations of the Contractor under this Article 13.3 shall be in addition to and not a limitation of any obligations imposed upon him by special guarantees called for by the Contract Documents or otherwise prescribed by law.

ARTICLE 14 TERMINATION OF THE CONTRACT

14.1 Termination by the Contractor

14.1.1 If the Work is stopped for a period of thirty days under an order of any court or other public authority through no act of fault of the Contractor or of anyone employed by the Contractor, or if the Work should be stopped for a period of thirty days by the Contractor for the Designer's failure to issue a Certificate for payment as provided in Article 9.6, or for the Owner's failure to make payment thereon as provided in said Article, then the Contractor may, upon seven days' written notice to the Owner and the Designer, terminate the Contract and recover from the Owner, in satisfaction of all claims of the Contractor, payment for all work executed, except those items involved in Designer's failure to issue Certificate, or Owner's failure to make payment.

14.2 Termination by the Owner

14.2.1 If the Contractor should be adjudged bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he should persistently or repeatedly refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials, or if he should fail to make prompt payment to Subcontractors for materials or labor, or persistently disregard laws, ordinances, rules, regulations or orders of any public authority or otherwise be guilty of a substantial violation of a provision of the Contract Documents, then the Owner, upon certification by the Designer that sufficient cause exists to justify such action, may without prejudice to any right or remedy against the Contractor or his surety and after giving the Contractor and his surety seven days written notice, terminate the employment of the Contractor and take possession of the site and of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor and finish the Work by whatever method the Owner

deems expedient. In such case the Contractor shall not be entitled to receive any further payment until the Work is completed, and an accounting made as set out below.

14.2.2 If the unpaid balance of the Contract sum exceeds the cost of finishing the Work, including compensation for the Designer's additional services such excess shall be paid to the Contractor. If such cost exceeds such unpaid balance, the Contractor shall pay the difference to the Owner. The Designer shall certify the cost incurred by the Owner as herein provided.

END

Indiana Department of Administration

M/WBE Participation Policy for Construction Projects

I. Introduction

The Indiana Department of Administration ("IDOA") in its commitment to Minority and Women participation in the state's procurement and contracting process, will require MBE and WBE participation or a best-efforts waiver as a specification in bids for construction services \$150,000 and over with subcontracting opportunities effective January 1, 2006. See Indiana Code 5-22-7, 5-22-7-2, 5-22-7-4.

II. Definitions

"Application for MBE and WBE Program Waiver" means documents submitted by Bidder for relief from contract goal after demonstrating all reasonable good faith efforts were made by the Bidder for the purpose of fulfilling the contract goal. The Application for MBE and WBE Program Waiver may be submitted prior to the bid due date or included in the bid package response.

"Certification" means verification by the Indiana Department of Administration, Minority and Women's Business Enterprises Division ("MWBED") or an organization accepted by MWBED with respect to the authenticity of a minority or women owned business enterprise.

"Commercially useful function" Determination that an enterprise performs a commercially useful function will be made based on the following considerations:

(1) An MBE or a WBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the MBE or WBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. To determine whether an MBE or a WBE is performing a commercially useful function, one must evaluate the following:

- (A) The amount of work subcontracted.
- (B) Industry practices.
- (C) Whether the amount the enterprise is to be paid under the contract is commensurate with the work it is actually performing.
- (D) The credit claimed for its performance of the work.
- (E) Other relevant factors.

(2) An MBE or a WBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of MBE or WBE participation. In determining whether an MBE or a WBE is such an extra participant, one must examine similar transactions, particularly those in which MBEs or WBEs do not participate.

(3) In the case of construction contracts, if:

- (A) an MBE or a WBE does not perform or exercise responsibility for at least the agency's requisite percent of the total cost of its contract with its own workforce; or
- (B) the MBE or WBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved;

it is presumed that the enterprise is not performing a commercially useful function.

“Letter of Commitment” means a letter obtained from the MBE and WBE’s by the Bidders. The Letter of Commitment is a signed letter(s), on company letterhead, from the minority and/or women certified business. It must be produced no later than 24 hours after the bid due date and time. This letter(s) shall state and will serve as acknowledgement from the minority and/or women certified business of their level of participation in this solicitation, the dollar amount of the commitment, the scope of service or product to be provided and the anticipated dates of utilization.

“Minority and Women Business Enterprises Division (MWBED)” means the Division which acts on behalf of the state to actively promote, monitor, and enforce the MBE AND WBE program. The final authority on all matters pertaining to the maintenance and administration of the MBE AND WBE program and compliance thereto.

“Minority/Woman Business Enterprise (MBE and WBE)” means an individual, partnership, corporation, limited liability company, or joint venture of any kind that is at least fifty-one percent (51%) owned and controlled by one (1) or more persons who are United States citizens and a member(s) of a minority group. The MBE and WBE must meet the eligibility requirements of 25 IAC 5.

“Participation Plan” means the IDOA prescribed document that sets forth the MBE and WBE subcontractors that will perform work under the contract.

III. Minority and Women Business Enterprise Certification

MBE and WBEs must be listed on the IDOA directory of certified firms at the time the bid is submitted to be eligible to meet the contract goals. The bidder should verify that a firm is certified before the bid is submitted.

Questions regarding Certification should be addressed to the following:

Indiana Department of Administration
Minority and Women's Business Enterprises Division
402 West Washington Street, Room W469
Indianapolis, IN 46204
(317) 232-3061
www.buyindiana.in.gov
mwbe@idoa.in.gov

IV. Bidding Process

IDOA will review projects for viable subcontracting opportunities. All projects will be governed by this policy unless otherwise stated.

A representative from MWBED will attend most pre-bid meetings to discuss and answer questions related to the MBE and WBE participation requirement. The MWBED will be available to assist Bidders in locating MBE and WBE firms to engage in the contract.

The 2007-2008 Contract Goals for construction projects are 7% for MBE’s and 5% for WBE’s.

Effective January 1, 2006, the following procedures will be implemented in the acceptance and evaluation of responsive and responsible bids.

Bidders must produce a Participation Plan on the approved form listing the utilization of MBE and WBE subcontractors who will be providing a commercially useful function on the project. Letter of Commitment from MBE and WBE firms they plan to engage in the contract if successful on the bid

Per 25 IAC 5-6-2(d), all prime contractors, including MBE and WBE prime contractors, must meet the sub-contracting goals through use of businesses found in the IDOA directory of certified firms. MBE and WBE prime contractors will get no credit toward the contract goal for the use of their own workforce.

If the bidder can not achieve the Contract Goals established for the bid package, the bidder shall submit a Waiver Application on the form supplied by MWBED. Bidders may submit waiver applications to MWBED up to two business days in advance of the bid due date to obtain advance approval of the waiver, or the application may be submitted without advance approval with the bid package. Bidders who submit a Participation Plan that will achieve the Contract Goals are not required to submit a Waiver Application.

If a partial waiver is being requested, a Participation Plan listing the MBE and WBE certified firms that will be used to satisfy the portion of the goal that will be met, must be included. Partial waivers may be requested using the waiver application process discussed above. A faxed copy of the Letter of Commitment for each MBE and WBE firm that is listed in the Participation Plan must be provided by the Low Bidder to the appropriate department no later than 24 hours after the bid due date and time. The original letter(s) must be provided upon receipt.

MWBED will review Applications for MBE and WBE Program Waivers and make a determination as to the bidder's responsiveness and good faith efforts. Evidence of efforts should be included with the waiver form. Any combination of the following criteria may be utilized in determining whether good faith efforts have been made:

- A. Notice to MBE and WBEs. Whether and when the bidder provided written notice, by mail, hand delivery, facsimile or electronic transmission to all qualified MBE and WBEs that perform the type of work to be subcontracted and advising the MBE and WBEs:
 - 1. of the subject work the bidder intends to subcontract;
 - 2. that their interest in Subcontracts is being solicited;
 - 3. how to obtain information for the review and inspection of Contract plans and specifications; and
 - 4. how to bid on the subcontracting opportunities and deadlines.

- B. Economically Feasible Subcontract. Whether the bidder selected economically feasible portions of the work to be performed by an MBE and WBE, including, when appropriate, breaking Subcontracts into smaller pieces or combining elements of work into economically feasible units. The ability of the bidder to perform the work with its own forces will not excuse the bidder from making positive efforts to meet the MBE and WBE goals.

- C. Consideration of all MBE and WBE Quotations. Whether the bidder considered all quotations received from MBE and WBEs and, for those quotations not accepted, an explanation of why the MBE and WBE will not be used during the course of the Project. Receipt of a lower quotation from a non-MBE and WBE will not, in itself, excuse bidder's failure to meet the MBE and WBE goals. Price alone does not constitute an acceptable basis for rejecting MBE and WBE subcontractor bids unless the bidder can demonstrate that a reasonable price was not obtained from an MBE and WBE.
- D. MBE and WBE Barrier Assistance. Whether the bidder provided assistance to interested MBE and WBE firms: in reviewing the Contract plans and specifications or addressing other barriers to subcontracting.
- E. Advertisement. Whether the bidder advertised to search for prospective MBE and WBEs to participate in the Contract.
- F. Agency Assistance. Whether the bidder contacted any of the following agencies for the purpose of locating prospective MBE and WBEs:
1. Indiana Department of Administration
Minority and Women's Business Enterprises Division
402 West Washington Street, Room W469
Indianapolis, IN 46204
(317) 232-3061
mwbe@idoa.in.gov
 2. Indiana Business Diversity Council, Inc.
2126 North Meridian Street
Indianapolis, IN 46202
(317) 921-2678
mdhouse@inbdc.org
- G. Research Participation Areas. Whether the bidder made efforts to research other possible areas of participation including supplying, shipping, engineering and any other role that may contribute to the production and delivery of the products or services needed to fulfill the Contract.
- H. Response Time. The time the bidder allowed for a meaningful response to its solicitations.
- I. Documentation of Statements from MBE and WBEs. Any documentation or statements received from MBE and WBEs who have been listed as having been contacted by the bidder.
- J. Availability of MBE and WBEs. The availability of MBE and WBEs to perform the work and the availability, or lack of availability, of MBE and WBEs in the location where the work is to be performed.
- K. Other Criteria. Any other criteria deemed appropriate by MWBED.

This list is not intended to be exclusive or exhaustive. The bidder may also submit documentation of other types of efforts that they have taken which reflect the quality, quantity and intensity of those efforts.

When evaluating Waiver Applications, MWBED reserves the right to verify that any information supplied on the Participation Plan and Waiver Application is accurate. By the submittal of a bid, the bidder acknowledges the right of MWBED to ensure compliance with the Participation Program and thereby agrees to provide, upon request, earnest, diligent and prompt cooperation in MWBED's verification process.

In cases where MWBED concludes the bidder's Participation Plan and the Waiver Application is deficient through no fault of the bidder, the bidder may be instructed to submit a modified Participation Plan within five (5) working days from the date of such notice. Failure to submit the modified Participation Plan within the specified period of time, may result in the bid being considered non-responsive and may be rejected.

In cases where MWBED concludes that the Participation Plan and Waiver Application is deficient or in cases where MWBED has determined that the bidder has not cooperated with its efforts to verify the submitted documentation, a bid may be considered non-responsive and may be rejected.

If the established Contract Goals are not achieved but the Waiver Application is granted, the bid will be considered responsive. If the established Contract Goals are not achieved and the Waiver Application is denied, a bid may be considered non-responsive and may be rejected.

Failure to provide the Participation Plan and/or a Waiver Application accounting for the total participation goal set for the project will result in the bid being considered non-responsive and the bid may be rejected.

By submission of a bid, a bidder thereby acknowledges and agrees to be bound by the regulatory process set forth in 25 IAC 5.

A bidder who knowingly or intentionally misrepresents the truth about either the status of a firm that is being proposed as an MBE and WBE or who misrepresents the level or the nature of the amount to be subcontracted to the MBE and WBE may suffer penalties pursuant to Indiana Code 5-16-6.5-5.

A Contractor who knowingly or intentionally misrepresents the truth about his/her status as an MBE and WBE or who misrepresents the level or the nature of the amount subcontracted to his/her firm may suffer penalties pursuant to Indiana Code 35-44-2-1.

V. Compliance

Contractors shall contract with all MBE and WBE firms listed on the Participation Plan. The subcontract or purchase order shall be for an amount that is equal to, or greater than, the total dollar amount listed on the form.

Contractors shall notify MWBED immediately if any firm listed on the Participation Plan refuses to enter into a subcontract or fails to perform according to the requirements of the subcontract.

The Contractor's proposed MBE and WBE Contract Goals will become incorporated into and a requirement of the Contract. Contractors shall not substitute, replace or terminate any MBE and WBE firm without prior written authorization from MWBED and the Owner.

Contractors shall cooperate and participate in compliance reviews as determined necessary by MWBED. Contractors shall provide all necessary documentation to show proof of compliance with the requirements as requested by MWBED.

VI. Non Compliance

A bid governed by this policy that does not meet the participation goals or does not receive an approved waiver will NOT be considered.

After the bid is awarded and if it is determined by MWBED that the Contractor is not in compliance with this Participation Program, MWBED will notify the Contractor within ten (10) days after the initial compliance review or the site visit and identify the deficiencies found and the required corrective action that should be taken to remedy the deficiencies within a specific time period.

If a Contractor is found non-compliant, the Contractor must submit, in writing, a specific commitment, in writing, to correct the deficiencies. The commitment must include the precise action to be taken and the date for completion.

If MWBED determines the Contractor has failed to comply with the provisions of this Participation Program, Contractor's Utilization Statement or 25 IAC 5, IDOA may impose any or all of the following sanctions:

- a. Withholding payment on the Contract until such time that satisfactory corrective measures are made.
- b. Adjustment to payments due or the permanent withholding of retainages of the Contract.
- c. Suspension or termination of the specific Contract in which the deficiency is known to exist. In the event this sanction is employed, the Contractor will be held liable for any consequential damages arising from the suspension or termination of the Contract, including damages caused as a result of the delay or from increased prices incurred in securing the performance of the balance of the work by other Contractors.
- d. Recommendation to the certification board to revoke the contractor's certification status with the Public Works Division of IDOA. This recommendation may result in the suspension or revocation of the contractor's ability to perform on future state contracts for a period no longer than thirty-six (36) months.
- e. Continued non-compliance may be deemed a material breach of the agreement between MWBED and Contractor, whereupon MWBED shall have all the rights and remedies available to it under the Contract or at law.
- f. Suspension, revocation, or denial of the MBE or WBE certification and eligibility to participate in the MBE or WBE program for a period of not more than thirty-six (36) months.

VII. Forms and Attachments

Minority Participation Plan
Good Faith Efforts Worksheet

**STATE OF INDIANA'S
STANDARD CONTRACT FOR PUBLIC WORKS CONSTRUCTION PROJECT
(for projects estimated more than \$150,000)
WORKS PROJECTNUMBER XXXXX
[INSERT] PROJECT DESCRIPTION
[INSERT] INSTITUTION/DEPARTMENT**

THIS IS A PUBLIC WORKS CONSTRUCTION CONTRACT ("Contract"), entered into by and between the Indiana Department of Administration's Public Works Division ("State") and XXXXXXXXXXXX ("Contractor"), executed pursuant to the terms and conditions set forth herein and is governed by Indiana Code 4-13.6, *et seq.*

1. Definitions. The following definition applies throughout this Contract:

For purposes of the State's Public Works Project Number XXXXX ("Project"), the term "Contract Documents" shall mean and include the following: this Contract and the Project Bid Package, which includes the Contractor's Application for Pre-Qualification, the Public Work's Solicitation for Quotation (DAPW 30), Bid Documentation, Pre-Contract Document, General Conditions (DAPW 26), Supplementary Conditions, Instructions to Bidders, Drawings, Specifications, and Addenda issued by the State in connection with the Project and prior to the submission of the Contractor's Proposal.

Subject to Section 39, *Order of Precedence, Incorporation by Reference*, of this Contract, Contract Documents shall also consist of the Contractor's Proposal and Response, as well as any other documentation submitted by it in response to the Project (hereinafter collectively referred to as "Contractor's Proposal").

Additionally, Contract Documents shall include any subsequent amendments, change orders and any written interpretations issued as field orders by the Designer pursuant to General Conditions, Article 1.2 (DAPW 26) and all field orders for minor changes by the Designer pursuant to General Conditions, Article 12.3 (DAPW 26). Change orders and amendments shall be executed in the manner authorized by Section 35, *Merger and Modification*, of this Contract.

When applicable, Contract Documents shall include the Performance Bond and/or the Labor and Materials Payment Bond, as required by IC 4-13.6-7-6 and IC 4-13.6-7-7, and fully described and captured in the General Conditions (DAPW 26).

The Contract Documents are specifically and collectively incorporated herein by reference.

2. Duties of Contractor. The Contractor shall furnish all labor and materials, perform all of the work, and otherwise fulfill all of its obligations in conformance with the Contract Documents. These duties are described and captured in the Contract Documents. The Contractor agrees that not less than fifteen percent (15%) of the work, measured in dollar volume, will be performed by its own forces. Any subcontractor employed for any part of this Contract awarded in excess of One Hundred Fifty Thousand Dollars (\$150,000.00) shall be qualified with the State of Indiana's Public Works Division Certification Board and shall have a valid Certificate of Qualification in the prime classification of work for this Contract.

3. Consideration. All payments provided herein are subject to appropriations made and funds allocated as provided by laws of the State of Indiana. The State shall pay the Contractor for performance of this Contract in current funds as follows:

BASE BID: \$XXXXXX.00
ALTERNATE(S):
TOTAL CONTRACT PRICE: \$XXXXXX.00

4. Term. The work to be performed under this Contract shall commence within ten (10) days of the last signatory to this Contract. The work shall be completed within XXX calendar days.

5. Conflict of Interest. As used in this section:

“Immediate family” means the spouse, partner, housemate or the unemancipated children of an individual, as defined by 42 Indiana Administrative Code 1-3-13.

“Interested party,” means:

1. The individual executing this Contract;
2. An individual who has an ownership interest of three percent (3%) or more of the Contractor, if the Contractor is not an individual; or
3. Any member of the immediate family of an individual specified under Subdivision 1 or 2.

“State” means the Indiana Department of Administration.

“State employee” means a state employee, a special state appointee or a state officer, as defined by IC 4-2-6-1(a)(9), (a)(18) and (a)(19), respectively.

- A. The Contractor covenants that it neither has, nor will it have, a direct or indirect financial interest by way of an interested party in any other contract connected or associated with this Contract. The Contractor further represents and warrants that no state employee, who is an interested party of the Contractor as sole proprietor, or who serves as an officer, director, trustee, partner or employee of the Contractor as a legal business entity, participated in any decision or vote of any kind in the award of this Contract. As such and by the execution of this Contract, the Contractor represents and warrants that the result of this Contract does not and will not create a conflict of interest under IC 4-2-6-9 or IC 4-2-6-10.5.
- B. The State may cancel this Contract, without recourse by the Contractor, if an interested party is a state employee and a violation of IC 4-2-6-9 or IC 4-2-6-10.5 has occurred.
- C. The State will not exercise its right of cancellation under Section B above, if the Contractor provides the State an opinion from the State Ethics Commission indicating that the existence of this Contract and the employment by the State of the interested party does not violate any statute or rule relating to ethical conduct of state employees. The State may take action, including cancellation of this Contract, consistent with an opinion of the State Ethics Commission obtained under this Section.
- D. The Contractor has an affirmative obligation under this Contract to disclose to the State when an interested party is or becomes a state employee. The obligation under this section extends only to those facts that the Contractor knows or reasonably should know.

6. Licensing Standards. The Contractor and its employees and subcontractors shall comply with all applicable licensing standards, certification standards, accrediting standards and any other laws, rules or regulations governing services to be provided by the Contractor pursuant to this Contract. The State shall not be required to pay the Contractor for any services performed when the Contractor, its employees or

subcontractors are not in compliance with such applicable standards, laws, rules or regulations. If licensure, certification or accreditation expires or is revoked, or if disciplinary action is taken against the applicable licensure, certification or accreditation, the Contractor shall notify the State immediately and the State, at its option, may immediately terminate this Contract.

7. Escrow Agreement. Contemporaneously with the execution of this Contract, the parties may provide for the escrow of retained portions of payments to the Contractor by entering into a separate Escrow Agreement, pursuant to IC 4-13.6-7, with an escrow agent described in IC 4-13.6-7-2(b). Should the Contractor elect to escrow retainage, the Escrow Agreement will become a part of this contract as if fully contained herein.

8. Contractor's Certification. The Contractor certifies that it has been pre-qualified by the State of Indiana's Public Works Division Certification Board to perform the work and furnish the services required by this Project. The Contractor further certifies that all information and documentation submitted by it in its Application for Prequalification Certification, the Contractor's Proposal and submitted in response to the Project, is true, accurate and complete as of the date of this Contract's effectiveness. The Contractor shall immediately notify the State of any material change to such information. The Contractor shall immediately notify the State if, during the course of performance of this Contract, it or any of its principals are proposed for debarment or ineligibility, or become debarred or declared ineligible, from entering into contracts with the federal government or any department, agency or political subdivision of the State.

9. Contractor Employee Drug Testing. Pursuant to IC 4-13-18, the Contractor shall implement the employee drug testing program submitted as part of its Contractor's Proposal. The State may cancel this Contract if it determines that the Contractor:

- A. Has failed to implement its employee drug testing program during the term of this Contract;
- B. Has failed to provide information regarding implementation of the Contractor's employee drug testing program at the request of the State; or
- C. Has provided to the State false information regarding the Contractor's employee drug testing program.

10. Access to Records. The Contractor and its subcontractors, if any, shall maintain all books, documents, papers, accounting records, and other evidence pertaining to all costs incurred under this Contract. They shall make such materials available at their respective offices at all reasonable times during this Contract, and for three (3) years from the date of final payment under this Contract, for inspection by the State or its authorized designees. Copies shall be furnished at no cost to the State if requested.

11. Assignment; Successors. The Contractor binds its successors and assignees to all the terms and conditions of this Contract. The Contractor shall not assign or subcontract the whole or any part of this Contract without the State's prior written consent. The Contractor may assign its right to receive payments to such third parties as the Contractor may desire without the prior written consent of the State, provided that the Contractor gives written notice (including evidence of such assignment) to the State thirty (30) days in advance of any payment so assigned. The assignment shall cover all unpaid amounts under this Contract and shall not be made to more than one party.

12. Assignment of Antitrust Claims. As part of the consideration for the award of this Contract, the Contractor assigns to the State all right, title and interest in and to any claims the Contractor now has, or

may acquire, under state or federal antitrust laws relating to the products or services which are the subject of this Contract.

13. Audits. The Contractor acknowledges that it may be required to submit to an audit of funds paid through this Contract. Any such audit shall be conducted in accordance with IC §5-11-1, *et seq.*, and audit guidelines specified by the State.

The State considers the Contractor to be a “vendor” for purposes of this Contract. However, if required by applicable provisions of the Office of Management and Budget Circular A-133 (Audits of States, Local Governments, and Non-Profit Organizations), following the expiration of this Contract the Contractor shall arrange for a financial and compliance audit of funds provided by the State pursuant to this Contract. Such audit is to be conducted by an independent public or certified public accountant (or as applicable, the Indiana State Board of Accounts), and performed in accordance with Indiana State Board of Accounts publication entitled “Uniform Compliance Guidelines for Examination of Entities Receiving Financial Assistance from Governmental Sources,” and applicable provisions of the Office of Management and Budget Circulars A-133 (Audits of States, Local Governments, and Non-Profit Organizations). The Contractor is responsible for ensuring that the audit and any management letters are completed and forwarded to the State in accordance with the terms of this Contract. Audits conducted pursuant to this paragraph must be submitted no later than nine (9) months following the close of the Contractor’s fiscal year. The Contractor agrees to provide the Indiana State Board of Accounts and the State an original of all financial and compliance audits. The audit shall be an audit of the actual entity, or distinct portion thereof that is the Contractor, and not of a parent, member, or subsidiary corporation of the Contractor, except to the extent such an expanded audit may be determined by the Indiana State Board of Accounts or the State to be in the best interests of the State. The audit shall include a statement from the Auditor that the Auditor has reviewed this Contract and that the Contractor is not out of compliance with the financial aspects of this Contract.

If Federal Funds are involved in this Contract, the State also considers the Contractor to be a “Contractor” under 2 C.F.R. 200.330 for purposes of this Contract. However, if required by applicable provisions of 2 C.F.R. 200 (Uniform Administrative Requirements, Cost Principles, and Audit Requirements), Contractor shall arrange for a financial and compliance audit, which complies with 2 C.F.R. 200.500 *et seq.*

14. Authority to Bind Contractor. The signatory for the Contractor represents that he/she has been duly authorized to execute this Contract on behalf of the Contractor and has obtained all necessary or applicable approvals to make this Contract fully binding upon the Contractor when his/her signature is affixed, and accepted by the State.

15. Changes in Work. The Contractor shall not commence any additional work or change the scope of the work until authorized in writing by the State. The Contractor shall make no claim for additional compensation in the absence of a prior written approval and amendment executed by all signatories hereto. This Contract may only be amended, supplemented or modified by a written document executed in the same manner as this Contract.

16. Compliance with Laws.

- A. The Contractor shall comply with all applicable federal, state, and local laws, rules, regulations, and ordinances, and all provisions required thereby to be included herein are hereby incorporated by reference. The enactment or modification of any applicable state or federal statute or the promulgation of rules or regulations thereunder after execution of

this Contract shall be reviewed by the State and the Contractor to determine whether the provisions of this Contract require formal modification.

- B. The Contractor and its agents shall abide by all ethical requirements that apply to persons who have a business relationship with the State as set forth in IC §4-2-6, *et seq.*, IC §4-2-7, *et seq.*, the regulations promulgated thereunder, and Executive Order 04-08, dated April 27, 2004. **If the Contractor has knowledge, or would have acquired knowledge with reasonable inquiry, that a state officer, employee, or special state appointee, as those terms are defined in IC 4-2-6-1, has a financial interest in the Contract, the Contractor shall ensure compliance with the disclosure requirements in IC 4-2-6-10.5 prior to the execution of this contract.** If the Contractor is not familiar with these ethical requirements, the Contractor should refer any questions to the Indiana State Ethics Commission, or visit the Inspector General's website at <http://www.in.gov/ig/>. If the Contractor or its agents violate any applicable ethical standards, the State may, in its sole discretion, terminate this Contract immediately upon notice to the Contractor. In addition, the Contractor may be subject to penalties under IC §§4-2-6, 4-2-7, 35-44-1-3, and under any other applicable laws.
- C. The Contractor certifies by entering into this Contract that neither it nor its principal(s) is presently in arrears in payment of taxes, permit fees or other statutory, regulatory or judicially required payments to the State of Indiana. The Contractor agrees that any payments currently due to the State of Indiana may be withheld from payments due to the Contractor. Additionally, further work or payments may be withheld, delayed, or denied and/or this Contract suspended until the Contractor is current in its payments and has submitted proof of such payment to the State.
- D. The Contractor warrants that it has no current, pending or outstanding criminal, civil, or enforcement actions initiated by the State, and agrees that it will immediately notify the State of any such actions. During the term of such actions, the Contractor agrees that the State may delay, withhold, or deny work under any supplement, amendment, change order or other contractual device issued pursuant to this Contract.
- E. If a valid dispute exists as to the Contractor's liability or guilt in any action initiated by the State or its agencies, and the State decides to delay, withhold, or deny work to the Contractor, the Contractor may request that it be allowed to continue, or receive work, without delay. The Contractor must submit, in writing, a request for review to the Indiana Department of Administration (IDOA) following the procedures for disputes outlined herein. A determination by IDOA shall be binding on the parties. Any payments that the State may delay, withhold, deny, or apply under this section shall not be subject to penalty or interest, except as permitted by IC §5-17-5.
- F. The Contractor warrants that the Contractor and its subcontractors, if any, shall obtain and maintain all required permits, licenses, registrations, and approvals, and shall comply with all health, safety, and environmental statutes, rules, or regulations in the performance of work activities for the State. Failure to do so may be deemed a material breach of this Contract and grounds for immediate termination and denial of further work with the State.
- G. The Contractor affirms that, if it is an entity described in IC Title 23, it is properly registered and owes no outstanding reports to the Indiana Secretary of State.

H. As required by IC §5-22-3-7:

- (1) The Contractor and any principals of the Contractor certify that:
 - (A) The Contractor, except for de minimis and nonsystematic violations, has not violated the terms of:
 - (i) IC §24-4.7 [Telephone Solicitation Of Consumers];
 - (ii) IC §24-5-12 [Telephone Solicitations]; or
 - (iii) IC §24-5-14 [Regulation of Automatic Dialing Machines];in the previous three hundred sixty-five (365) days, even if IC §24-4.7 is preempted by federal law; and
 - (B) The Contractor will not violate the terms of IC §24-4.7 for the duration of the Contract, even if IC §24-4.7 is preempted by federal law.
- (2) The Contractor and any principals of the Contractor certify that an affiliate or principal of the Contractor and any agent acting on behalf of the Contractor or on behalf of an affiliate or principal of the Contractor, except for de minimis and nonsystematic violations,
 - (A) Has not violated the terms of IC §24-4.7 in the previous three hundred sixty-five (365) days, even if IC §24-4.7 is preempted by federal law; and
 - (B) Will not violate the terms of IC §24-4.7 for the duration of the Contract, even if IC §24-4.7 is preempted by federal law.

17. Condition of Payment. All services provided by the Contractor under this Contract must be performed to the State's reasonable satisfaction, as determined at the discretion of the undersigned State representative and in accordance with all applicable federal, state, local laws, ordinances, rules and regulations. The State shall not be required to pay for work found to be unsatisfactory, inconsistent with this Contract or performed in violation of and federal, state or local statute, ordinance, rule or regulation.

18. Confidentiality of State Information. The Contractor understands and agrees that data, materials, and information disclosed to the Contractor may contain confidential and protected information. The Contractor covenants that data, material, and information gathered, based upon or disclosed to the Contractor for the purpose of this Contract will not be disclosed to or discussed with third parties without the prior written consent of the State.

The parties acknowledge that the services to be performed by Contractor for the State under this Contract may require or allow access to data, materials, and information containing Social Security numbers maintained by the State in its computer system or other records. In addition to the covenant made above in this section and pursuant to 10 IAC 5-3-1(4), the Contractor and the State agree to comply with the provisions of IC §4-1-10 and IC §4-1-11. If any Social Security number(s) is/are disclosed by Contractor, Contractor agrees to pay the cost of the notice of disclosure of a breach of the security of the system in addition to any other claims and expenses for which it is liable under the terms of this Contract.

19. Continuity of Services.

- A. The Contractor recognizes that the service(s) to be performed under this Contract are vital to the State and must be continued without interruption and that, upon Contract expiration, a successor, either the State or another contractor, may continue them. The Contractor agrees to:
 - 1. Furnish phase-in training; and
 - 2. Exercise its best efforts and cooperation to effect an orderly and efficient transition to a successor.

- B. The Contractor shall, upon the State's written notice:
 - 1. Furnish phase-in, phase-out services for up to sixty (60) days after this Contract expires; and
 - 2. Negotiate in good faith a plan with a successor to determine the nature and extent of phase-in, phase-out services required. The plan shall specify a training program and a date for transferring responsibilities for each division of work described in the plan, and shall be subject to the State's approval. The Contractor shall provide sufficient experienced personnel during the phase-in, phase-out period to ensure that the services called for by this Contract are maintained at the required level of proficiency.

- C. The Contractor shall allow as many personnel as practicable to remain on the job to help the successor maintain the continuity and consistency of the services required by this Contract. The Contractor also shall disclose necessary personnel records and allow the successor to conduct on-site interviews with these employees. If selected employees are agreeable to the change, the Contractor shall release them at a mutually agreeable date and negotiate transfer of their earned fringe benefits to the successor.

- D. The Contractor shall be reimbursed for all reasonable phase-in, phase-out costs (i.e., costs incurred within the agreed period after contract expiration that result from phase-in, phase-out operations).

20. Debarment and Suspension.

- A. The Contractor certifies by entering into this Contract that neither it nor its principals nor any of its subcontractors are presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from entering into this Contract by any federal agency or by any department, agency or political subdivision of the State of Indiana. The term "principal" for purposes of this Contract means an officer, director, owner, partner, key employee or other person with primary management or supervisory responsibilities, or a person who has a critical influence on or substantive control over the operations of the Contractor.

- B. The Contractor certifies that it has verified the state and federal suspension and debarment status for all subcontractors receiving funds under this Contract and shall be solely responsible for any recoupment, penalties or costs that might arise from use of a suspended or debarred subcontractor. The Contractor shall immediately notify the State if any subcontractor becomes debarred or suspended, and shall, at the State's request,

take all steps required by the State to terminate its contractual relationship with the subcontractor for work to be performed under this Contract.

21. Default by State. If the State, sixty (60) days after receipt of written notice, fails to correct or cure any material breach of this Contract, the Contractor may cancel and terminate this Contract and institute measures to collect monies due up to and including the date of termination.

22. Disputes.

- A. Should any disputes arise with respect to this Contract, the Contractor and the State agree to act immediately to resolve such disputes. Time is of the essence in the resolution of disputes.
- B. The Contractor agrees that, the existence of a dispute notwithstanding, it will continue without delay to carry out all of its responsibilities under this Contract that are not affected by the dispute. Should the Contractor fail to continue to perform its responsibilities regarding all non-disputed work, without delay, any additional costs incurred by the State or the Contractor as a result of such failure to proceed shall be borne by the Contractor, and the Contractor shall make no claim against the State for such costs.
- C. If the parties are unable to resolve a contract dispute between them after good faith attempts to do so, a dissatisfied party shall submit the dispute to the Commissioner of the Indiana Department of Administration for resolution. The dissatisfied party shall give written notice to the Commissioner and the other party. The notice shall include (1) a description of the disputed issues, (2) the efforts made to resolve the dispute, and (3) a proposed resolution. The Commissioner shall promptly issue a Notice setting out documents and materials to be submitted to the Commissioner in order to resolve the dispute; the Notice may also afford the parties the opportunity to make presentations and enter into further negotiations. Within 30 business days of the conclusion of the final presentations, the Commissioner shall issue a written decision and furnish it to both parties. The Commissioner's decision shall be the final and conclusive administrative decision unless either party serves on the Commissioner and the other party, within ten business days after receipt of the Commissioner's decision, a written request for reconsideration and modification of the written decision. If the Commissioner does not modify the written decision within 30 business days, either party may take such other action helpful to resolving the dispute, including submitting the dispute to an Indiana court of competent jurisdiction. If the parties accept the Commissioner's decision, it may be memorialized as a written Amendment to this Contract if appropriate.
- D. The State may withhold payments on disputed items pending resolution of the dispute. The unintentional nonpayment by the State to the Contractor of one or more invoices not in dispute in accordance with the terms of this Contract will not be cause for the Contractor to terminate this Contract, and the Contractor may bring suit to collect these amounts without following the disputes procedure contained herein.
- E. With the written approval of the Commissioner of the Indiana Department of Administration, the parties may agree to forego the process described in subdivision C. relating to submission of the dispute to the Commissioner. This paragraph shall not be construed to abrogate provisions of Ind. Code 4-6-2-11 in situations where dispute

resolution efforts lead to a compromise of claims in favor of the State as described in that statute. In particular, releases or settlement agreements involving releases of legal claims or potential legal claims of the state should be processed consistent with Ind. Code 4-6-2-11, which requires approval of the Governor and Attorney General.

- F. This paragraph shall not be construed to abrogate provisions of Ind. Code 4-6-2-11 in situations where dispute resolution efforts lead to a compromise of claims in favor of the State as described in that statute. In particular, releases or settlement agreements involving releases of legal claims or potential legal claims of the state should be processed consistent with Ind. Code 4-6-2-11, which requires approval of the Governor and Attorney General.

23. Drug-Free Workplace Certification. As required by Executive Order No. 90-5 dated April 12, 1990, issued by the Governor of Indiana, the Contractor hereby covenants and agrees to make a good faith effort to provide and maintain a drug-free workplace. The Contractor will give written notice to the State within ten (10) days after receiving actual notice that the Contractor, or an employee of the Contractor in the State of Indiana, has been convicted of a criminal drug violation occurring in the workplace. False certification or violation of this certification may result in sanctions including, but not limited to, suspension of contract payments, termination of this Contract and/or debarment of contracting opportunities with the State for up to three (3) years.

In addition to the provisions of the above paragraph, if the total amount set forth in this Contract is in excess of \$25,000.00, the Contractor certifies and agrees that it will provide a drug-free workplace by:

- A. Publishing and providing to all of its employees a statement notifying them that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the Contractor's workplace, and specifying the actions that will be taken against employees for violations of such prohibition;
- B. Establishing a drug-free awareness program to inform its employees of (1) the dangers of drug abuse in the workplace; (2) the Contractor's policy of maintaining a drug-free workplace; (3) any available drug counseling, rehabilitation and employee assistance programs; and (4) the penalties that may be imposed upon an employee for drug abuse violations occurring in the workplace;
- C. Notifying all employees in the statement required by subparagraph (A) above that as a condition of continued employment, the employee will (1) abide by the terms of the statement; and (2) notify the Contractor of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such conviction;
- D. Notifying the State in writing within ten (10) days after receiving notice from an employee under subdivision (C)(2) above, or otherwise receiving actual notice of such conviction;
- E. Within thirty (30) days after receiving notice under subdivision (C)(2) above of a conviction, imposing the following sanctions or remedial measures on any employee who is convicted of drug abuse violations occurring in the workplace: (1) taking appropriate personnel action against the employee, up to and including termination; or (2) requiring such employee to satisfactorily participate in a drug abuse assistance or rehabilitation program approved for such purposes by a federal, state or local health, law enforcement, or other appropriate agency; and

- F. Making a good faith effort to maintain a drug-free workplace through the implementation of subparagraphs (A) through (E) above.

24. Employment Eligibility Verification. As required by IC §22-5-1.7, the Contractor swears or affirms under the penalties of perjury that:

- A. The Contractor does not knowingly employ an unauthorized alien.
- B. The Contractor shall enroll in and verify the work eligibility status of all his/her/its newly hired employees through the E-Verify program as defined in IC §22-5-1.7-3. The Contractor is not required to participate should the E-Verify program cease to exist. Additionally, the Contractor is not required to participate if the Contractor is self-employed and does not employ any employees.
- C. The Contractor shall not knowingly employ or contract with an unauthorized alien. The Contractor shall not retain an employee or contract with a person that the Contractor subsequently learns is an unauthorized alien.
- D. The Contractor shall require his/her/its subcontractors who perform work under this Contract to certify to the Contractor that the subcontractor does not knowingly employ or contract with an unauthorized alien and that the subcontractor has enrolled and is participating in the E-Verify program. The Contractor agrees to maintain this certification throughout the duration of the term of a contract with a subcontractor.

The State may terminate for default if the Contractor fails to cure a breach of this provision no later than thirty (30) days after being notified by the State.

25. Employment Option. If the State determines that it would be in the State's best interest to hire an employee of the Contractor, the Contractor will release the selected employee from any non-competition agreements that may be in effect. This release will be at no cost to the State or the employee.

26. Force Majeure. In the event that either party is unable to perform any of its obligations under this Contract or to enjoy any of its benefits because of natural disaster or decrees of governmental bodies not the fault of the affected party (hereinafter referred to as a "Force Majeure Event"), the party who has been so affected shall immediately give notice to the other party and shall do everything possible to resume performance. Upon receipt of such notice, all obligations under this Contract shall be immediately suspended. If the period of nonperformance exceeds thirty (30) days from the receipt of notice of the Force Majeure Event, the party whose ability to perform has not been so affected may, by giving written notice, terminate this Contract.

27. Funding Cancellation. When the Director of the State Budget Agency makes a written determination that funds are not appropriated or otherwise available to support continuation of performance of this Contract, this Contract shall be canceled. A determination by the Director of State Budget Agency that funds are not appropriated or otherwise available to support continuation of performance shall be final and conclusive.

28. Governing Law. This Contract shall be governed, construed, and enforced in accordance with the laws of the State of Indiana, without regard to its conflict of laws rules. Suit, if any, must be brought in the State of Indiana.

29. HIPAA Compliance. If this Contract involves services, activities or products subject to the Health Insurance Portability and Accountability Act of 1996 (HIPAA), the Contractor covenants that it will appropriately safeguard Protected Health Information (defined in 45 CFR 160.103), and agrees that it is subject to, and shall comply with, the provisions of 45 CFR 164 Subpart E regarding use and disclosure of Protected Health Information.

30. Indemnification. The Contractor agrees to indemnify, defend, and hold harmless the State, its agents, officials, and employees from all claims and suits including court costs, attorney's fees, and other expenses caused by any act or omission of the Contractor and/or its subcontractors, if any, in the performance of this Contract. The State shall not provide such indemnification to the Contractor.

31. Independent Contractor; Workers' Compensation Insurance. The Contractor is performing as an independent entity under this Contract. No part of this Contract shall be construed to represent the creation of an employment, agency, partnership or joint venture agreement between the parties. Neither party will assume liability for any injury (including death) to any persons, or damage to any property, arising out of the acts or omissions of the agents, employees or subcontractors of the other party. The Contractor shall provide all necessary unemployment and workers' compensation insurance for the Contractor's employees, and shall provide the State with a Certificate of Insurance evidencing such coverage prior to starting work under this Contract.

32. Information Technology Enterprise Architecture Requirements. If the Contractor provides any information technology related products or services to the State, the Contractor shall comply with all IOT standards, policies and guidelines, which are online at <http://iot.in.gov/architecture/>. The Contractor specifically agrees that all hardware, software and services provided to or purchased by the State shall be compatible with the principles and goals contained in the electronic and information technology accessibility standards adopted under Section 508 of the Federal Rehabilitation Act of 1973 (29 U.S.C. 794d) and IC §4-13.1-3. Any deviation from these architecture requirements must be approved in writing by IOT in advance. The State may terminate this Contract for default if the Contractor fails to cure a breach of this provision within a reasonable time.

33. Insurance

- A. The Contractor and their subcontractors (if any) shall secure and keep in force during the term of this Contract the following insurance coverages (if applicable) covering the Contractor for any and all claims of any nature which may in any manner arise out of or result from Contractor's performance under this Contract:
1. Commercial general liability, including contractual coverage, and products or completed operations coverage (if applicable), with minimum liability limits not less than \$700,000 per person and \$5,000,000 per occurrence unless additional coverage is required by the State. The State is to be named as an additional insured on a primary, non-contributory basis for any liability arising directly or indirectly under or in connection with this Contract.
 2. Automobile liability for owned, non-owned and hired autos with minimum liability limits of \$700,000 per person and \$5,000,000 per occurrence. The State is to be named as an additional insured on a primary, non-contributory basis.

3. The Contractor shall secure the appropriate Surety or Fidelity Bond(s) as required by the state department served or by applicable statute.
 4. The Contractor and their subcontractors shall provide proof of such insurance coverage by tendering to the undersigned State representative a certificate of insurance prior to the commencement of this Contract and proof of workers' compensation coverage meeting all statutory requirements of IC §22-3-2. In addition, proof of an "all states endorsement" covering claims occurring outside the State is required if any of the services provided under this Contract involve work outside of Indiana.
- B. The Contractor's insurance coverage must meet the following additional requirements:
1. The insurer must have a certificate of authority or other appropriate authorization to operate in the state in which the policy was issued.
 2. Any deductible or self-insured retention amount or other similar obligation under the insurance policies shall be the sole obligation of the Contractor.
 3. The State will be defended, indemnified and held harmless to the full extent of any coverage actually secured by the Contractor in excess of the minimum requirements set forth above. The duty to indemnify the State under this Contract shall not be limited by the insurance required in this Contract.
 4. The insurance required in this Contract, through a policy or endorsement(s), shall include a provision that the policy and endorsements may not be canceled or modified without thirty (30) days' prior written notice to the undersigned State agency.
 5. The Contractor waives and agrees to require their insurer to waive their rights of subrogation against the State of Indiana.
- C. Failure to provide insurance as required in this Contract may be deemed a material breach of contract entitling the State to immediately terminate this Contract. The Contractor shall furnish a certificate of insurance and all endorsements to the State before the commencement of this Contract.

34. Key Person(s).

- A. If both parties have designated that certain individual(s) are essential to the services offered, the parties agree that should such individual(s) leave their employment during the term of this Contract for whatever reason, the State shall have the right to terminate this Contract upon thirty (30) days' prior written notice.
- B. In the event that the Contractor is an individual, that individual shall be considered a key person and, as such, essential to this Contract. Substitution of another for the Contractor shall not be permitted without express written consent of the State.

Nothing in Sections A and B, above shall be construed to prevent the Contractor from using the services of others to perform tasks ancillary to those tasks which directly require the expertise of the key person.

Examples of such ancillary tasks include secretarial, clerical, and common labor duties. The Contractor shall, at all times, remain responsible for the performance of all necessary tasks, whether performed by a key person or others.

Key person(s) to this Contract is/are:

35. Merger & Modification. This Contract constitutes the entire agreement between the parties. No understandings, agreements, or representations, oral or written, not specified within this Contract will be valid provisions of this Contract. This Contract may not be modified, supplemented, or amended, except by written agreement signed by all necessary parties.

36. Minority and Women's Business Enterprises Compliance. Award of this Contract was based, in part, on the Minority and/or Women's Business Enterprise ("MBE" and/or "WBE") participation plan. The following certified MBE or WBE subcontractors will be participating in this Contract:

<u>MBE/WBE</u>	<u>PHONE</u>	<u>COMPANY NAME</u>	<u>SCOPE OF PRODUCTS and/or SERVICES</u>	<u>UTILIZATION DATE</u>	<u>PERCENT</u>
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Terms for participation are as provided in the Contractor's Proposal to the State's request for participation, which are described and captured in the Contract Documents.

A copy of each subcontractor agreement must be submitted to IDOA's MBE/WBE Division within thirty (30) days of the effective date of this Contract. Failure to provide a copy of any subcontractor agreement will be deemed a violation of the rules governing MBE/WBE procurement, and may result in sanctions allowable under 25 IAC 5-7-8. Failure to provide any subcontractor agreement may also be considered a material breach of this Contract. The Contractor must obtain approval from IDOA's MBE/WBE Division before changing the participation plan submitted in connection with this Contract.

The Contractor shall report payments made to MBE/WBE Division subcontractors under this Contract on a monthly basis. Monthly reports shall be made using the online audit tool, commonly referred to as "Pay Audit." MBE/WBE Division subcontractor payments shall also be reported to the Division as reasonably requested and in a format to be determined by Division.

37. Nondiscrimination. Pursuant to the Indiana Civil Rights Law, specifically including IC §22-9-1-10, and in keeping with the purposes of the federal Civil Rights Act of 1964, the Age Discrimination in Employment Act, and the Americans with Disabilities Act, the Contractor covenants that it shall not discriminate against any employee or applicant for employment relating to this Contract with respect to the hire, tenure, terms, conditions or privileges of employment or any matter directly or indirectly related to employment, because of the employee's or applicant's race, color, national origin, religion, sex, age, disability, ancestry, status as a veteran, or any other characteristic protected by federal, state, or local law ("Protected Characteristics"). Contractor certifies compliance with applicable federal laws, regulations, and executive orders prohibiting discrimination based on the Protected Characteristics in the provision of services. Breach of this paragraph may be regarded as a material breach of this Contract, but nothing in this paragraph shall be construed to imply or establish an employment relationship between the State and any applicant or employee of the Contractor or any subcontractor.

The State is a recipient of federal funds, and therefore, where applicable, Contractor and any subcontractors shall comply with requisite affirmative action requirements, including reporting, pursuant to 41 CFR Chapter 60, as amended, and Section 202 of Executive Order 11246 as amended by Executive Order 13672.

38. Notice to Parties. Whenever any notice, statement or other communication is required under this Contract, it shall be sent to the following addresses, unless otherwise specifically advised.

- A. Notices to the State shall be sent to: Public Works Divisions, Director
Indiana Department of Administration
402 W Washington St Room W467
Indianapolis, IN 46204
- B. Notices to the Contractor shall be sent to: **[INSERT CONTRACTOR NAME]**
[INSERT CONTRACTOR ADDRESS]
- C. As required by IC 4-13-2-14.8, payments to the Contractor shall be made via electronic funds transfer in accordance with instructions filed by the Contractor with the Indiana Auditor of State.

39. Order of Precedence; Incorporation by Reference. Any inconsistency or ambiguity in this Contract shall be resolved by giving precedence in the following order: (1) this Contract, (2) the Project Bid Package, (3) attachments prepared by the State; (4) Contractor's Proposal; and (5) attachments prepared by the Contractor. All of the foregoing are incorporated fully by reference. All attachments, and all documents referred to in this paragraph are hereby incorporated fully by reference.

40. Ownership of Documents and Materials.

A. All documents, records, programs, applications, data, algorithms, film, tape, articles, memoranda, and other materials (the "Materials") not developed or licensed by the Contractor prior to execution of this Contract, but specifically developed under this Contract shall be considered "work for hire" and the Contractor hereby transfers and assigns any ownership claims to the State so that all Materials will be the property of the State. If ownership interest in the Materials cannot be assigned to the State, the Contractor grants the State a non-exclusive, non-cancelable, perpetual, worldwide royalty-free license to use the Materials and to use, modify, copy and create derivative works of the Materials.

B. Use of the Materials, other than related to contract performance by the Contractor, without the prior written consent of the State, is prohibited. During the performance of this Contract, the Contractor shall be responsible for any loss of or damage to the Materials developed for or supplied by the State and used to develop or assist in the services provided while the Materials are in the possession of the Contractor. Any loss or damage thereto shall be restored at the Contractor's expense. The Contractor shall provide the State full, immediate, and unrestricted access to the Materials and to Contractor's work product during the term of this Contract.

41. Payments.

- A. All payments shall be made 35 days in arrears in conformance with State fiscal policies and procedures and, as required by IC §4-13-2-14.8, the direct deposit by electronic funds transfer to the financial institution designated by the Contractor in writing unless a specific waiver has been obtained from the Indiana Auditor of State. No payments will be made in advance of receipt of the goods or services that are the subject of this Contract except as permitted by IC §4-13-2-20.

- B. The State Budget Agency and the Contractor acknowledge that Contractor is being paid in advance for the maintenance of equipment and / or software. Pursuant to IC §4-13-2-20(b)(14), Contractor agrees that if it fails to perform the maintenance required under this Contract, upon receipt of written notice from the State, it shall promptly refund the consideration paid, pro-rated through the date of non-performance.

42. Penalties/Interest/Attorney's Fees. The State will in good faith perform its required obligations hereunder and does not agree to pay any penalties, liquidated damages, interest or attorney's fees, except as permitted by Indiana law, in part, IC §5-17-5, IC §34-54-8, IC §34-13-1 and IC § 34-52-2-3.

Notwithstanding the provisions contained in IC §5-17-5, any liability resulting from the State's failure to make prompt payment shall be based solely on the amount of funding originating from the State and shall not be based on funding from federal or other sources.

43. Progress Reports. The Contractor shall submit progress reports to the State upon request. The report shall be oral, unless the State, upon receipt of the oral report, should deem it necessary to have it in written form. The progress reports shall serve the purpose of assuring the State that work is progressing in line with the schedule, and that completion can be reasonably assured on the scheduled date.

44. Public Record. The Contractor acknowledges that the State will not treat this Contract as containing confidential information, and will post this Contract on its website as required by Executive Order 05-07. Use by the public of the information contained in this Contract shall not be considered an act of the State.

45. Renewal Option. This Contract may be renewed under the same terms and conditions, subject to the approval of the Commissioner of the Department of Administration and the State Budget Director in compliance with IC §5-22-17-4. The term of the renewed contract may not be longer than the term of the original contract.

46. Severability. The invalidity of any section, subsection, clause or provision of this Contract shall not affect the validity of the remaining sections, subsections, clauses or provisions of this Contract.

47. Substantial Performance. This Contract shall be deemed to be substantially performed only when fully performed according to its terms and conditions and any written amendments or supplements.

48. Taxes. The State is exempt from most state and local taxes and many federal taxes. The State will not be responsible for any taxes levied on the Contractor as a result of this Contract.

49. Termination for Convenience. This Contract may be terminated, in whole or in part, by the State, which shall include and is not limited to the Indiana Department of Administration and the State Budget Agency whenever, for any reason, the State determines that such termination is in its best interest. Termination of services shall be effected by delivery to the Contractor of a Termination Notice at least thirty (30) days prior to the termination effective date, specifying the extent to which performance of services under such termination becomes effective. The Contractor shall be compensated for services properly rendered prior to the effective date of termination. The State will not be liable for services performed after the effective date of termination. The Contractor shall be compensated for services herein provided but in no case shall total payment made to the Contractor exceed the original contract price or shall any price increase be allowed on individual line items if canceled only in part prior to the original termination date. For the purposes of this paragraph, the parties stipulate and agree that the Indiana Department of Administration shall be deemed to be a party to this agreement with authority to terminate

the same for convenience when such termination is determined by the Commissioner of IDOA to be in the best interests of the State.

50. Termination for Default.

- A. With the provision of thirty (30) days notice to the Contractor, the State may terminate this Contract in whole or in part if the Contractor fails to:
 - 1. Correct or cure any breach of this Contract; the time to correct or cure the breach may be extended beyond thirty (30) days if the State determines progress is being made and the extension is agreed to by the parties;
 - 2. Deliver the supplies or perform the services within the time specified in this Contract or any extension;
 - 3. Make progress so as to endanger performance of this Contract; or
 - 4. Perform any of the other provisions of this Contract.

- B. If the State terminates this Contract in whole or in part, it may acquire, under the terms and in the manner the State considers appropriate, supplies or services similar to those terminated, and the Contractor will be liable to the State for any excess costs for those supplies or services. However, the Contractor shall continue the work not terminated.

- C. The State shall pay the contract price for completed supplies delivered and services accepted. The Contractor and the State shall agree on the amount of payment for manufacturing materials delivered and accepted and for the protection and preservation of the property. Failure to agree will be a dispute under the Disputes clause. The State may withhold from these amounts any sum the State determines to be necessary to protect the State against loss because of outstanding liens or claims of former lien holders.

- D. The rights and remedies of the State in this clause are in addition to any other rights and remedies provided by law or equity or under this Contract.

51. Travel. No expenses for travel will be reimbursed unless specifically permitted under the scope of services or consideration provisions. Expenditures made by the Contractor for travel will be reimbursed at the current rate paid by the State and in accordance with the State Travel Policies and Procedures as specified in the current Financial Management Circular. Out-of-state travel requests must be reviewed by the State for availability of funds and for appropriateness per Circular guidelines.

52. Indiana Veteran’s Business Enterprise Compliance. Award of this Contract was based, in part, on the Indiana Veteran’s Business Enterprise (“IVBE”) participation plan. The following IVBE subcontractors will be participating in this Contract:

VBE	PHONE	COMPANY NAME	SCOPE OF PRODUCTS and/or SERVICES	UTILIZATION	DATE	PERCENT
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N/A

A copy of each subcontractor agreement must be submitted to IDOA within thirty (30) days of the effective date of this Contract. Failure to provide any subcontractor agreement may also be considered a material breach of this Contract. The Contractor must obtain approval from IDOA’s MBE/WBE Division before changing the participation plan submitted in connection with this Contract.

The Contractor shall report payments made to IVBE subcontractors under this Contract on a monthly basis. Monthly reports shall be made using the online audit tool, commonly referred to as "Pay Audit." IVBE subcontractor payments shall also be reported to IDOA as reasonably requested and in a format to be determined by IDOA.

53. Waiver of Rights. No right conferred on either party under this Contract shall be deemed waived, and no breach of this Contract excused, unless such waiver is in writing and signed by the party claimed to have waived such right. Neither the State's review, approval or acceptance of, nor payment for, the services required under this Contract shall be construed to operate as a waiver of any rights under this Contract or of any cause of action arising out of the performance of this Contract, and the Contractor shall be and remain liable to the State in accordance with applicable law for all damages to the State caused by the Contractor's negligent performance of any of the services furnished under this Contract.

54. Work Standards. The Contractor shall execute its responsibilities by following and applying at all times the highest professional and technical guidelines and standards. If the State becomes dissatisfied with the work product of or the working relationship with those individuals assigned to work on this Contract, the State may request in writing the replacement of any or all such individuals, and the Contractor shall grant such request.

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Non-Collusion and Acceptance

The undersigned attests, subject to the penalties for perjury, that the undersigned is the Contractor, or that the undersigned is the properly authorized representative, agent, member or officer of the Contractor. Further, to the undersigned's knowledge, neither the undersigned nor any other member, employee, representative, agent or officer of the Contractor, directly or indirectly, has entered into or been offered any sum of money or other consideration for the execution of this Contract other than that which appears upon the face hereof. **Furthermore, if the undersigned has knowledge that a state officer, employee, or special state appointee, as those terms are defined in IC 4-2-6-1, has a financial interest in the Contract, the Contractor attests to compliance with the disclosure requirements in IC 4-2-6-10.5.**

IN WITNESS WHEREOF, the Contractor and the State have, through their duly authorized representatives, entered into this Contract for Public Works Project Number **XXXXXX**. The parties, having read and understood the foregoing terms of this Contract, do by their respective signatures dated below agree to the terms thereof.

XXXXXXXXXX
[Contractor]

Department of Administration
Public Works Division

By: _____
Printed Name: _____
Title: _____
Date: _____

By: _____
Director, DAPW
For IDOA Commissioner if less than \$1,000,000
Date: _____

Approved by:
Department of Administration

Approved by:
State Budget Agency

By: _____
Jessica Robertson, Commissioner

By: _____
Brian E. Bailey, Director

Date: _____

Date: _____

Approved as to Form and Legality:
Form approval has been granted by the Office of the Attorney General pursuant to IC 4-13-2-14.3(e) on August 15, 2016.
FA 16-28

This Instrument was prepared by: [INSERT NAME] on XX/XX/XXXX

Legal counsel: _____ (initials)

SECTION 011000 – SUMMARY OF WORK

PART 1 – GENERAL

1.1 WORK UNDER THIS CONTRACT

A. This work consists of furnishing all labor, materials, and equipment necessary for to complete the following work:

1. Spice Valley PFA, Lawrence County: Prep pare, repair, and patch existing aggregate roadway for an asphalt overlay of HMA base and intermediate paving. Paving shall conform with existing drainage patterns. Pavement Striping for an ADA stall and unloading zone with signage shall be provided.

Driving Directions: From Indianapolis, take Indiana State Road 37 South to 16th Street in Bedford. Turn right onto 16th Street and then in 0.2 miles turn left onto Williams Road/Indiana State Road 450 West. Take Indiana State Road 450 W approximately 8.5 miles to the site.

B. Remediation Allowance

1. Contractor shall include an allowance of **\$8,000 in the Base Bid** for remediation of unforeseen constraints
2. Such constraints may include, but are not necessarily limited to, unforeseen conditions; improperly recorded or unrecorded physical properties and conditions at the site; obstruction of, or delay to, reason work sequences by the Property, or the Owner; uncommon adverse weather or site conditions; and conflict within, or omissions from, the Contract Documents.
3. All remediation work shall be authorized by the Director of Public Works Division, or designee, prior to execution.
4. **If any portion of the allowance is not used during the project, that portion will revert to the owner and will not be included in the contractor's final payment.**

C. Work to be performed shall be in accordance with drawings and specifications prepared by VS ENGINEERING, INC., 203 Main Street, Suite 102, Evansville, Indiana 47708.

1.2 COORDINATION OF PLANS, SPECIFICATIONS AND PAY ITEMS

A. These specifications, plans and pay items are essential parts of the contract. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; and the following relationships apply:

- B. Instruction to Bidders and description of pay items listed in the Unit Price Bid Tabulation hold over plans and specifications, and plans hold over specifications.
- C. The Indiana Department of Transportation Standard Specifications, Latest Revision (INDOTSS) shall become part of the Contract Documents in its entirety. Unless otherwise stated in the Specifications or directed by the Engineer, all INDOTSS shall apply to this project.

1.3 RIGHTS OF ACCESS

- A. The Contractor agrees that representatives of the Engineer, Owner, Environmental Protection Agency, U.S. Army Corps of Engineers, and the State of Indiana will have access to the work wherever it is in preparation or progress and that the Contractor will provide facilities for such access and inspection

1.4 DISCOVERY OF HAZARDOUS MATERIAL

- A. The presence of hazardous materials is unknown in the work area. However, if during the course of this work, the existence of hazardous material is observed in the work area, the Contractor shall immediately notify the Owner in writing. The Contractor shall not perform any work pertinent to the hazardous material prior to receipt of special instructions from the Owner. Should any hazardous material control measures be required, the cost thereof shall be handled by an appropriate Change Order or a separate contract or subcontract with Owner.

1.5 OPERATIONS WITHIN PROJECT PROPERTY LIMITS

- A. Under no circumstances shall construction activities take place outside the property lines of the project site.

The work shall be performed at:

1. Spice Valley PFA, Lawrence County near Bedford, IN.

1.6 ALTERNATE BIDS

- A. Voluntary alternate bids will not be accepted.

1.7 SALES TAX

- A. Sales tax shall not be charged on the bid price of this project.

1.8 CONSTRUCTION PROGRESS SCHEDULE

- A. The Contractor shall submit to the Engineer, prior to start of construction, a detailed schedule showing the order in which he proposes to carry on the work and estimated dates of completion of the various parts. The schedule shall be implemented upon approval of the Engineer.
- B. The construction schedule shall be revised and updated monthly and submitted to the Engineer. It is the Contractor's responsibility to complete the work within the time allotted.
- C. All work required by the Contract Documents shall be completed within 365 days from the date of the contract.

1.9 CODE REQUIREMENTS AND MANUFACTURER'S INSTRUCTIONS

- A. In the case of conflicts between state and local codes or regulations, State Codes or State regulations shall prevail. All required approvals for compliance with Fire and Building Services Division of Homeland Security, health regulations, historic preservation or archaeological clearances, floodway construction or state highway crossing may have been obtained by the owner unless stated otherwise in the contract documents.

The following permits have been applied for and shall be obtained prior to beginning work:

No permits have been applied for any projects under this scope.

The Contractor shall be responsible for the project under all permits, may speak directly to the applicable regulatory agency, and adhering to all requirements of approved permits. The Contractor shall be responsible for ensuring that all work meets the terms of required permits, and their GENERAL AND SPECIAL CONDITIONS. The Contractor shall be responsible for notifying the Engineer of any work that does not meet the requirements of the permits.

- B. The Contractor shall be required to comply with all OSHA or IOSHA regulations as may be applicable to this project and obtain all permits that may be required for compliance.
- C. If the Contractor observes that any of the contract documents are at variance with the printed application instructions of any Manufacturer in any respect, he/she shall promptly notify the Project Manager in writing.
- D. If the Contractor performs any work contrary to State Building and other Codes, Regulations, Ordinances, or Manufacturer's printed instructions without notice to the project Manager, the contractor shall bear the cost arising from such non-conformance.

1.10 NOTIFICATIONS

- A. Upon notice of bid award, the Contractor shall notify the Project Manager to establish communications for the above project(s). The notification may be by mail or email to the Project Manager's following mail or e-mail address:

Project Manager: Michael J. Mathias, P.E.

Phone: (317) 232.4155

Address: Indiana Government Center South
402 W Washington Stree, Room W299
Indianapolis, IN 46204

Email: MMathias@dnr.in.gov

1.11 WORKING HOURS

- A. The Contractor shall perform all related activities on Monday through Friday excluding State holidays, between the hours of 7:00 a.m. and 6:00 p.m. local time, unless alternate arrangements are made and approved by the Property Manager or his representative.
- B. All work performed at other times shall only by the approval of the Property Manager or his representative, confirmed in writing, and shall not constitute a change in the contract amount.
- C. The Contractor shall plan all material deliveries during normal working hours, shall be responsible for receiving and deliveries, and shall properly protect delivered materials while being stored on the property. The Property Manager or his representative will not sign for any deliveries.

1.12 PRE-CONSTRUCTION / SERVICE MEETING

The Contractor and his/her Subcontractor (if any) shall attend a pre-construction/pre-service meeting with the Property Manager and/or his representative at the work site. The date for this meeting shall be scheduled by the Property Manager within 14 days after the contract is awarded unless Property Manager has approved alternate arrangements.

A. Tree Removal

1. The Contractor shall mark all trees designated for removal with survey tape. Once all trees designated for removal are marked, the Contractor shall schedule a separate pre-construction meeting with the Owner to approve all tree removals. Once tree removals are approved the Contractor may proceed with removal.

B. Responsibility for Damage or Destruction as a Result Flooding

1. The Contractor shall be responsible for any and all damage that may occur at the site within the construction limits as a result of floods, and shall replace or restore damaged structures or features of the work, whether of a permanent or temporary

character, at no additional cost to the Owner. The Contractor shall have no basis of claims because of floods occurring during the construction period unprecedented in magnitude or frequency.

C. Emergency Access

1. The Contractor shall be responsible for maintaining safe driveway access and access within the parking lot and to the building at all times. During operations, the Contractor shall coordinate with the Owner to provide an alternate sidewalk access. The Contractor shall be responsible for maintaining vehicular access to the parking lot areas at all times.

1.13 SITE CONDITIONS

- A. Preliminary to the bidding, bidders are strongly encouraged to visit the site of the proposed work and thoroughly familiarize him/herself as to the nature and location of the work, general conditions, and the kind of equipment needed during the execution of the work. Failure to visit the site before bidding does not relieve the Contractor of responsibilities for anything that he/she would be been made aware had he/she visited.

1.14 PROTECTION OF FACILITIES AND PREMISES

- A. **The Contractor SHALL** be responsible for the protection of all facilities during the entire period of service. Any damages to the existing facilities, roads, lawns, driveways, or other State owned property caused by the contractor SHALL be repaired by the Contractor at his/her expense and in a manner and schedule approved by the Property Manager.
- B. **The contractor SHALL** confine his/her operations and the storage of materials and equipment within an area approved by the Property Manager or his representative.
- C. **The Contractor SHALL**, at all times, keep the premises free from accumulation of waste materials or rubbish caused by his/her employees or work and prevent the spread of this debris during windy conditions. At the completion of the work, the Contractor SHALL leave the premises in a neat, clean, and orderly fashion.
- D. **The Contractor SHALL power wash any mechanical equipment or vehicle to be used on the job site to remove all mud and debris prior to unloading on the site.** This is necessary to prevent contamination by invasive species seeds that may be attached to the equipment. The Contractor SHALL NOT unload the equipment on site without prior visual inspection by the Property Manager. No other vehicles/machines shall be permitted in the project area. All other equipment or project related vehicles must be parked in specified parking areas.

1.15 ACCESS ROADS AND PARKING AREAS

- A. Provide and maintain vehicular access to the site and within the site for use by persons and equipment involved in the construction of the project. Maintain access roads and driveways with sufficient rock, stone, or gravel to provide a suitable support for vehicular traffic under anticipated loads.
- B. Provide and maintain temporary parking facilities for use by construction personnel and the Engineer. Maintain parking facilities free of construction materials, mud, snow, ice and debris.
- C. Restore areas to original or to specified conditions shown on the drawings at completion of the work.

1.16 UTILITIES

- A. The Contractor shall be responsible for calling in utility locations prior to beginning construction. The Contractor shall notify the Engineer immediately if existing utilities are found to be in conflict with proposed improvements.

1.17 DUST AND NOISE CONTROL

- A. Dust shall be minimized by use of water. Noise shall be minimized by use of properly constructed and maintained equipment provided with suitable mufflers, snubbers, and other sound attenuating devices and supports. Erosion shall be controlled in such a manner that soil particles from the construction site are prevented from entering public waters or from being deposited on neighboring property, streets, and highways.

1.18 SAFETY AND HEALTH PLAN

- A. **The Contractor SHALL** be required to comply with all OSHA or IOSHA regulations as may be applicable to this project and obtain all permits that may be required for compliance.
- B. **The Contractor SHALL** prepare a safety and health plan that identifies the safety requirements of the project, procedures to follow in case of an emergency, accident, injury, or illness and make this plan available to all employees, and sub-contractors complete with persons and/or phone numbers to call for all who are working at this site. This plan **SHALL** be given to the Project Manager or his representative prior to the start of work and posted at the job site.
- C. **The Contractor SHALL** understand that the Property, DNR Engineering, nor the State of Indiana DOES NOT bare any responsibility for the cost of injuries to Contractor or Sub-Contractor, or their employees injured during the course of the contract. The **Contractor SHALL** be responsible for the transport of injured employees needing medical or other attention.

1.19 SUBSTITUTIONS

- A. Materials and methods specified herein are known to meet the requirements of the project. Anyone wanting to use substitute materials or methods shall submit a written request, accompanied by necessary supporting information at least 10 days prior to the bid. If the Designer determines that the proposed substitution is acceptable, an addendum to the specifications will be issued to all prospective bidders.

END OF SECTION

SECTION 01020

REMEDIATION ALLOWANCE

PART 1 - GENERAL:

1.01 RELATED DOCUMENTS

- A. DAPW 13 Contractor's Bid Form
- B. DAPW 26 General Conditions of the Contract
- C. DAPW 33 Standard Agreement for Construction Projects

1.02 SUMMARY - An allowance required by Public Works Division, Department of Administration, acting, as Owner shall be included in the base bid.

1.03 REMEDIATION ALLOWANCE

- A. Contractor shall include an allowance of **\$8,000.00** in the Base Bid for Owner directed remediation of unforeseen constraints. This amount shall be included as a separate item in the Schedule of Values, adding up to the total bid price.
- B. Such constraints may include but are not necessarily limited to unforeseen subsurface conditions particular to this construction site; improperly recorded or unrecorded physical properties and conditions at the site; obstruction of or delays to reasonable work sequences by the Owner; uncommon adverse weather or site conditions; and conflict within or omissions from the Contract Documents.
- C. Such remediation work shall be proposed to and authorized by the Owner prior to execution, jointly documented by Contractor and Designer, and recorded in Contractor's as-builts and Designer's project record documents. Proposed work must be accompanied with full documentation, and if authorized, shall be billed against, and paid under the remediation allowance line item on the Schedule of Values.
- D. If any portion of the remediation allowance is not used during the project, that portion will revert to the Owner, and will not be included in the Contractor's final payment.

PART 2 - PRODUCTS: (Not Applicable)

PART 3 - EXECUTION: (Not Applicable)

END OF SECTION

SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordination and project conditions.
- B. Field engineering.

1.2 COORDINATION AND PROJECT CONDITIONS

- A. Comply with GENERAL CONDITIONS and Section 011000 SUMMARY OF WORK.
- B. Coordinate scheduling, submittals, and Work of various sections of Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- C. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, operating equipment.
- D. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion.
- E. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.3 FIELD ENGINEERING

- A. Employ Land Surveyor registered in State of Indiana and acceptable to Engineer and OWNER.
- B. Locate and protect survey control and reference points. Promptly notify Engineer of discrepancies discovered.
- C. Control datum for survey is that shown on Drawings.
- D. Verify set-backs and easements; confirm drawing dimensions and elevations.
- E. Provide field engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.
- F. Maintain complete and accurate log of control and survey work as Work progresses.

- G. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- H. Promptly report to Engineer loss or destruction of reference point or relocation required because of changes in grades or other reasons.
- I. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Engineer.

1.4 PRECONSTRUCTION MEETING

- A. Comply with GENERAL CONDITIONS and Section 011000 SUMMARY OF WORK.

1.5 PROGRESS MEETINGS

- A. Comply with GENERAL CONDITIONS and Section 011000 SUMMARY OF WORK.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION – Not Used

END OF SECTION

SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submittal procedures.
- B. Construction progress schedules.
- C. Proposed products list.
- D. Product data.
- E. Shop drawings.
- F. Samples.
- G. Design data.
- H. Test reports.
- I. Certificates.
- J. Manufacturer's instructions.
- K. Manufacturer's field reports.
- L. Construction photographs.

1.2 GENERAL

- A. A listing of required submittals for the various detailed specification items is presented within each section.
- B. Under all circumstances shop drawings shall be submitted and approved by the Engineer prior to the initiation of construction of the particular item.

1.3 SUBMITTAL PROCEDURES

- A. Transmit each submittal with Engineer accepted form.
- B. Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.
- C. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and

coordination of information is in accordance with requirements of the Work and Contract Documents.

- D. Schedule submittals to expedite Project, and deliver to Engineer at business address. Coordinate submission of related items.
- E. For each submittal for review, allow 15 days excluding delivery time to and from Contractor.
- F. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of completed Work.
- G. Allow space on submittals for Contractor and Engineer review stamps.
- H. When revised for resubmission, identify changes made since previous submission.
- I. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.
- J. Submittals not requested will not be recognized or processed.

1.4 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit as required in the GENERAL CONDITIONS and Section 011000 SUMMARY OF WORK.
- B. Distribute copies of schedules to Project site file, subcontractors, suppliers, and other concerned parties.
- C. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.
- D. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate early and late start, early and late finish, float dates, and duration.
- E. Indicate estimated percentage of completion for each item of Work at each submission.
- F. Submit separate schedule of submittal dates for shop drawings, product data, and samples, and dates reviewed submittals will be required from Engineer. Indicate decision dates for selection of finishes.
- G. Revisions To Schedules:
 - 1. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
 - 2. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.

3. Prepare narrative report to define problem areas, anticipated delays, and impact on Schedule. Report corrective action taken, or proposed, and its effect including effect of changes on schedules of separate contractors.

1.5 PROPOSED PRODUCTS LIST

- A. Within 15 days after date of Owner-Contractor Agreement, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.6 PRODUCT DATA

- A. Product Data: Submit to Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Submit number of copies Contractor requires, plus two copies Engineer will retain.
- C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- D. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.7 SHOP DRAWINGS

- A. Submit in accordance with the General Conditions and Supplemental Conditions.
- B. Shop Drawings: Submit to Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- C. When required by individual specification sections, provide shop drawings signed and sealed by professional engineer responsible for designing components shown on shop drawings.
 1. Include signed and sealed calculations to support design.
 2. Submit drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
 3. Make revisions and provide additional information when required by authorities having jurisdiction.

- D. Submit number of opaque reproductions Contractor requires, plus two copies Engineer will retain.
- E. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.8 SAMPLES

- A. Submit in accordance with the General Conditions and Supplemental Conditions.
- B. Samples: Submit to Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- C. Samples For Selection as Specified in Product Sections:
 - 1. Submit to Engineer for aesthetic, color, or finish selection.
 - 2. Submit samples of finishes from full range of manufacturers' standard colors, textures, and patterns for Engineer selection.
- D. Submit samples to illustrate functional and aesthetic characteristics of Products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- E. Include identification on each sample, with full Project information.
- F. Submit number of samples specified in individual specification sections; Engineer will retain one sample.
- G. Reviewed samples which may be used in the Work are indicated in individual specification sections.
- H. Samples will not be used for testing purposes unless specifically stated in specification section.
- I. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents purposes described in Section 01 70 00 - Execution and Closeout Requirements.

1.9 DESIGN DATA

- A. Submit for Engineer's knowledge as contract administrator or for Owner.
- B. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.10 TEST REPORTS

- A. Submit for Engineer's knowledge as contract administrator or for Owner.

- B. Submit test reports for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.11 CERTIFICATES

- A. When specified in individual specification sections, submit certification by manufacturer, installation/application subcontractor, or Contractor to Engineer, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Engineer.

1.12 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to Engineer for delivery to Owner in quantities specified for Product Data.
- B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.13 MANUFACTURER'S FIELD REPORTS

- A. Submit reports for Engineer's benefit as contract administrator or for Owner.
- B. Submit report within 5 days of observation to Engineer for information.
- C. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.14 CONSTRUCTION PHOTOGRAPHS

- A. Provide photographs of site and construction throughout progress of Work produced by photographer, acceptable to Engineer.
- B. Each month submit photographs with Application for Payment.
- C. Photographs: Digital submission on CD or DVD; minimum resolution 5 MG, color.
- D. Provide photographs to document the start and stop of each major phase of construction.
- E. Provide photographs documenting erosion control during construction.

- F. Identify each print. Identify name of Project, orientation of view, date and time of view, name and address of photographer, and photographer's numbered identification of exposure.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 40 10 – SITE QUALITY REQUIREMENTS FOR EXTERIOR WORK

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality control and control of installation.
- B. Tolerances.
- C. References.
- D. Labeling.
- E. Testing and inspection services.
- F. Examination.
- G. Preparation.

1.2 QUALITY CONTROL AND CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. When manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce required and specified quality.
- F. Verify field measurements are as indicated on Shop Drawings or as instructed by manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.3 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

- B. Comply with manufacturers' tolerances. When manufacturers' tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

1.4 REFERENCES

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents, except where specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. When specified reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.
- E. Neither contractual relationships, duties, nor responsibilities of parties in Contract nor those of Engineer shall be altered from Contract Documents by mention or inference otherwise in reference documents.

1.5 LABELING

- A. Attach label from agency approved by authority having jurisdiction for products, assemblies, and systems required to be labeled by applicable code.
- B. Label Information: Include manufacturer's or fabricator's identification, approved agency identification, and the following information, as applicable, on each label.
 - 1. Model number.
 - 2. Serial number.
 - 3. Performance characteristics.

1.6 TESTING AND INSPECTION SERVICES

- A. See General Conditions.
- B. All tests to determine compliance with the Specifications shall be performed by an independent commercial testing firm. The testing firm's laboratory shall be staffed with experienced technicians, properly equipped and fully qualified to perform the tests in accordance with the specified standards.
- C. Employ and pay for services of an independent testing firm or laboratory acceptable to Owner to perform specified testing.
 - 1. Prior to start of Work, submit testing laboratory name, address, and telephone number, and names of full time registered Engineer and responsible officer.
 - 2. Laboratory: Authorized to operate in State of Indiana.

3. Laboratory Staff: Maintain full time registered Engineer on staff to review services.
 4. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to National Bureau of Standard or accepted values of natural physical constants.
- D. The independent firm will perform tests, inspections and other services specified in individual specification sections and as required by Owner.
1. Materials testing services provided by Contractor. Unless otherwise specified, Contractor shall provide all materials testing services in connection with the following:
 - a. Concrete materials and design mixtures.
 - b. Masonry units and masonry grout and mortar materials and design mixtures.
 - c. Asphaltic concrete materials and design mixtures.
 - d. Embedment, fill, and backfill materials.
 - e. All other tests and engineering data required for Engineer's review of materials and equipment proposed to be used in the Work.
 2. Field testing services provided by Contractor. Unless otherwise specified, Contractor shall provide for field tests made on the following materials and equipment:
 - a. Concrete.
 - b. Field control test of masonry.
 - c. Asphaltic concrete.
 - d. Moisture-density and relative density tests on embedment, fill, and backfill materials.
 - e. In-place field density test on embedment's, fills and backfill.
 - f. Other materials and equipment at the discretion of Contractor.
- E. Testing, inspections and source quality control may occur on or off project site. Perform off-site testing as required by Engineer or Owner.
- F. Reports will be submitted by independent firm to Engineer and Contractor, in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
1. Submit final report indicating correction of Work previously reported as non-compliant.
- G. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
1. Notify Engineer and independent firm 24 hours prior to expected time for operations requiring services.
 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
- H. Testing and employment of testing agency or laboratory shall not relieve Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

- I. Re-testing or re-inspection required because of non-conformance to specified requirements shall be performed by same independent firm on instructions by Engineer. Payment for re-testing or re-inspection will be charged to Contractor.

- J. Agency Responsibilities:
 - 1. Test samples of mixes submitted by Contractor.
 - 2. Provide qualified personnel at site. Cooperate with Engineer and Contractor in performance of services.
 - 3. Perform specified sampling and testing of products in accordance with specified standards.
 - 4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 - 5. Promptly notify Engineer and Contractor of observed irregularities or non-conformance of Work or products.
 - 6. Perform additional tests required by Engineer.
 - 7. Attend preconstruction meetings and progress meetings.

- K. Agency Reports: After each test, promptly submit two copies of report to Engineer and Contractor. When requested by Engineer, provide interpretation of test results. Include the following:
 - 1. Date issued.
 - 2. Project title and number.
 - 3. Name of inspector.
 - 4. Date and time of sampling or inspection.
 - 5. Identification of product and specifications section.
 - 6. Location in Project.
 - 7. Type of inspection or test.
 - 8. Date of test.
 - 9. Results of tests.
 - 10. Conformance with Contract Documents.

- L. Limits On Testing Authority:
 - 1. Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 - 2. Agency or laboratory may not approve or accept any portion of the Work.
 - 3. Agency or laboratory may not assume duties of Contractor.
 - 4. Agency or laboratory has no authority to stop the Work.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.

- B. Verify existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Verify utility services are available, of correct characteristics, and in correct locations.

3.2 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

END OF SECTION

SECTION 01 55 10 – TRAFFIC CONTROL AND MAINTENANCE OF TRAFFIC

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Traffic Control for Construction and Maintenance Operations

1.2 TRAFFIC CONTROL FOR CONSTRUCTION AND MAINTENANCE OPERATIONS

- A. Authority having jurisdiction: - All streets are within Indiana Department of Natural Resources properties, State, County, and City jurisdiction right-of-ways.
- B. The Contractor shall carry out the Work in a manner which will cause a minimum of interruption to traffic. Where traffic must cross open trenches, the Contractor shall provide suitable bridges to street intersections and driveways. The Contractor shall post suitable signs indicating that a street is closed and necessary detour signs for the proper maintenance of traffic. Prior to closing of any streets the Contractor shall notify and obtain approval from responsible municipal authorities.
- C. The Contractor shall plan construction activities to minimize impact to traffic. Local traffic access must be maintained at all times. To maintain traffic movement, appropriate traffic control devices shall be used. Such traffic control devices shall comply with the latest edition of the Indiana Manual on Uniform Traffic Control Devices as well as all Indiana Department of Transportation Standard Specifications, Drawings and Special Provisions (Latest Revisions).

1.3 SUBMITTALS

- A. Maintenance of Traffic Plan – Contractor shall submit a detailed Maintenance of Traffic Plan to Engineer for review and approval prior to submitting to responsible municipal authorities for final approval. The detailed Maintenance of Traffic Plan shall be submitted to the Engineer for approval a minimum of 2 weeks prior to requesting approval from the IDNR Property Manager.
- B. Contractor shall be responsible for obtaining approval from the IDNR Property Manager, State, County, and/or City jurisdictions for all lane and road closures. Written approval from the IDNR Property Manager, State, County, and/or City jurisdictions shall be provided to the Engineering prior to implementing lane and road closures.
- C. Contractor shall provide detailed information on how local traffic will be maintained to all properties during specific stages of work. This information shall be submitted to the Engineer, for review and approval, a minimum of one week prior to seeking the IDNR Property Manager Safety approval. The Contractor may not submit for the IDNR Property Manager approval until Engineer has reviewed and approved schemes for maintaining local traffic.

- D. Contractor shall be responsible for providing a schedule identifying expected dates and durations of road and lane closures to the Engineer during the pre-construction meeting. An updated schedule identifying the actual date and expected duration of all road closures shall be submitted to the Engineer a minimum of one week prior to seeking Board of Public Works and Safety approval.

PART 2 PRODUCTS

2.1 MATERIALS AND SPECIFICATIONS

- A. All signage, barricades and safety gear shall comply with the Indiana Department of Transportation Standard Specifications and the Indiana Manual on Uniform Traffic Control Devices.

PART 3 EXECUTION

3.1 TRAFFIC REGULATION

- A. Signs, Signals and Devices:
 - 1. Post Mounted and Overhead Mounted Traffic Control and Informational Signs: As approved by authority having jurisdiction.
 - 2. Traffic Cones and Drums, Flares and Lights: As approved by authority having jurisdiction
 - 3. Flagperson Equipment: As required by authority having jurisdiction.
- B. Flag Persons: Provide trained and equipped flag persons to regulate traffic when construction operations or traffic encroach on public traffic lanes.
- C. Flares and Lights: Use flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.

3.2 TRAFFIC CONTROL – GENERAL

- A. Roads shall be kept open to all traffic while undergoing improvements. Maintenance of traffic shall be in accordance with the approved Maintenance of Traffic Plan. In the event an alternate plan for maintaining traffic is requested, it shall be submitted in writing as soon as possible for consideration. If approved, the alternate plan shall not increase the cost of maintaining traffic to the Owner.
- B. The portion of the roadway being used by public traffic shall be kept in such condition that such traffic will be adequately accommodated. Drums in accordance with Section 801 of the Indiana Department of Transportation Standard Specifications, Latest Revision shall be placed at 200 foot intervals where drop-offs of greater than 3 inches are adjacent to the shoulder until the aggregate or earth wedge is placed. Temporary approaches to businesses, parking lots, residences, garages, farm, crossings,

intersections with trails, roads, and streets shall be provided in a safe condition. All traffic control devices shall be maintained with no additional payment.

- C. Regulatory controls shall not be changed without prior approval. Regulatory control devices may be relocated in order to permit necessary construction, providing these control devices remain effective and convey the intended meaning after relocation to a position, which complies with the requirements of MUTCD. After completion of the construction, regulatory control devices, which were relocate to facilitate construction shall be permanently installed with no additional payment, in accordance with the plans, or as otherwise directed. Any traffic control devices damaged, while being moved or handled, shall be replaced with no additional payment. All other traffic control devices necessary to maintain safe traffic operations and routings shall not be removed, changed, or relocated, except as authorized. Traffic control devices removed without authorization shall be replaced with no additional payment.

3.3 TRAFFIC CONTROL FOR PATCHING ON A 2-LANE ROADWAY

- A. Unless otherwise directed or permitted, the Work specified shall be arranged and prosecuted in accordance with the applicable requirements of the Contract Documents and Section 801 of the INDOT Standard Specifications as set out herein.
- B. Only one lane may be closed at a time.
- C. A minimum of two (2) drums shall be placed on the traffic approach side of each patch or opened hole.
- D. Traffic restrictions will be permitted during daylight hours only. If the Contractor is unable to fill an area to be patched during the daylight hours, the patch shall be filled with Coarse Aggregate Type A2 or A3 for the times other than daylight hours. Drums in accordance with Section 801 of the INDOT Standard Specifications shall be placed at the side of the roadway at the patch location. The Contractor shall maintain temporary aggregate fill flush with the existing pavement surface until permanent patch is placed. Temporary aggregate fill shall be utilized no more than 14 days.

3.4 MAINTAINING TRAFFIC – PROSECUTION AND PROGRESS

- A. Maintenance of traffic shall be the sole responsibility of the Contractor. Access and traffic to all businesses, residences, for all postal deliveries and all emergency traffic such as police, fire, medical, etc. within the project limits, shall be maintained at all times.
- B. Unless otherwise directed, or permitted, the Work specified shall be arranged and prosecuted in accordance with all applicable provisions of this Specification, the Contract Documents, and Section 801 of the INDOT Standard Specifications, approved permits and as set out herein.
- C. The names and telephone numbers of the Contractor's Superintendent and two other responsible employees shall be furnished at the pre-construction conference.

- D. These employees shall be on call and available at nights, weekends, or during other non-working periods to repair or replace all traffic control devices, which may become damaged or inoperative.
- E. In the event the Contractor desires not to perform traffic maintenance in accordance with the sequence of operations as called for within the Contract Documents, Contractor shall submit his alternate plan in writing to the Engineer and obtain acceptance at least 2 weeks prior to the commencement of any construction activities.
- F. Should the Contractor propose a street closure not otherwise identified within the Contract Documents, he shall submit a written request to the Engineer for review and acceptance at least three (3) weeks prior to the planned closure.
- G. The Engineer will give written notification of the acceptance or denial of any maintenance of traffic proposals and, if approved, Engineer will inform the County Highway Department to allow notice to be given to all public agencies and businesses within the project area. The failure to accept the request, as long as the decision is reasonable, shall not entitle the Contractor to an extension in contract time or to an increase in contract price.
- H. Prior to actual closure of a street, the Contractor shall notify Owner 48 hours prior to closure taking affect.
- I. When conduit or cable is being placed between 7:00 a.m. and 6:00 p.m. steel plating shall be utilized in order to ensure that movement through the intersection is not deterred.
- J. Pedestrian traffic also shall be maintained and disruption thereof kept to a minimum.
- K. Open trenches, if permitted by the Engineer, shall be spanned per current OSHA requirements and with the concurrence of the Engineer.
- L. Any trenching areas adjacent to a sidewalk shall be barricaded. If adequate sidewalk area is not available, the Contractor shall divert pedestrian traffic across the street and shall provide all materials necessary to provide for the crossover.
- M. Trenching in the streets shall not be left open during off-working hours. The trenches shall be either backfilled with crushed stone or steel plated per current Owner's ordinances and regulations or instructions.

END OF SECTION

SECTION 01 60 10 – SITE PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Products.
- B. Product delivery requirements.
- C. Product storage and handling requirements.

1.2 PRODUCTS

- A. Furnish products of qualified manufacturers suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by Contract Documents.
- C. Furnish interchangeable components from same manufacturer for components being replaced.

1.3 PRODUCT DELIVERY REQUIREMENTS

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.
- D. Products shall not be delivered to the project site until related shop drawings have been reviewed and approved by the Design Engineer and until appropriate storage facilities are in place and approved by the ENGINEER.
- E. Products shall be delivered to the site in manufacturer's original, unopened, labeled containers.
- F. The Contractor shall not drop, roll or skid products off delivery vehicles. Hand carry or use suitable materials handling equipment.

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

- A. GENERAL

1. The Contractor shall store and protect products in accordance with the manufacturer's recommendations and the requirements specified herein. No on-site existing storage facilities are available for use by the Contractor. All on-site facilities for storage shall be furnished by the Contractor.
2. The Contractor shall not block or restrict the use of Public Rights-of-Way, access roads, or private property with stored materials, except where indicated on the Contract Documents.
3. The Contractor shall not store products where they will interfere with operations of the Owner or other contractors.
4. The Contractor shall protect all products from damage or deterioration by weather.
5. The Contractor shall not store any products directly on the ground.
6. Provide off-site storage and protection when site does not permit on-site storage or protection.
7. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

B. UNCOVERED STORAGE

1. Materials not subject to deterioration or contamination by weather may be stored uncovered at the project site. Such materials may include concrete masonry units, reinforcing steel, piping, precast concrete, and castings. All such materials shall be stored on wood blocking where practical. Aggregates and sand may be stored uncovered provided that they are protected by contamination by other materials.

C. COVERED STORAGE

1. The following types of material may be stored out-of-doors if covered with material impervious to water:
 - a. Rough Lumber
 - b. Equipment as specifically allowed by the Engineer
2. The Contractor shall tie down covers with rope and slope to prevent accumulation of water on covers. All materials shall be stored on wood blocking or pallets.

D. FULLY PROTECTED STORAGE

1. The Contractor shall store all products not named above in buildings or trailers which have a concrete or wooden floor, a roof, and fully enclosed walls on all sides.
2. The Contractor shall provide heated storage space for materials which would be damaged by freezing.
3. The Contractor shall protect mechanical and electrical equipment from being contaminated by dust and dirt.
4. The Contractor shall maintain temperature and humidity at levels recommended by manufacturer(s) for electrical and electronic equipment.

PART 2 PRODUCTS – Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS

GENERAL

1.1 SECTION INCLUDES

- A. Closeout procedures.
- B. Final cleaning.
- C. Protecting installed construction.
- D. Project record documents.
- E. Product warranties.

1.2 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's review.
- B. Provide submittals to Engineer.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.3 FINAL CLEANING

- A. Execute final cleaning prior to final project assessment.
- B. Clean equipment and fixtures to sanitary condition with cleaning materials appropriate to surface and material being cleaned.
- C. Clean debris from roofs, gutters, downspouts, and drainage systems.
- D. Clean site; sweep paved areas, rake clean landscaped surfaces.
- E. Remove waste and surplus materials, rubbish, and construction facilities from site.

1.4 PROTECTING INSTALLED CONSTRUCTION

- A. Protect installed Work and provide special protection where specified in individual specification sections.
- B. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

- C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- E. Prohibit traffic or storage upon waterproofed or roofed surfaces. When traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- F. Prohibit traffic from landscaped areas.

1.5 PROJECT RECORD DOCUMENTS

- A. As required in General Conditions and Supplemental Conditions.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Record information concurrent with construction progress, not less than weekly.
- D. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
 - 1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 2. Field changes of dimension and detail.
 - 3. Details not on original Contract drawings.
- E. Submit documents to Engineer with claim for final Application for Payment.

1.6 PRODUCT WARRANTIES

- A. If there are any warranties or manufactured services offered longer than three (3) years from Substantial Completion, Contractor shall provide all warranty certificates and documentation for these.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 73 29 - CUTTING AND PATCHING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. General Requirements
- B. Scheduling of Shutdown

1.2 RELATED SECTIONS

Related Work Specified in Other Sections Includes, but is Not Limited to, the Following

- A. Section 010100 - Summary of Work

1.3 GENERAL REQUIREMENTS

- A. Coordination: Perform all cutting, fitting or patching of the Work that may be required to make the several parts thereof join in accordance with the Contract Documents. Perform restoration with competent workmen skilled in the trade.
- B. Improperly Timed Work: Perform all cutting and patching required to install improperly timed work, to remove samples of installed materials for testing, and to provide for alteration of existing facilities or for the installation of new Work in the existing construction.
- C. Limitations: Except when the cutting or removal of existing construction is specified or indicated, do not undertake any cutting or demolition which may affect the structural stability of the Work or existing facilities without the ENGINEER's concurrence.

1.4 SCHEDULING OF SHUTDOWN

- A. Connections to Existing Facilities: If any connections, replacement, or other work requiring the shutdown of an existing facility is necessary, schedule such work at times when the impact on the OWNER's normal operation is minimal. Overtime, night and weekend work without additional compensation from the OWNER, may be required to make these connections, especially if the connections are made at times other than those specified.
- B. Request for Shutdowns: Submit a written request for each shutdown to the OWNER and the ENGINEER sufficiently in advance of any required shutdown.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 PREPARATION

- A. Safeguards: Provide all shoring, bracing, supports, and protective devices necessary to safeguard all work and existing facilities during cutting and patching operations.
- B. Location of Embedments: Employ impulse radar (non x-ray type) nondestructive testing prior to core drilling or cutting of existing walls, floors and ceilings to identify location of embedded pipes or conduits.
- C. Material Removal: Cut and remove all materials to the extent shown or as required to complete the Work. Remove materials in a careful manner with no damage to adjacent facilities. Remove materials which are not salvageable from the site.

3.2 RESTORATION

- A. Final Appearance and Finish: Restore all work and existing facilities affected by cutting operations, with new materials, or with salvaged materials acceptable to the ENGINEER, to obtain a finished installation with the strength, appearance, and functional capacity required. If necessary, patch and refinish entire surfaces.

END OF SECTION

SECTION 02 10 00 - SITE PREPARATION

PART 1 GENERAL

1.1 SUMMARY

- A. The Work of this Section includes measures required during the Contractor's initial move onto the Site to protect existing fences, structures and associated improvements, streets, and utilities from damage; clearing, grubbing and stripping of plant material other than shrubbery and trees.

1.2 SITE INSPECTION

- A. Prior to moving onto the Site, the Contractor shall inspect the Site conditions and review the existing site and utility routes and facilities delineating the Owner's property and any easements.

PART 2 PRODUCTS – Not Used

PART 3 EXECUTION

3.1 PRIMARY SITE ACCESS

- A. The Contractor shall develop any necessary access to the Site, including access barriers to prohibit entry of unauthorized persons.
- B. Utility Interference: Where existing utilities interfere with the Work, the Contractor shall notify the Owner and the Engineer before proceeding in accordance with the General Conditions and Supplemental Conditions.

3.2 CLEARING, GRUBBING, AND STRIPPING

- A. Construction areas shall be cleared of grass and weeds to at least a depth of 6-inches masonry debris, logs, upturned stumps, loose boulders, and any other objectionable material of any kind which would interfere with the performance or completion of the Work, create a hazard to safety, or impair the subsequent usefulness of the Work, or obstruct its operation. Loose boulders within 10-feet of the top of cut lines shall be incorporated in landscaping or removed from the Site. Trees and other natural vegetation outside the actual lines of construction shall be protected from damage during construction, as directed by the Engineer, unless otherwise specified.
- B. Within the limits of clearing, the areas below the natural ground surface shall be grubbed to a depth necessary to remove all stumps, roots, buried logs, and all other objectionable material. Septic tanks, drain fields, and connection lines and any other underground structures, debris or waste shall be removed if found on the Site. All

objectionable material from the clearing and grubbing process shall be removed from the Site and disposal at approved safe locations.

- C. Unless otherwise indicated, native trees larger than 3-inches in diameter at the base shall not be removed without the Engineer's approval. The removal of any trees, shrubs, fences, or other improvements outside of rights-of-way, if necessary for the Contractor's choice of means and methods, shall be arranged with the owner of the property, and shall be removed and replaced, at no additional cost to the Owner.
- D. Unless otherwise provided, any existing structure or parts thereof, fence, building, or other encumbrance or obstruction upon or within the limits of construction which interferes in any way with the new construction shall be removed with no additional payment. Materials belonging to owners of abutting property shall be stockpiled neatly and in an acceptable manner upon their property or otherwise disposed of as required.
- E. Materials not specifically reserved for use by the Owner shall become the property of the Contractor. Such materials shall be removed or disposed of as specified or directed. Materials reserved for use by the Owner shall be removed without damage in sections which can be readily transported. Such materials shall be stockpiled neatly at accessible points. No material shall be disposed of except as provided herein.
- F. Owner reserves the right to all manhole frames and castings removed as part of the project. Existing items specified or directed to be removed by the Engineer or elsewhere in these Contract Documents shall be salvaged and stockpiled at the job site by the Contractor. Those items designated by the Engineer shall be delivered by the Contractor to the Owner at a location specified by Owner.

3.3 PREPARATION PRIOR TO FILL OR MATERIAL PLACEMENT

- A. After areas to receive fill have been cleared, grubbed, and excavated fill shall be placed in accordance with other appropriate specification section.

END OF SECTION

SECTION 02 41 19 – SITE SELECTIVE DEMOLITION

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Cutting and alterations for completion of the Work.
 - 2. Removing designated items.
 - 3. Removing demolished materials.
 - 4. Plugging of Pipes
- B. Related Sections:
 - 1. Section 33 41 00 – Storm Drainage Piping

1.2 SITE SELECTIVE DEMOLITION

- A. Comply with Section 02 41 19 SELECTIVE STRUCTURE DEMOLITION.

1.3 SUBMITTALS

- A. Pipe Plug product data

1.4 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 – Execution and Closeout Requirements: Requirements for submittals.
- B. Project Record Documents: Accurately record actual locations of capped utilities, concealed utilities discovered during demolition, and subsurface obstructions.

1.5 SCHEDULING

- A. Section 01 30 00 - Administrative Requirements: Requirements for scheduling.
- B. Schedule Work to coincide with new construction.

PART 2 PRODUCTS

2.1 PIPE PLUGS

- A. Pipe plugs shall be of the manufactured mechanical variety and shall not rely on inflatable means to form positive seal.

PART 3 EXECUTION

3.1 PREPARATION

- A. Notify affected utility companies before starting work and comply with their requirements.
- B. Mark location and termination of utilities.

3.2 PLUGGING OF EXISTING PIPES

- A. Pipes shall be plugged in accordance with the written instructions of the selected and approved aforementioned pipe plug system.

3.3 DEMOLITION

- A. Disconnect and remove designated utilities within demolition areas.
- B. Cap and identify abandoned utilities at termination points when utility is not completely removed. Annotate Record Drawings indicating location and type of service for capped utilities remaining after demolition.
- C. Remove demolished materials from site except where specifically noted otherwise. Do not burn or bury materials on site.
- D. Remove materials as Work progresses. Upon completion of Work, leave areas in clean condition.
- E. Remove temporary Work.

END OF SECTION

SECTION 31 10 00 - SITE CLEARING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Removing designated paving and curbs.
2. Removing designated trees, shrubs, and other plant life.
3. Removing abandoned utilities.

1.2 SUBMITTALS

A. Section 01 33 00 - Submittals ~~Procedures: Requirements for submittals.~~

B. Product Data: Submit data for herbicide. Indicate compliance with applicable local, state and federal codes for environmental protection.

C. Utility Protection Plan: Describe methods to be used in order to protect existing and relocated utilities from being damaged during construction. Identify points of potential conflict and indicate measures taken to mitigate potential conflicts. A listing of all applicable requirements from each utility owner shall be included in the Utility Protection Plan.

1.3 QUALITY ASSURANCE

A. Conform to all applicable local, state and federal codes for disposal of debris and use of herbicides.

B. Perform work in accordance with all applicable requirements and standards set forth by each respective utility owner.

C. Perform work in accordance with Indiana Department of Transportation Standard Specifications, Latest Revision unless otherwise directed by these specifications.

PART 2 PRODUCTS

2.1 MATERIALS

A. Herbicide: shall be of the type, approved by authority having jurisdiction.

PART 3 EXECUTION

3.1 EXAMINATION

- A. ~~Section 01-30-00—Administrative Requirements:—Verification of~~Verify existing conditions before starting work.
- B. Contractor shall be responsible for verifying all existing conditions prior to beginning work. In the event that existing conditions encountered in the field are different from those represented in the plans and specifications, the Contractor shall notify the Owner, Owner's Authorized Representative and Engineer immediately. Contractor shall be responsible for restoring all items damaged or destroyed during construction to a condition equal or better than existing conditions at no additional cost to the owner.
- C. Verify site conditions and note subsurface irregularities affecting Work of this section.
- D. Verify existing plant life designated to remain is tagged or identified.

3.2 PREPARATION

- A. Call Local Utility Line Information service (Indiana811) at 811 or 800-382-5544 in accordance with Indiana Code prior to beginning construction.
 - 1. All requests for utility locates shall adhere to Indiana Code. Additional information can be found at www.indiana811.org

3.3 PROTECTION

- A. Locate, identify, and protect utilities indicated to remain, from damage.
- B. Protect trees, plant growth, and features designated to remain, as final landscaping.
- C. Protect bench marks, survey control points and existing structures from damage or displacement.

3.4 TREE AND SHRUB REMOVAL

- A. Clear areas required for access to site and execution of Work.
- B. Remove trees and shrubs indicated on drawings. Remove stumps, main root ball and surface rock.
- C. Clear undergrowth and deadwood, without disturbing subsoil.
- D. Apply herbicide to remaining stumps to inhibit growth.

- E. Remove all vegetative material, including root ball, in areas indicated for pavement, trenches, or structural improvements.

3.5 REMOVAL

- A. Remove concrete paving, asphalt paving, guardrail and curbs as indicated on Drawings. Neatly saw cut edges at right angle to surface.
 - 1. All concrete pavements, curbing and sidewalk shall be removed to the nearest joint regardless of removal location shown on drawings.
 - 2. Removal of existing concrete paving, asphalt paving and curbs shall include the removal of aggregate base material when encountered.
- B. Remove abandoned utilities or fill with non-excavatable flowable fill. Indicated removal termination point for underground utilities on Record Documents.
- C. In utility trenches, remove all abandoned subgrade improvements to 6 inches below invert elevation of pipe and 24 inches wider than pipe diameter. See Section~~SECTION~~ 31 23 17 Site~~ITE~~ Trenching~~TRENCHING~~.
- D. Under pavement areas, remove all abandoned subgrade improvements to 12 inches below subbase elevation of pavement section. See Section~~SECTION~~ 32 11 23 Site~~ITE~~ Aggregate~~GGREGATE~~ Base~~ASE~~ Courses~~COURSES~~.
- E. Remove excavated materials from site.
- F. Continuously clean-up and remove waste materials from site. Do not allow waste materials or construction materials to unnecessarily accumulate on site.
- G. Do not burn or bury materials on site. Leave site in clean condition.

END OF SECTION

(NO TEXT FOR THIS PAGE)

SECTION 312317 – SITE TRENCHING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Excavating trenches for utilities from 5 feet outside building to utility service point.
2. Compacted fill from top of initial backfill to subgrade elevations
3. Compacted fill within trenches of removed utilities
4. Backfilling and compaction.

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:

1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:

1. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)).
2. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
3. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
4. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
5. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
6. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.3 DEFINITIONS

- ##### A. Utility: Any buried pipe, duct, conduit, or cable.

1.4 SUBMITTALS

- ##### A. See General Conditions and Supplemental Conditions for additional requirements for submittals.

- ##### B. Excavation Protection Plan: Describe sheeting, shoring, and bracing materials and installation required to protect excavations and adjacent structures and property; include structural calculations to support plan.

- C. Utility Protection Plan: Describe methods to be used in order to protect existing and relocated utilities from being damaged during construction. Identify points of potential conflict and indicate measures taken to mitigate potential conflicts. A listing of all applicable requirements from each utility owner shall be included in the Utility Protection Plan.
- D. Samples: Upon request of Engineer, Owner or Owner's Authorized representative, Contractor shall submit, in air-tight containers, 10 lb sample of requested product to testing laboratory.
- E. Materials Source: Submit name of imported fill materials suppliers.
- F. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.
- G. Products: Submit data for aggregate materials.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with Indiana Department of Transportation Standard Specifications, Latest Revision unless otherwise directed by these specifications.

1.6 QUALIFICATIONS

- A. Prepare excavation protection plan under direct supervision of Professional Engineer experienced in design of this Work and licensed in the State of Indiana.

1.7 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.8 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify Work associated with lower elevation utilities is complete before placing higher elevation utilities.

PART 2 PRODUCTS

2.1 FILL MATERIALS

- A. Granular Soil Fill: Granular Soil Fill as specified in Section 32 05 13.
- B. Structural Fill: Coarse Aggregate Type A3 as specified in Section 32 05 16.
- C. Flowable Fill: Excavatable flowable fill as specified under Section 31 23 24

PART 3 EXECUTION

3.1 LINES AND GRADES

- A. Establish lines and grades as indicated on Plans.
 - 1. Architect/Engineer or Owner reserves right to make changes in lines, grades, and depths of utilities when changes are required for Project conditions.
- B. Use laser-beam instrument with qualified operator to establish lines and grades.

3.2 PREPARATION

- A. Call Local Utility Line Information service (Indiana811) at 811 or 800-382-5544 in accordance with Indiana Code prior to beginning construction.
 - 1. All requests for utility locates shall adhere to Indiana Code. Additional information can be found at www.indiana811.org
- B. Identify required lines, levels, contours, and datum locations.
- C. Protect plant life, lawns and other features remaining as portion of final landscaping.
- D. Protect bench marks, existing structures, fences, sidewalks, paving and curbs from excavating equipment and vehicular traffic.
- E. Maintain and protect above and below grade utilities indicated to remain.
- F. Establish temporary traffic control and detours when trenching is performed in public right-of-way in accordance with Section 01 50 10 Maintenance of Traffic. Relocate temporary traffic controls and reroute traffic as required during progress of Work.

3.3 TRENCHING

- A. Excavate subsoil required for utilities to utility service.
- B. Remove lumped subsoil, boulders, and rock up of 1/3 cubic yard, measured by volume. Remove larger material as specified in Section 31 23 18.
- C. Perform excavation within 24 inches of existing utility service in accordance with utility's requirements as described in the approved Utility Protection Plan.
- D. Do not advance open trench more than 200 feet ahead of installed pipe.
- E. Cut trenches to width indicated on Plans. Remove water or materials that interfere with Work.
- F. Excavate bottom of trenches to width indicated on Plans.
- G. Excavate trenches to depth indicated on Plans. Provide uniform and continuous bearing and support for bedding material and pipe.

- H. Do not interfere with 45 degree bearing splay of foundations.
- I. When Project conditions permit, slope side walls of excavation as indicated on Plans. When side walls cannot be sloped, provide sheeting and shoring to protect excavation in accordance with approved Excavation Protection Plan.
- J. When subsurface materials at bottom of trench are loose or soft, excavate to greater depth as directed by Architect/Engineer until suitable material is encountered.
- K. Cut out soft areas of subgrade not capable of compaction in place. Backfill with structural fill (as defined by this section) and compact to density equal to or greater than requirements for subsequent backfill material.
- L. Trim excavation and remove loose matter.
- M. Correct areas over excavated areas as specified in Section 31 23 23 Site Fill or as directed by Architect/ Engineer.
- N. Remove excavated material from site and dispose of in an approved landfill.
- O. Repair or replace items indicated to remain damaged by excavation.

3.4 SHEETING AND SHORING

- A. Sheet, shore, and brace excavations to prevent danger to persons, structures and adjacent properties and to prevent caving, erosion, and loss of surrounding subsoil as indicated on Plans.
- B. Design sheeting and shoring to be removed at completion of excavation work.
- C. Repair damage caused by failure of the sheeting, shoring, or bracing and for settlement of filled excavations or adjacent soil.
- D. Repair damage to new and existing Work from settlement, water or earth pressure or other causes resulting from inadequate sheeting, shoring, or bracing.

3.5 BACKFILLING

- A. Backfill trenches to contours and elevations with unfrozen fill materials.
- B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces.
- C. Place fill material in continuous layers and compact in accordance with schedule at end of this section.
- D. Employ placement method that does not disturb or damage foundation perimeter drainage, utilities in trench, and wall backfill.

- E. Maintain optimum moisture content of fill materials to attain required compaction density.
- F. Do not leave any trench open at end of working day.
- G. Protect open trench with fencing or other measures as directed by Owner, Owner's Authorized Representative or Engineer in order to prevent danger to Owner, Contractor's forces and the public.

3.6 TOLERANCES

- A. Section 01 40 10 Site Quality Requirements For Exterior Work: Tolerances.
- B. Top Surface of Backfilling Under Paved Areas: Plus or minus 1/2 inch from required elevations.
- C. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.

3.7 FIELD QUALITY CONTROL

- A. Section 01 40 10 Site Quality Requirements For Exterior Work and 01 70 00 Execution And Closeout Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Perform laboratory material tests in accordance with ASTM D1557.
- C. Perform in place compaction tests in accordance with the following:
 - 1. Density Tests: ASTM D1556
 - 2. Moisture Tests: ASTM D3017.
- D. When tests indicate Work does not meet specified requirements, remove Work, replace, compact, and retest.
- E. Frequency of Tests. Complete tests for every for each run of pipe or as otherwise directed by the Owner, Owner's Authorized Representative, Architect or Engineer. Owner, Owner's Authorized Representative, Architect or Engineer reserve the right to request additional testing without notice at no additional cost to the Owner.

3.8 PROTECTION OF FINISHED WORK

- A. Section 01 70 00 Execution And Closeout Requirements: Protecting finished work.
- B. Reshape and re-compact fills subjected to vehicular traffic during construction.

3.9 SCHEDULE

- A. Trenching Backfill
 - 1. Complete final backfill with fill type as indicated on Plans.
 - 2. Compact uniformly to minimum percent of maximum dry density as indicated on plans.

3. Fill shall be placed in 6 inch maximum lifts

END OF SECTION

SECTION 31 23 18 - SITE ROCK REMOVAL

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Removing identified and discovered rock during excavation.
2. Expansive tools to assist rock removal.

1.2 DEFINITIONS

- ##### A. Rock: Solid mineral material with volume in excess of 1/3 cu yd or solid material that cannot be removed with 3/4 cu yd capacity excavator without drilling.

1.3 SUBMITTALS

- ##### A. Section 01 33 00 - Submittals.

- ##### B. Shop Drawings: Indicate intended rock removal method.

- ##### C. Survey Report: Submit survey report on conditions of buildings near locations of rock removal.

1.4 QUALITY ASSURANCE

- ##### A. Perform Work in accordance with Indiana Department of Transportation Standard Specifications, Latest Revision unless otherwise directed by these specifications.

1.5 QUALITY ASSURANCE

- ##### A. Perform Work in accordance with Indiana Department of Transportation Standard Specifications, Latest Revision unless otherwise directed by these specifications.

1.6 SCHEDULING

- ##### A. Section 01 30 00 - Administrative Requirements.

- ##### B. Schedule Work to avoid disruption to occupied buildings nearby.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

3.1 EXAMINATION

- A. Contractor shall be responsible for verifying all existing conditions prior to beginning work. In the event that existing conditions encountered in the field are different from those represented in the plans and specifications, the Contractor shall notify the Owner, Owner's Authorized Representative and Engineer immediately. Contractor shall be responsible for restoring all items damaged or destroyed during construction to a condition equal or better than existing conditions at no additional cost to the owner.
- B. Verify site conditions and note subsurface irregularities affecting Work of this section.

3.2 PREPARATION

- A. Identify required lines, levels, contours, and datum.

3.3 ROCK REMOVAL BY MECHANICAL METHOD

- A. Excavate and remove rock by mechanical method.
- B. Drill holes and use expansive tools or wedges to fracture rock.
- C. Cut away rock at bottom of excavation to form level bearing.
- D. In utility trenches, excavate to 6 inches below invert elevation of pipe and 24 inches wider than pipe diameter.
- E. Remove excavated materials from site.
- F. Correct unauthorized rock removal in accordance with backfilling and compacting requirements of Section 31 23 23 or as directed by Architect/Engineer.
- G. Under no circumstances shall blasting be used to excavate rock.

3.4 FIELD QUALITY CONTROL

- A. Section 01 40 10 Site Quality Requirements For Exterior Work and 01 70 00 Execution And Closeout Requirements.

END OF SECTION

SECTION 31 23 19 - SITE DEWATERING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Dewatering system.
2. Surface water control system.
3. System operation and maintenance.
4. Water disposal.

1.2 REFERENCES

A. ASTM International:

1. ASTM C33 - Standard Specification for Concrete Aggregates.

1.3 DEFINITIONS

A. Dewatering includes the following:

1. Lowering of ground water table and intercepting horizontal water seepage to prevent ground water from entering excavations and trenches.
2. Reducing piezometric pressure within strata to prevent failure or heaving of excavations and trenches.
3. Disposing of removed water.

B. Surface Water Control: Removal of surface water within open excavations.

1.4 SYSTEM DESCRIPTION

- ##### A. Provide dewatering and surface water control systems to permit Work to be completed on dry and stable subgrade.

1.5 PERFORMANCE REQUIREMENTS

A. Design dewatering systems to:

1. Lower water table within areas of excavation to elevation to permit Work to be completed on dry and stable subgrade.
2. Relieve hydrostatic pressures in confined water bearing strata below excavation to eliminate risk of uplift or other instability of excavation.

3. Prevent damage to adjacent properties, buildings, structures, utilities, and facilities from construction operations.
 4. Prevent loss of fines, quick condition, or softening of foundation subgrade.
 5. Maintain stability of sides and bottoms of excavations.
- B. Design surface water control systems to collect and remove surface water and seepage entering excavation.

1.6 SUBMITTALS

- A. Submit all shop drawings as instructed by Owner, Owner's Authorized Representative or Engineer.
- B. Section 01 33 00 - Submittals.
- C. Shop Drawings: Signed and sealed by professional engineer.
1. Indicate dewatering system layout, well depths, well screen lengths, dewatering pump locations, pipe sizes and capacities, grades, filter sand gradations, surface water control devices, valves, and water disposal method and location.
 2. Indicate primary and standby power system location and capacity.
 3. Include detailed description of dewatering and monitoring system installation procedures and maintenance of equipment.
 4. Include description of emergency procedures to follow when problems arise.

1.7 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 Execution And Closeout Requirements.
- B. Project Record Documents: Record actual locations and depths of capped wells and piping abandoned in place.

1.8 QUALITY ASSURANCE

- A. Comply with authorities having jurisdiction for the following:
1. Drilling and abandoning of wells used for dewatering systems.
 2. Water discharge and disposal from pumping operations.

- B. Perform Work in accordance with Indiana Department of Environmental Management (IDEM) and Indiana Department of Natural Resources (IDNR) standards.
- C. Perform Work in accordance with Indiana Department of Transportation Standard Specifications, Latest Revision unless otherwise directed by these specifications.

1.9 COORDINATION

- A. Coordinate work to permit the following construction operations to be completed on dry stable substrate.
 - 1. Excavation, as specified in Section 31 23 16.
 - 2. Trenching and Backfill, as specified in Section 31 23 17.

PART 2 PRODUCTS

2.1 DEWATERING EQUIPMENT

- A. Select dewatering equipment to meet specified performance requirements.
- B. See Section 31 25 13 - Site Erosion Controls for additional information.

2.2 ACCESSORIES

- A. Valves and Fittings: Furnish valves and fittings to isolate each well from header pipe and to prevent loss of pump prime.
- B. Filter Sand: ASTM C33; natural river or bank sand; washed; free of silt, clay, loam, friable or soluble materials, and organic matter; graded to suit well screen.
- C. Grout: Mixture of portland cement and bentonite clay or sand suitable for sealing abandoned wells and piping.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Contractor shall be responsible for verifying all existing conditions prior to beginning work. In the event that existing conditions encountered in the field are different from those represented in the plans and specifications, the Contractor shall notify the Owner, Owner's Authorized Representative and Engineer immediately. Contractor shall be responsible for restoring all items damaged or destroyed during construction to a condition equal or better than existing conditions at no additional cost to the owner.

B. Call Local Utility Line Information service (Indiana811) at 811 or 800-382-5544 in accordance with Indiana Code prior to beginning construction.

1. All requests for utility locates shall adhere to Indiana Code. Additional information can be found at www.indiana811.org

3.2 PREPARATION

A. Protect existing adjacent buildings, structures, and improvements from damage caused by dewatering operations.

3.3 DEWATERING SYSTEM

A. Install dewatering system in accordance with shop drawings.

B. Locate system components to allow continuous dewatering operations without interfering with installation of permanent Work and existing public rights-of-way, sidewalks, and adjacent buildings, structures, and improvements.

3.4 SURFACE WATER CONTROL SYSTEM

A. Provide ditches, berms, and other devices to divert and drain surface water from excavation area as required.

1. Contractor shall ensure all temporary ditches, berms or other devices constructed to divert and drain surface water from excavations include all necessary temporary erosion control measures.

2. Contractor shall consult local officials to determine which, if any, temporary erosion control measures are required.

B. Divert surface water and seepage water within excavation areas into sumps and pump water into drainage channels or storm drains in accordance with requirements of agencies having jurisdiction.

C. Control and remove unanticipated water seepage into excavation.

3.5 SYSTEM OPERATION AND MAINTENANCE

A. Provide continuous supervision of dewatering system when operating by personnel skilled in operation, maintenance, and replacement of system components.

B. Conduct daily observation of dewatering system. Make required repairs and perform scheduled maintenance.

C. Fill fuel tanks before tanks reach 25 percent capacity.

- D. Start emergency generators at least twice each week to check operating condition.
- E. When dewatering system cannot control water within excavation, notify Engineer and stop excavation work.
 - 1. Supplement or modify dewatering system and provide other remedial measures to control water within excavation.
 - 2. Demonstrate dewatering system operation complies with performance requirements before resuming excavation operations.
- F. Modify dewatering and surface water control systems when operation causes or threatens to cause damage to new construction, existing site improvements, adjacent property, or adjacent water wells.
- G. Correct unanticipated pressure conditions affecting dewatering system performance.

3.6 WATER DISPOSAL

- A. Discharge water into existing storm sewer system in location as coordinated with the Owner, Owner's Authorized Representative or Engineer.

3.7 SYSTEM REMOVAL

- A. Remove dewatering and surface water control systems after dewatering operations are discontinued.
- B. Fill abandoned wells with non-excavatable flowable fill.
- C. Fill abandoned piping with non-excavatable flowable fill.
- D. Repair damage caused by dewatering and surface water control systems or resulting from failure of systems to protect property.

3.8 FIELD QUALITY CONTROL

- A. Section 01 40 10 Site Quality Requirements For Exterior Work and 01 70 00 Execution And Closeout Requirements.
- B. Survey existing adjacent buildings, structures, and improvements weekly to detect movement in comparison to original elevations during dewatering operations.
 - 1. Notify Engineer immediately of measured movement.

END OF SECTION

SECTION 31 23 23 - SITE FILL

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Fill under lawn and landscaping sections.
2. Fill under paving sections.
3. Fill for over-excavation.
4. Fill underneath retaining walls.
5. Fill underneath building slabs.

B. Section does not Include:

1. Fill underneath building foundations
2. Backfill within trenches
3. Topsoil or other amended fills for landscaping / planting purposes

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:

1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:

1. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³))
2. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
3. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
4. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.

- 5. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- 6. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.3 SUBMITTALS

- A. Section 01 33 00 – Submittals.
- B. See specification sections 32 05 13 Site Soils For Fill and 32 05 16 Site Aggregates For Backfill for material submittal requirements.
- C. Proof rolling: Submit documentation stating dates, times and weather conditions of proof rolling operations. Documentation shall state equipment used and locations of all encountered soft spots and measures used to mitigate soft spots.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with Indiana Department of Transportation Standard Specifications, Latest Revision unless otherwise directed by these specifications.
- B. Contractor shall provide all necessary compaction equipment and other grading equipment that may be required to obtain the specified compaction. Compaction by travel of grading equipment will not be considered adequate for uniform compaction. Hand guided vibratory or tamping compactors will be required whenever fill is placed adjacent to walls, footings, and columns or in confined areas.
- C. Field density tests for determining the compaction of the fill shall be performed by a qualified testing laboratory in accordance with standard recognized procedures for making such tests.

PART 2 PRODUCTS

2.1 FILL MATERIALS

- A. Granular Soil Fill: Granular Soil Fill as specified in Section 32 05 13 Site Soils For Fill.
- B. Structural Fill: Coarse Aggregate Type A3 as specified in Section 32 05 16 Site Aggregates For Backfill.

- C. Drainage Subbase: Coarse Aggregate Type A4 as specified in Section 32 05 16 Site Aggregates For Backfill.
- D. Drainage Backfill: Coarse Aggregate Type A2 as specified in Section 32 05 16 Site Aggregates For Backfill.
- E. Flowable Fill: Excavatable Flowable Fill as specified under Section 31 23 24 Site Flowable Fill.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements.
- B. Verify subdrainage, dampproofing, or waterproofing installation has been inspected.
- C. Verify underground tanks are anchored to their own foundations to avoid flotation after backfilling.
- D. Verify structural ability of unsupported walls to support loads imposed by fill.

3.2 PREPARATION

- A. Compact subgrade to density requirements for subsequent fill materials.
- B. Cut out soft areas of subgrade not capable of compaction in place. Use structural fill to re-establish grades and compact to density equal to or greater than requirements for subsequent fill material.
- C. Scarify subgrade surface to depth of 6 inches.
- D. Proof roll with heavy rubber tired vehicle to identify soft spots; fill and compact to density equal to or greater than requirements for subsequent fill material.
 - 1. Geotechnical Engineer shall be present during all subgrade proofrolling operations.
 - 2. Mitigation of areas failing proof roll shall be in accordance with Geotechnical Engineer's instructions.

3.3 FILLING AND BACKFILLING

- A. Fill areas to contours and elevations with unfrozen materials.

- B. Systematically place fill to allow maximum time for natural settlement. Do not place fill over porous, wet, frozen or spongy subgrade surfaces.
- C. Place fill material in continuous layers and compact in accordance with schedule at end of this section
- D. Employ placement method that does not disturb or damage other work.
- E. Moisture shall be added or material shall be dried as required to permit proper compaction. Moisture content at compaction shall be within 2% of optimum moisture content unless otherwise approved, in writing, by a Geotechnical Engineer.
- F. Backfill against supported foundation walls in accordance with written instructions from a licensed Structural Engineer. Do not backfill against unsupported foundation walls.
- G. Backfill simultaneously on each side of unsupported foundation walls in accordance with written instructions from a licensed Structural Engineer.
- H. Slope grade away from building minimum 2 percent slope for minimum distance of 10 ft, unless noted otherwise.
- I. Make gradual grade changes. Blend slope into level areas.
- J. Remove stockpile, leave area in clean and neat condition. Grade site surface to prevent free standing surface water.

3.4 TOLERANCES

- A. Section 01 40 10 Site Quality Requirements For Exterior Work.
- B. Top Surface of Backfilling Under Paved Areas, Building Slabs or Retaining Walls: Plus or minus 1/2 inch from required elevations.
- C. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.

3.5 FIELD QUALITY CONTROL

- A. Section 01 40 10 Site Quality Requirements For Exterior Work and 01 70 00 Execution And Closeout Requirements.
- B. Perform laboratory material tests to determine maximum dry density in accordance with ASTM D 1557.
- C. Perform in place compaction tests in accordance with the following:
 - 1. Density Tests: ASTM D1556.

2. Moisture Tests: ASTM D3017.

D. Frequency of tests shall be as indicated in schedule below.

E. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.

3.6 PROTECTION OF FINISHED WORK

A. 01 70 00 Execution And Closeout Requirements.

B. Reshape and re-compact fills subjected to vehicular traffic.

3.7 SCHEDULE

A. Fill Under Landscaped Areas and over 5 feet from Paved Areas and Sidewalks

1. Granular Soil fill to elevations indicated on plans, compact uniformly to 93 percent of maximum dry density as determined ASTM D 1557.

2. Coordinate fill lines and grades of fill with planting soil requirements specified in other sections.

3. Fill shall be placed in 8 inch maximum lifts.

B. Fill Under or within 5 feet of Paved Areas and Sidewalks

1. Granular Soil fill to elevations indicated on plans, compact uniformly to 95 percent of maximum dry density as determined ASTM D 1557.

2. Fill shall be placed in 6 inch maximum lifts.

C. Fill to Correct Over-excavation:

1. Granular soil fill or structural fill depending on fill material above, flush to required elevation, compact uniformly to density requirements for subsequent backfill materials.

a. Over-excavation in trenches shall be backfilled utilizing structural fill.

2. Fill shall be placed in 6 inch maximum lifts.

D. Fill Over Drainage or Sanitary Piping initial backfill (not in a trench condition) and under or within 5 feet of Paved Areas and Sidewalks

1. Granular soil fill to bottom of paving section or to elevations indicated on plans, compact uniformly to 95 percent of maximum dry density as determined ASTM D 1557.
 2. Fill shall be placed in 6 inch maximum lifts.
 3. Fill for trench conditions shall be as shown on plans and in accordance with Section 312317 Site Trenching.
- E. Fill Over Drainage or Sanitary Piping initial backfill (not in a trench condition) and over 5 feet from Asphalt or Concrete Paving:
1. Granular soil fill to bottom of paving section or to elevations indicated on plans, compact uniformly to 93 percent of maximum dry density as determined ASTM D 1557.
 2. Fill shall be placed in 8 inch maximum lifts.
 3. Fill for trench conditions shall be as shown on plans and in accordance with Section 312317 Site Trenching.

END OF SECTION

SECTION 312324 – SITE FLOWABLE FILL

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Flowable fill for:
 - a. Structure backfill.
 - b. Utility bedding.
 - c. Utility backfill.
 - d. Filling abandoned utilities.

1.2 REFERENCES

- A. ASTM International:
1. ASTM C33 - Standard Specification for Concrete Aggregates.
 2. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete.
 3. ASTM C150 - Standard Specification for Portland Cement.
 4. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
 5. ASTM C403/C403M - Standard Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance.
 6. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete.
 7. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete.
 8. ASTM C1017/C1017M - Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete.
 9. ASTM C1040 - Standard Test Methods for Density of Unhardened and Hardened Concrete In Place By Nuclear Methods.
 10. ASTM D4832 - Standard Test Method for Preparation and Testing of Controlled Low Strength Material (CLSM) Test Cylinders.

1.3 DEFINITIONS

- A. Utility: Any buried pipe, duct, conduit, manhole, tank or cable.
- B. Excavatable Flowable Fill: Lean cement concrete fill used where future excavation may be required such as fill for utility trenches, bridge abutments, and culverts.
- C. Non-Excavatable Flowable Fill: Lean cement concrete fill used where future excavation is not anticipated such as fill below structure foundations and filling abandoned utilities.

1.4 SUBMITTALS

- A. Submit all shop drawings as instructed by Owner, Owner's Authorized Representative or Engineer.
- B. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- C. Materials Source: Submit name of flowable fill materials suppliers.

- D. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.
- E. Mix Design:
 - 1. Submit flowable fill mix design for each specified strength. Submit separate mix designs when admixtures are require for the following:
 - a. Flowable fill work during hot and cold weather.
 - b. Air entrained flowable fill work.
 - 2. Identify design mix ingredients, proportions, properties, admixtures, and tests.
 - 3. Submit test results to certify flowable fill mix design properties meet or exceed specified requirements.
- F. Delivery Tickets:
 - 1. Submit duplicate delivery tickets indicating actual materials delivered to Project site.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with Indiana Department of Transportation Standard Specifications, Latest Revision unless otherwise directed by these specifications.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Adhere to Manufacturer's requirements regarding environmental conditions affecting products on site.
- B. Section 01 60 00 - Product Requirements: Environmental conditions affecting products on site.
- C. Do not install flowable fill during inclement weather or when ambient temperature is less than 40 degrees F.

1.8 FIELD MEASUREMENTS

- A. Verify field measurements before installing flowable fill to establish quantities required to complete the Work.

PART 2 PRODUCTS

2.1 FLOWABLE FILL

- A. Furnish materials in accordance with the Indiana Department of Transportation, Standard Specifications, Latest Revision.
- B. Flowable Fill type (excavatable or non-excavatable) shall be as indicated on plans.

2.2 MATERIALS

- A. Furnish materials in accordance with the Indiana Department of Transportation, Standard Specifications, Latest Revision, unless otherwise directed by this specification.
- B. Air Entrainment: ASTM C260.
- C. Chemical Admixture: ASTM C494/C494M.
- D. Fly Ash: ASTM C618 Class C or F obtained from residue of electric generating plant using ground or powdered coal.
- E. Plasticizing: ASTM C1017/C1017M Type I, plasticizing. Type II, plasticizing and retarding.

2.3 MIXES

- A. Mix and deliver flowable fill in accordance with ASTM C94/C94M, Option C.
- B. Flowable Fill Design Mixes shall be in accordance with the Indiana Department of Transportation, Standard Specifications, Latest Revision.
- C. Provide water content in design mix to produce self-leveling, flowable fill material at time of placement.
- D. Design mix air entrainment and unit mass are for laboratory design mix and source quality control only.

2.4 SOURCE QUALITY CONTROL

- A. Section 01 40 10 Site Quality Requirements For Exterior Work: Testing, inspection and analysis requirements.
- B. Test properties of flowable fill design mix and certify results for the following:
 - 1. Design mix proportions by weight of each material.
 - 2. Aggregate: ASTM C33 for material properties and gradation.
 - 3. Properties of plastic flowable fill design mix including:
 - a. Temperature.
 - b. Slump.
 - c. Air entrainment.
 - d. Wet unit mass.
 - e. Yield.
 - f. Cement factor.
 - 4. Properties of hardened flowable fill design mix including:
 - a. Compressive strength at 1 day, 7 days, and 28 days. Report compressive strength of each specimen and average specimen compressive strength.
 - b. Unit mass for each specimen and average specimen unit mass at time of compressive strength testing.
- C. Prepare delivery tickets containing the following information:
 - 1. Project Designation.

2. Date.
3. Time.
4. Class and Quantity of flowable fill.
5. Actual batch proportions.
6. Free moisture content of aggregate.
7. Quantity of water withheld.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 Administrative Requirements: Verification of existing conditions before starting work.
- B. Verify trenching specified in Section 31 23 17 Site Trenching is complete.
- C. Verify utility installation is complete and tested before placing flowable fill.
- D. Verify excavation is dry.

3.2 PREPARATION

- A. Support and restrain utilities to prevent movement and flotation during installation of flowable fill.
- B. Protect structures and utilities from damage caused by hydraulic pressure of flowable fill before fill hardens.
- C. Protect utilities and foundation drains to prevent intrusion of flowable fill.

3.3 INSTALLATION - FILL, BEDDING, AND BACKFILL

- A. Place flowable fill by chute, pumping or other methods approved by Architect/Engineer
- B. Place flowable fill in lifts to prevent lateral pressures from exceeding structural capacity of structures and utilities.
- C. Place flowable fill evenly on both sides of utilities to maintain alignment.
- D. Place flowable fill to elevations indicated on Drawings without vibration or other means of compaction.

3.4 INSTALLATION - FILLING ABANDONED UTILITIES

- A. Verify pipes and conduits are not clogged and are sufficiently empty to permit gravity installation of flowable fill for entire length indicated to be filled.
- B. Seal lower end of pipes and conduits by method to contain flowable fill and to vent trapped air caused by filling operations.
- C. Place flowable fill using method to ensure there are no voids.

1. Fill pipes and conduits from high end.
2. Fill manholes, tanks, and other structures from grade level access points.

D. After filling pipes and conduits seal both ends.

3.5 FIELD QUALITY CONTROL

A. Section 01 40 10 Site Quality Requirements For Exterior Work and 01 70 00 Execution And Closeout Requirements: Field inspecting, testing, adjusting, and balancing.

B. Upon request by Owner, Owner's Authorized Representative, Contractor shall perform inspection and testing in accordance with ASTM C94/C94M.

1. Take samples for tests for every 150 cu yd of flowable fill, or fraction thereof, installed each day.
2. Sample, prepare and test four compressive strength test cylinders in accordance with ASTM D4832. Test one specimen at 3 days, one at 7 days, and two at 28 days.
3. Measure temperature at point of delivery when samples are prepared.

C. Defective Flowable Fill: Fill failing to meet the following test requirements or fill delivered without the following documentation.

1. Test Requirements:
 - a. Minimum temperature at point of delivery.
 - b. Compressive strength requirements for each type of fill.
2. Documentation: Duplicate delivery tickets.

3.6 CLEANING

A. Section 01 70 00 Execution And Closeout Requirements: Requirements for cleaning.

B. Remove spilled and excess flowable fill from Project site.

C. Restore facilities and site areas damaged or contaminated by flowable fill installation to existing condition before installation.

END OF SECTION

SECTION 31 25 13 - SITE EROSION CONTROLS

PART 1 GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:

1. Silt Fence
2. Inlet Protection
3. Temporary Seeding
4. Temporary Mulch
5. Stabilized Construction Entrance
6. Concrete Washout Basin

1.2 SUBMITTALS

- A. Section 01 33 00 - Submittals.
- B. Product Data: Submit data on all products.
- C. Coordination Drawings: Show locations where each type of inlet protection measure, perimeter protection measure and ditch check dam is to be installed.

1.3 CLOSEOUT SUBMITTALS

- A. 01 70 00 Execution And Closeout Requirements.

1.4 QUALITY ASSURANCE

- A. Accordance with the Indiana Department of Transportation Standard Specifications, Drawings and Special Provisions, Latest Revision and the Indiana Department of Environmental Management, Indiana Storm Water Quality Manual, Latest Edition, unless otherwise directed by these specifications
- B. All work shall be in accordance with requirements in Indiana Administrative Code 27 IAC-15-1 and 327 IAC-15-5 "Rule 5 Storm Water Run-off Associated with Construction Activity" and any and all subsequent additions and revisions.
- C. Temporary sediment and erosion control may also include work outside the known construction limits such as borrow pit and disposal operations, equipment, and material storage sites, waste areas, and temporary plant sites. Once established, The CONTRACTOR shall incorporate these areas into the Revised Erosion and Sediment Control Plan.

- D. Temporary erosion control measures contained herein shall be coordinated with the permanent erosion control measures specified as part of this contract to the extent practical to assure economical, effective and continuous erosion control throughout the construction period.

1.5 PROJECT CONDITIONS

- A. Interruption of Existing Storm Drainage Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:
 - 1. Notify Engineer no fewer than seven days in advance of proposed interruption of service.
 - 2. Do not proceed with interruption of service without Engineer's written permission.

PART 2 PRODUCTS

2.1 TEMPORARY SILT FENCE, TYPE A

- A. Geotextile Fabric is 36-inches wide, may be woven or non-woven, made from polypropylene, polyethylene, or polyamide, and shall contain sufficient UV inhibitors so that it will last for 6 months in outdoor exposure at temperatures between zero and 120 degrees F.

The manufacturer shall have either an approved color mark yarn in the fabric or label the fabricated silt fence with both the manufacturer and fabric name every 100 feet.

Fabric shall have the following properties:

- 1. Grab tensile strength: 90 lbs, ASTM D4632
- 2. Elongation at 45lbs: 50% maximum, ASTM D-4632
- 3. Burst strength: 175psi, ASTM D3786
- 4. Apparent opening size: #20 sieve size, ASTM D4751
- 5. Water Flow Rate: 0.00016 GPM (gallons per minute)
- 6. UV Degradation: 70% at 500 hours, ASTM D 4355
- 7. Filtration Efficiency: 85%

2.2 TEMPORARY SILT FENCE, TYPE B

- A. Geotextile Fabric is 36-inches wide, may be woven or non-woven, made from polypropylene, polyethylene, or polyamide, and shall contain sufficient UV inhibitors so that it will last for 6 months in outdoor exposure at temperatures between zero and 120 degrees F.

The manufacturer shall have either an approved color mark yarn in the fabric or label the fabricated silt fence with both the manufacturer and fabric name every 100 feet.

Fabric shall have the following properties:

1. Grab tensile strength: Warp x Fill = 120 lbs x 100 lbs, ASTM D4632
2. Elongation at 45lbs: 40% maximum, ASTM D-4632
3. Burst strength: 175psi, ASTM D3786
4. Apparent opening size: #30 sieve size, ASTM D4751
5. Water Flow Rate: 25 GPM (gallons per minute)
6. UV Degradation: 80% at 300 hours, ASTM D 4355
7. Filtration Efficiency: 75%

2.3 TEMPORARY SILT FENCE, TYPE C

- A. Geotextile Fence is 36-inches wide with wire reinforcement. The wire reinforcement is necessary because this fabric allows almost three times the flow rate as Type B silt fence. Type C silt fence shall be used where runoff flows or velocities are particularly high or where slopes exceed a vertical height of 10 feet. Minimum 2 rows of silt fence within 36 inches apart are required for this sediment control device.

The manufacturer shall have either an approved color mark yarn in the fabric or label the fabricated silt fence with both the manufacturer and fabric name every 100 feet.

Fabric shall have the following properties:

1. Grab tensile strength: Warp x Fill = 260 lbs x 180 lbs, ASTM D4632
2. Elongation at 45lbs: 25% maximum, ASTM D-4632
3. Burst strength: 175psi, ASTM D3786

4. Apparent opening size: #30 sieve size, ASTM D4751
5. Water Flow Rate: 70 GPM (gallons per minute)
6. UV Degradation: 80% at 300 hours, ASTM D 4355
7. Filtration Efficiency: 75%

2.4 FABRIC DROP INLET PROTECTION, TYPE A

- A. FlexStorm Catch It Inlet Filters, as manufactured by Inlet & Pipe Protection, Inc., 24137 W. 111th St – Unit, Naperville, IL 60564, Telephone: (866) 287-8655 or ENGINEER approved equal.

Geotextile fabric for inlet protection shall conform to accepted industry standards for pre-fabricated geotextile filter fabric used as inlet protection. The Owner reserves the right to deny use of geotextile filter fabric for inlet protection if it does not conform to accepted industry standards.

2.5 FABRIC INLET PROTECTION, TYPE B

100% coir fiber matting bonded to fiberglass mesh backing.

Fabric shall have the following properties:

1. Apparent opening size: #10 sieve size, ASTM D5141
2. Water Flow Rate: 39 GPM (gallons per minute)
3. Filtration Efficiency: 59%

2.6 GEOTEXTILE CHECK DAM, TYPE A

- A. Erosion Eels TM *FRIENDLY ENVIRONMENT*, 335 Squire Hall Road, Shelbyville, TN 37160, Toll Free: (866)-426-3357 or ENGINEER approved equal, may be used as a project phase storm water control, diversion control, or temporary settlement ponding protection.

Woven, polypropylene geotextile with UV-stabilizers and inert to biological decay and chemically resistant to naturally occurring chemicals, alkalis, and acids. Minimum fabric permeability shall be equal to 0.0008 gallons per minute (GPM) per ASTM D 4491. Minimum strength retained relative to UV exposure shall be 70% when tested per ASTM D 4355 for 500 hours. Size shall be produced with a nominal diameter of +/-9.5 inches and standard nominal lengths of +/-10 feet (approximately 150lbs per 10 feet).

Mixture Specification 1.0 - A filter mixture comprised of 100% shredded rubber that has been washed and processed to remove most, if not all, metal components. The material shall be derived from recycled tires and shall be shredded to produce a maximum particle size of +/- 3/4- inch.

2.7 GEOTEXTILE CHECK DAM, TYPE B

- A. Filtrexx Sediment Control TM *FILTREXX INTERNATIONAL*, 61 N Cleveland Massillon Rd, Suite E, Akron, Ohio 44333 Toll Free: 877-542-7699 or ENGINEER approved equal, may be used as a project phase storm water control, diversion control, or temporary settlement ponding protection.

Filtrexx Sediment Control use only Multi-Filament Polypropylene SafetySoxxTM netting materials available from Filtrexx® International, LLC and are the only mesh materials accepted in creating Sediment control for any purpose. Photodegradable with a functional longevity of 2 to 5 years

Minimum fabric permeability shall be equal to or greater than 5 gallons per minute per foot. Minimum strength retained relative to UV exposure shall be 100% when tested per ASTM G-155 for 1000 hours.

Size shall be produced with a nominal diameter of +/-12 inches and standard nominal lengths of +/-25 feet (approximately 32 lbs per foot). Maximum continuous length is unlimited, therefore longer lengths may be ordered.

Filtrexx Sediment Control use only Certified Filtrexx® Filter MediaTM which is a coarse composted material that is specifically designed for removal of solids and soluble pollutants from storm water runoff. Performance parameters to include hydraulic flow through rate (≥ 5 gpm/ft), total solids removal efficiency, total suspended solids removal efficiency ($\geq 78\%$), turbidity reduction ($\geq 63\%$).

2.8 DEWATERING SEDIMENT FILTER BAGS

- A. Tencate GeoTube GT 500, TenCate, 365 South Holland Drive, Pendergrass, Georgia 30567, Phone # 706-693-2226 or ENGINEER approved equal.

Fabric shall have the following properties:

1. Grab tensile strength: 200lbs, ASTM D4632
2. Elongation at 45lbs: 50% maximum ASTM4632
3. Puncture strength: 2000 lbs, ASTM D6241

4. Apparent opening size: #80 sieve size, ASTM D4751
5. Water Flow Rate: 20 GPM (gallons per minute) ASTM D4491
6. UV Degradation: 70% at 500 hours, ASTM D 4355

Woven, polypropylene geotextile with UV-stabilizers and inert to biological decay and chemically resistant to naturally occurring chemicals, alkalis, and acids.

2.9 GEOTEXTILES UNDER STABLE CONSTRUCTION ENTRANCES

- A. Geotextiles under stable construction entrances shall meet the physical properties per INDOT Section 918.02, Geotextile for Use Under Rip Rap. Geotextiles to be used will be selected from the INDOT approved Geotextiles for Use Under Rip Rap.

2.10 SILT FENCE POSTS & STAKES

- A. Type 'A' and Type 'B' Silt Fence posts shall be made from oak or approved hardwood, at least 1-1/4-inch by 1- 3/4-inch and minimum 48-inches long; or steel 1-1/2-inch, 1.33 lbs per foot, T-shaped with hot-dip galvanized protective coating, and minimum 48-inches long.
- B. Type 'C' Silt Fence posts shall be steel 1-1/2-inch, 1.33 lbs per foot, T-shaped with hot-dip galvanized protective coating, and minimum 48-inches long.
- C. Erosion Eels & Filtrexx Sediment Control logs stakes made from oak or approved hardwood, at least 2-inch by 2-inch and minimum 36-inches long.
- D. Steel t-post Cap with safety yellow T-Post Safety Top, Dare Product, Inc., 860 Betterly Road, Springfield, MI 46037 Phone: (269) 965-2307 or Engineer approved equal.
- E. Manufactured Surface Protection Products, RECP Staples shall be made from No. 11 gage (3 mm) or heavier wire, 1 or 2 in. wide at the throat and 8 in. from top to bottom after bending. The staples shall be packaged in cartons.

2.11 REINFORCEMENT FENCING

- A. Woven wire fabric fencing shall be galvanized, mesh spacing of six-inches, maximum 14 gauge, and a minimum 30-inches tall.

2.12 FASTENERS

- A. Type 'A' & 'B' Silt Fence: Fasteners to wood posts shall be steel staples, at least 1 1/2-inch long.

- B. Type 'C' Silt Fence: Fasteners to steel posts shall be galvanized steel clips.
- C. Erosion Control Blanket: Staples shall be steel 9 gauge wire U-shaped staples at least 8-inch in length for non-cohesive soils.
- D. Zip Ties (Utility): Fasteners of Coir Mat to storm inlet grates.

2.13 MANUFACTURED SURFACE PROTECTION PRODUCTS, ROLLED EROSION CONTROL PRODUCTS (RECP)

- A. Erosion control blankets: Shall be in accordance with applicable section so the Indiana Department of Transportation Standard Specifications, Latest Revision.

2.14 TEMPORARY SEED MIXTURE, TYPE T

- A. Temporary Seeding: Shall be in accordance with Section 205.04 of the Indiana Department of Transportation Standard Specifications, Latest Revision and with the Indiana Department of Environmental Management, Indiana Storm Water Quality Manual, Latest Edition.

Seed mixture T shall be used for surface stabilization and temporary ground cover. The mix shall be ROLLED EROSION CONTROL PRODUCTS, RECP where the slopes are steeper than 3:1.

No surface application of fertilizer shall be applied on the project site for the duration of construction.

2.15 TEMPORARY MULCH

- A. Temporary Mulching: Shall be in accordance with Section 205.04 of the Indiana Department of Transportation Standard Specifications, Latest Revision and with the Indiana Department of Environmental Management, Indiana Storm Water Quality Manual, Latest Edition.

2.16 CONCRETE WASHOUT BASIN

- A. Shall be in accordance with applicable sections of the Indiana Department of Transportation Standard Specifications, Latest Revision and with the Indiana Department of Environmental Management, Indiana Storm Water Quality Manual, Latest Edition.
- B. Small amounts of excess or residual concrete (not washout water) may be disposed of in areas that will not result in flow to an area that is to be protected.
- C. Locate concrete washout systems at least 50 feet from any creeks, wetlands, ditches karst features, or storm drains/man made conveyance systems.

- D. The structure or system shall be designed to contain the anticipated washout water associated with construction activities.
- E. A system designed and built above grade shall be a minimum of ten feet wide by ten feet long, but sized to contain all liquid and waste that is expected to be generated between scheduled clean out periods. The size of the containment system may be limited by the size of polyethylene available. The polyethylene lining shall be of adequate size to extend over the berm or containment system.
- F. Polyethylene sheeting shall be a minimum of ten mills that is free of holes, tears, and other defects. The sheeting selected shall be of an appropriate size to fit the washout system without seams or overlap of the lining.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements.
- B. Verify gradients and elevations of base or foundation for other work are correct.
- C. Verify length of measure and quantities of sediment & erosion control measures are correct before ordering materials.
- D. Conduct Inspect of sediment and erosion control devices once every seven (7) days and within 24 hours after each 1/2 inch storm rainfall event.

3.2 DELIVERY, STORAGE, AND HANDLING

- A. During shipment and storage, wrap the geotextile fabric in a heavy-duty covering that will protect the cloth from sunlight, mud, dust, dirt, and debris. Do not expose the geotextile fabric to temperatures greater than 140 °F (60 °C). When installed, the Contractor/Engineer/Owner will reject the fabric if it has defects, rips, holes, flaws, deterioration, or damage incurred during manufacture, transportation, or storage.

3.3 SITE STABILIZATION

- A. Incorporate erosion control devices indicated on the Drawings into the Project at the earliest practicable time.
- B. Install concrete washout basin into the Project before concrete activities begin.
- C. Sediment and erosion control measures may be adjusted to meet field conditions. If adjustments in the field are necessary, the Contractor shall submit the nature of the adjustments, and locations of the adjustments to the Engineer/Owner, in writing.

- D. Before any earth moving activities commence, all perimeter protection measures, inlet protection measures and stabilized construction entrances shall be installed.
- E. When there are established lawns in the work area, the turf shall be covered and/or protected or replaced after construction operations. Identify existing trees, shrubs, plant beds, and landscape features that are to be preserved on site by appropriate tags and protect in accordance with the details shown on the drawings.
- F. All mud/dirt and other construction debris tracked on existing city/state/county roads from this site, due to construction, shall be promptly removed by the Contractor at minimum of twice daily.
- G. Stabilize any disturbed area of affected erosion control devices on which activity has ceased and which will remain exposed for more than 14 days in accordance with all applicable portions of the Indiana Department of Transportation Standard Specifications, Latest Revision.
- H. Perform work in accordance with the Indiana Department of Environmental Management, Indiana Storm Water Quality Manual, Latest Edition, unless otherwise directed by these specifications.
- I. Manufactured Surface Protection Products, RECP shall be utilized in locations where grass stabilization has been directed as Post Construction Stabilization and in temporary locations where the slopes are 3:1 or steeper.

3.4 INSTALLATION OF EROSION CONTROL MEASURES

- A. All erosion control measures shall be installed in accordance with applicable portions of Sections 205 and 621 of the Indiana Department of Transportation Standard Specification, Latest Revision.
- B. All erosion control measures shall be installed in accordance with Manufacturer's recommendations, specifications and installation guidance manuals.
- C. Legible copies of all necessary current manufacturers' installation manuals shall be provided prior to installation. Required warning systems shall be in accordance with applicable local and federal laws and regulations.

3.5 PLACEMENT - DEWATERING SEDIMENT FILTER BAGS

- A. The dewatering sediment filter bags will be impossible to move when full. CONTRACTOR shall provide a plan for the placement of dewatering sediment filter bags before using this method. Do not place this sediment control device within 50 feet of Top of Bank of a stream or storm sewer system.

- B. All dewatering sediment filter bags shall be located within project limits and behind installed Check Dams, Diversion Dams, Silt Fence barriers, and turbidity curtain. Do not allow water discharging from dewatering sediment filter bags to develop a concentrated flow or to cause sheet flow erosion. Additional Geotextile Check Dams, Type A or B shall be required to pond the discharge water and reduce sheet flow erosion.

3.6 FIELD QUALITY CONTROL

The accepted quantities of Temporary Erosion & Sediment Control items will be paid for per INDOT Pay Items Section 205.04 of the Indiana Department of Transportation Standard Specification, Latest Revision unless otherwise described below.

All work shall be in accordance with requirements in Indiana Administrative Code 27 IAC-15-1 and 327 IAC-15-5 "Rule 5 Storm Water Run-off Associated with Construction Activity" and any and all subsequent additions and revisions.

CONTRACTOR shall develop a Self-Monitoring Program plan and procedures for inspections, evaluating, and reporting of all Temporary Erosion & Sediment Control Measures installed on the project and monitor construction site activities for evidence of active erosion.

"Trained individual" means an individual who is trained and experienced in the principles of storm water quality, including erosion and sediment control as may be demonstrated by state registration, professional certification, experience, or completion of coursework that enable the individual to make judgments regarding storm water control or treatment and monitoring as defined in 327 IAC 15-5-4 Definitions.

The Self-Monitoring Program that includes the following shall be implemented:

- A. A trained individual shall perform a written evaluation of the project site once every seven (7) days and within 24 hours after each 1/2" storm rainfall event.
- B. The evaluation must address the maintenance of Temporary Erosion & Sediment Control Measures to ensure they are functioning properly and identify additional measures necessary to remain in compliance with all applicable statutes and rules.
- C. Provide Inspection report

Inspections shall be documented and records shall be maintained by the CONTRACTOR until the project is complete. The sediment and erosion control devices shall be returned to working conditions within 48 hours after inspection. The CONTRACTOR shall inspect, rebuild, and/or repair damaged sediment and erosion

control devices. Follow Manufacturer's recommendations for any inspection and repair recommendations.

Inspection report shall include:

1. Name of Project Manager/Inspector
2. Date and Time of Inspection
3. Locations of sediment and erosion control devices
4. Check all geotextiles for rips, holes, flaws, deterioration, or damage
5. Check all posts and fasteners for failure
6. Undermined sediment and erosion control barrier
7. Distance of sediment past the barrier
8. Depth of sediment in front of the barrier
9. Note plan of required action for repair, replacement, cleaning, and removal
10. Note dates for plan of required actions
11. Statements & Dates of completed required actions

All inspection reports for the project site must be made available to the inspecting authority within forty-eight (48) hours of a request. Inspection reports shall be maintained by CONTRACTOR until the end of the project. The CONTRACTOR at that time will then hand over the inspection reports to the OWNER.

3.7 CONTRACTOR WARRANTY AND MAINTENANCE

- A. Maintain the sediment and erosion control measures until the Project is accepted or until an approved 327 IAC-15-5 (Rule 5) Notice of Termination (NOT). Also, remove and dispose of the silt accumulations at the sediment and erosion control measures at an Engineer approved disposal site/facility.
- B. Remove and replace any deteriorated geotextile fabrics that reduces the effectiveness of the sediment and erosion control measures.
- C. Repair or replace any undermined sediment and erosion control measures at no additional cost to the Owner.

3.8 CLEANING

- A. When sediment accumulation in sedimentation structures has reached a point one-quarter depth of sediment structure or device, unless otherwise directed on the plans or instructed by regulatory agencies, remove and dispose of sediment at an Engineer approved disposal site/facility.
- B. Replace the Dewatering Sediment Filter Bag when 1/2 full of sediment or when the pump discharge has reduced to an impractical rate.
- C. Geotextile Check Dams shall be inspected to ensure that it is holding its shape and allowing adequate flow. Eroded and damaged areas shall be repaired.
- D. Coir Mat Inlet Filters and surrounding areas shall be inspected following each rain event. Inlet Filter will collect a lot of sediment. Sweep top and sides of Inlet Filter to remove sediment and debris. Do not damage sediment and erosion control measures during cleaning operations. Replace Coir Mat if damaged to ensure inlet protection and adequate flowrate.
- E. Type A, B, and C Silt Fence shall be inspected daily and following each rain event. Sediment is to be removed once it has accumulated to 1/3 design depth (4 inches). The CONTRACTOR shall replace all sections of fence if the ponded water does not drain within 72 hours following a stormwater runoff event.
- F. Do not permit sediment to erode from construction or site areas into the onsite stream.
- G. Deposition and Removal of sediment from Waters of the United States has not been authorized/ permitted to date. Additional authorization and/or Federal, State, and Local permits shall be gained by Contractor at no additional cost to owner prior to proceeding.

3.9 QUALITY ADJUSTMENTS

- A. Maintenance deficiencies will be handled in accordance with Section 205.08 of the Indiana Department of Transportation Standard Specification, Latest Revision.

3.10 ENFORCEMENT

- A. All work shall be in accordance with requirements in Indiana Administrative Code 27 IAC-15-5-10 and any and all subsequent additions and revisions.
- B. All persons engaging in construction activities on this project site shall be responsible for complying with the Temporary Erosion & Sediment Control plan and the provisions of 327 IAC-15-5 (Rule 5).

- C. FEDERAL, STATE, OR LOCAL AGENCY, the OWNER, shall investigate potential violations of this rule to determine which person may be responsible for the violation. The department shall, if appropriate, consider public records of ownership, building permits issued by local units of government, and other relevant information, which may include site inspections, storm water pollution prevention plans, notices of intent, and other information related to the specific facts and circumstances of the potential violation. Any person causing or contributing to a violation of any provisions of 327 IAC-15-5 (Rule 5) shall be subject to enforcement and penalty.
- D. If remaining storm water quality measures are not properly maintained by the CONTRACTOR, the FEDERAL, STATE, OR LOCAL AGENCY, the OWNER, may pursue enforcement against that person for correction of deficiencies.

3.11 REMOVAL OF SEDIMENT AND EROSION CONTROL MEASURES

- A. Keep the sediment and erosion control measures in place until construction and all land-disturbing activities have been completed and the area has been stabilized, as directed by the Engineer/Owner, Project is accepted, and/or until approved 327 IAC-15-5 (Rule 5) Notice of Termination (NOT).
- B. The dewatering sediment filter bag will be impossible to move once full. CONTRACTOR shall have disposal plan of action for the sediment and bag in place that describes actions, procedures, control techniques, management practices and equipment available to prevent illegal discharge of pollutants into waterways before using this method.
- C. Remove all temporary erosion and sediment control measures in a manner that minimizes land disturbance. Areas left void of protective cover due to the removal of a measure shall be permanently stabilized immediately.
- D. All parts of the sediment and erosion control measures and silt accumulations shall be removed in accordance with applicable portions of Section 202 and 205 of the Indiana Department of Transportation Standard Specification, Latest Revision.

3.12 QUALITY ACCEPTANCE

- A. Approved geotextile fabrics are listed above in MATERIALS FOR SEDIMENT AND EROSION CONTROL. Approved fabrics must consistently exceed the minimum requirements of this Specification with applicable portions of Sections 205 and 621 of the Indiana Department of Transportation Standard Specification, Latest Revision.
- B. Remove geotextile fabric that fails to meet the minimum requirements of this specification.

- C. At the time of installation, the Contractor/Engineer/ Owner will reject the fabric if it has defects, rips, holes, flaws, deterioration, or damage incurred during manufacture, transportation, or storage.

END OF SECTION

SECTION 320513- SITE SOILS FOR FILL

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Granular soil materials for fill
- B. Section does not Include:
 - 1. Topsoil or other amended soils for landscaping / planting purposes.

1.2 REFERENCES

- A. American Association of State Highway and Transportation Officials:
 - 1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.
- B. ASTM International:
 - 1. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)).
 - 2. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³. (2,700 kN-m/m³)).
 - 3. ASTM D2487 - Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).

1.3 SUBMITTALS

- A. See General Conditions and Supplemental Conditions for additional requirements for submittals.
- B. Samples: Fifty (50) pound representative samples of proposed soil fill materials shall be submitted to an independent laboratory for particle size analysis / Atterberg limits testing and optimum moisture / maximum density determinations prior to the start of any filling operations. Only upon completion of tests by an independent testing laboratory and written approval by a Geotechnical Engineer may soils be brought on-site for use.
- C. Materials Source: Submit name of imported materials suppliers.
- D. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

- A. Furnish soil material from single source throughout the Work.
- B. Perform Work in accordance with Indiana Department of Transportation Standard Specifications, Latest Revision unless otherwise directed by these specifications.

- C. Products specified in this section shall not be used under building slabs, retaining walls or foundations unless placement and compaction is supervised by a licensed Geotechnical Engineer.

PART 2 PRODUCTS

2.1 SOIL FILL MATERIALS

- A. Granular Soil Fill: Granular soil meeting the Unified Soil Classification System (USCS) designation SP, SP-SM, SW or SW-SM.
 - 1. Materials shall contain no vegetation, ash, wood, frozen material, organic soils or any material which by decay or otherwise might cause settlement.
 - 2. Materials shall be free from rock, stone or broken concrete larger than 4 inches in the largest dimension.

2.2 SOURCE QUALITY CONTROL

- A. Section 01 40 10 Site Quality Requirements For Exterior Work: Testing and Inspection Services Testing and analysis of soil material.
- B. When tests indicate materials do not meet specified requirements, change material and retest.
- C. Furnish materials of each type from same source throughout the Work.

PART 3 EXECUTION

3.1 EXCAVATION

- A. All excavated materials shall be removed from the site and disposed of in an approved landfill. No excavated materials may be re-used on-site.

3.2 STOCKPILING

- A. Stockpile materials on site at locations designated by Architect/Engineer.
- B. Stockpile in sufficient quantities to meet Project schedule and requirements.
- C. Separate differing materials with dividers or stockpile apart to prevent mixing.
- D. Stockpile topsoil 8 feet high maximum.
- E. Prevent intermixing of soil types or contamination.
- F. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.

- G. Cover Stockpiles with impervious material cover to prevent saturation from rain events and from freezing during calendar months were freezing temperatures can be expected.
- H. Stockpile unsuitable materials on impervious material and cover to prevent erosion and leaching, until disposed of.
- I. Protection of existing and proposed drainage areas from sediment shall remain in full effect during stockpile phase of work. See Section 31 25 13 Site Erosion Controls for additional information.

3.3 STOCKPILE CLEANUP

- A. Remove stockpiles as work progresses. Upon completion of Work, leave areas in clean and neat condition. Grade site surface to prevent free standing surface water.
- B. Tracked soils and sedimentation within adjacent storm structures, sewers, and paved surface areas caused from stockpiled materials or erosion from jobsite areas will be cleaned immediately by Contractor with no additional expense to the Owner.

END OF SECTION

SECTION 32 05 16 - SITE AGGREGATES FOR BACKFILL

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Coarse aggregate materials for utility trench backfill
2. Coarse aggregate material for pavement base and subbase
3. Coarse aggregate material for fill

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:

1. AASHTO M147 - Standard Specification for Materials for Aggregate and Soil-Aggregate Subbase, Base and Surface Courses.
2. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:

1. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
2. ASTM D448 - Standard Classification for Sizes of Aggregate for Road and Bridge Construction.
3. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)).
4. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
5. ASTM D2487 - Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).

6. ASTM D4318 - Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

1.3 SUBMITTALS

- A. See General Conditions and Supplemental Conditions for additional requirements for submittals.
- B. Samples: Upon request of Engineer, Owner or Owner's Authorized representative, Contractor shall submit, in air-tight containers, 10 lb sample of requested product to testing laboratory.
- C. Materials Source: Submit name of imported materials suppliers.
- D. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.
- E. Products: Submit data for aggregate materials.

1.4 QUALITY ASSURANCE

- A. Furnish each aggregate material from single source throughout the Work.
- B. All aggregates shall be obtained from an Aggregate Producer certified by the Indiana Department of Transportation.
- C. Perform Work in accordance with Indiana Department of Transportation Standard Specifications, Latest Revision unless otherwise directed by these specifications.
- D. Products specified in this section shall not be used under building slabs, retaining walls or foundations unless placement and compaction is supervised by a licensed Geotechnical Engineer.

PART 2 PRODUCTS

2.1 COARSE AGGREGATE MATERIALS

- A. Coarse Aggregate Type A1 (No. 8's): Coarse Aggregate, No. 8 conforming to Indiana Department of Transportation Standard Specifications, Latest Revision.
- B. Coarse Aggregate Type A2 (No. 11's): Coarse Aggregate, No. 11, conforming to Indiana Department of Transportation Standard Specifications, Latest Revision.
- C. Coarse Aggregate Type A3 (No. 53's): Coarse Aggregate, No. 53, conforming to Indiana Department of Transportation Standard Specifications, Latest Revision.

- D. Coarse Aggregate Type A4 (No. 2's): Coarse Aggregate, No. 2, conforming to Indiana Department of Transportation Standard Specifications, Latest Revision.

2.2 SOURCE QUALITY CONTROL

- A. See 01 40 10 Site Quality Requirements For Exterior Work.
- B. Coarse Aggregate Material - Testing and Analysis: Perform in accordance with ASTM D698.
- C. Fine Aggregate Material - Testing and Analysis: Perform in accordance with ASTM D698.
- D. When tests indicate materials do not meet specified requirements, change material and retest.

PART 3 EXECUTION

3.1 EXCAVATION

- A. Excavated aggregates may not be re-used on-site.

3.2 PLACEMENT OF AGGREGATES

- A. Place coarse aggregates in accordance with applicable specification sections.

3.3 STOCKPILING

- A. Stockpile materials on site at locations designated by Architect/Engineer.
- B. Stockpile in sufficient quantities to meet Project schedule and requirements.
- C. Separate different aggregate materials with dividers or stockpile individually to prevent mixing.
- D. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.
- E. Stockpile unsuitable materials on impervious material and cover to prevent erosion and leaching, until disposed of.

3.4 STOCKPILE CLEANUP

- A. Remove stockpile, leave area in clean and neat condition. Grade site surface to prevent free standing surface water.

END OF SECTION

SECTION 32 11 23 - SITE AGGREGATE SUBBASE AND BASE COURSES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Aggregate subbase.
2. Aggregate base course.
3. Geotextiles
4. Geogrid

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:

1. AASHTO M288 - Standard Specification for Geotextile Specification for Highway Applications.

B. ASTM International:

1. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
2. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
3. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
4. ASTM D2940 - Standard Specification for Graded Aggregate Material For Bases or Subbases for Highways or Airports.
5. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.3 SUBMITTALS

A. Section 01 33 00 - Submittals.

B. Product Data:

1. Submit data for geogrid and geotextile fabrics
- C. Samples: Upon request of Engineer, Owner or Owner's Authorized representative, Contractor shall submit, in air-tight containers, 10 lb sample of requested product to testing laboratory.
- D. Materials Source: Submit name of aggregate materials suppliers.
- E. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.
- F. Proof rolling: Submit documentation stating dates, times and weather conditions of proof rolling operations. Documentation shall state equipment used and locations of all encountered soft spots and measures used to mitigate soft spots.

1.4 QUALITY ASSURANCE

- A. Furnish each aggregate material from single source throughout the Work.
- B. Perform Work in accordance with Indiana Department of Transportation Standard Specifications, Latest Revision unless otherwise directed by these specifications.

PART 2 PRODUCTS

2.1 AGGREGATE MATERIALS

- A. Aggregate Subbase: Coarse Aggregate Type A4 as specified in Section 32 05 16 Site Aggregates for Backfill.
- B. Aggregate Base: Coarse Aggregate Type A3 as specified in Section 32 05 16 Site Aggregates for Backfill.

2.2 GEOGRID AND GEOTEXTILES

- A. Geogrid: Geogrid shall be Geogrid Type IB conforming to Indiana Department of Transportation Standard Specifications, Latest Revision and provided by a manufacturer on the Indiana Department of Transportation's approved list.
- B. Geotextiles for Separation: Geotextiles for Separation shall conform to Indiana Department of Transportation, Standard Specifications, Section 918.02 (Geotextiles for Use Under Riprap), Latest Revision and provided by a manufacturer on Indiana Department of Transportation's approved list.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.

- B. Verify compacted subgrade is dry and ready to support paving and imposed loads.
 - 1. Proof roll subgrade as specified in Section 31 23 23 Site Fill in order to identify any soft spots within subgrade.
 - 2. Mitigate areas failing proof roll as specified in Section 31 23 23 Site Fill.
- C. Verify subgrade has been inspected, gradients and elevations are correct.

3.2 PREPARATION

- A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and re-compacting.
- B. Do not place fill on soft, muddy, or frozen surfaces.

3.3 AGGREGATE PLACEMENT

- A. When called for by plans or by the instructions of a licensed Geotechnical Engineer, install geogrid or geotextile fabric over subgrade in accordance with manufacturer's instructions and the Indiana Department of Transportation, Standard Specifications, Latest Revision.
 - 1. Anchor geogrid or geotextile fabric to subgrade when required to prevent displacement until aggregate is installed.
- B. Place aggregate in equal thickness layers to the total compacted thickness indicated on Drawings.
 - 1. Maximum Layer Compacted Thickness: 6 inches.
 - 2. Minimum Layer Compacted Thickness: 3 inches.
- C. Level and contour surfaces to elevations, profiles, and gradients indicated.
- D. Add small quantities of fine aggregate to coarse aggregate when required to assist compaction.
- E. Maintain optimum moisture content of fill materials to attain specified compaction density.
- F. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

3.4 TOLERANCES

- A. Section 01 40 10 Site Quality Requirements For Exterior Work
- B. Maximum Variation From Flat Surface: 1/4 inch measured with 10 foot straight edge.
- C. Maximum Variation From Thickness: 1/4 inch.

D. Maximum Variation From Elevation: 1/2 inch.

3.5 FIELD QUALITY CONTROL

A. Section 01 40 10 Site Quality Requirements For Exterior Work and 01 70 00 Execution And Closeout Requirements.

B. Compaction testing will be performed in accordance with ASTM D1556.

C. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.

D. Frequency of Tests: One test for every 250 square yards of each layer compacted aggregate.

3.6 COMPACTION

A. Compact materials to 100 percent of maximum density as determined from test strip, in accordance with AASHTO.T99.

END OF SECTION

SECTION 32 12 16 - SITE ASPHALT PAVING

PART 1 GENERAL

1.1 GENERAL

A. SUMMARY

1. Section Includes:
 - a. Hot Mix Asphalt (HMA) Paving

B. Definitions

1. Abbreviations
 - a. AASHTO - American Association of State Highway and Transportation Officials.
 - b. ASTM - American Society for Testing and Materials
2. Subgrade: The prepared and compacted soil immediately below the pavement or walk system and extending to such depth as will affect the structural design.
3. Subbase: The layer of specified or selected material of designed thickness placed on a subgrade to support a base course, intermediate course, and/or surface course.
4. Base Course: The layer of specified or selected material of designated thickness placed on a subgrade or subbase to support an intermediate and/or surface course.
5. Intermediate Course: The layer of specified or selected material of designated thickness placed on a base course or subbase to support a surface course.
6. Surface Course: The layer of specified or selected material of designed thickness placed on an intermediate or base course to support the traffic load.

1.2 SUBMITTALS

- A. See 01 33 00 Submittal Procedures.
- B. Submittals shall be made by the Contractor and approval obtained from the Engineer prior to commencement of work.

- C. The Contractor shall submit copies of current materials certificates signed by the material producer and the Contractor certifying that each pavement material item complies with, or exceeds, the specified requirements.
- D. The Contractor shall submit hot mix asphalt mix designs for this item.
- E. Submit (5) five copies of the following:
 - 1. Name and location of bituminous mixing plant.
 - 2. Type and composition of proposed materials and mixes.
 - 3. Certified copies of test reports specified in this Section and required by the referenced standards.
 - 4. Certificates of Compliance certifying compliance with the referenced specifications and standards.
- F. Proof rolling: Submit documentation stating dates, times and weather conditions of proof rolling operations. Documentation shall state equipment used and locations of all encountered soft spots and measures used to mitigate soft spots.

1.3 QUALITY ASSURANCE

- A. The Contractor shall employ and pay for the services of an independent testing laboratory to perform specific services and necessary field density tests to demonstrate to the satisfaction of the Engineer that proper compaction is obtained and that the proper asphalt mix designs are in compliance with the specifications.
- B. Mixing Plant and Equipment
 - 1. Prior to placing any hot asphalt concrete pavement, the Contractor shall provide the Engineer the name and location of the bituminous mixing plant and the type and composition of mixes the Contractor proposes to use in the work. Mixing plants and equipment shall meet the requirements of Indiana Department of Transportation Standard Specifications, Latest Revision.
- C. Tolerances
 - 1. Bituminous paving and surfacing shall comply with the tolerances as per Indiana Department of Transportation Standard Specifications, Latest Revision.
 - 2. Subgrade and subbase shall be within 1/2 inch of dimensions indicated on drawings.
 - 3. Certified copies of test reports specified in this Section and required by the referenced standards.

4. Certified copies of test reports specified in this Section and required by the referenced standards.

D. Perform Work in accordance with Indiana Department of Transportation Standard Specifications, Latest Revision unless otherwise directed by these specifications.

1.4 DELIVERY

A. The mixture shall be transported from the mixer to spreader in trucks that have tight, clean, smooth beds. A minimum amount of approved anti-adhesive agent may be used to prevent mixtures adhering to the beds. Kerosene fuel oil, gasoline, or other materials which may harm the mixture shall not be used.

B. When air temperature is less than sixty (60) degrees Fahrenheit, each load shall be covered entirely with a waterproof cover before leaving the plant unless otherwise permitted by Engineer. Truck tailgates shall be equipped with restraining chains in order to provide for uniform loading of the hopper.

PART 2 PRODUCTS

2.1 GENERAL

A. Materials used for paving shall conform to the applicable sections of the Indiana Department of Transportation Standard Specifications, Latest Revision, AASHTO, and as specified. Pavement materials shall be obtained from established sources or suppliers whose products are commonly used and accepted.

2.2 HOT MIX ASPHALT (HMA) PAVEMENT

A. The Indiana Department of Transportation (INDOT) Standard Specifications, Section 402, shall apply with the exceptions as noted herein. The current version of the INDOT Specifications, Recurring Special Provisions, and Supplemental Specifications are applicable.

B. Description:

1. This work shall consist of one or more courses of HMA base, intermediate, surface mixtures or other miscellaneous HMA material, produced from an INDOT Certified HMA plant, in accordance with Indiana Test Method (ITM) 583.

C. Design Mix Formula and Mixture Type:

1. The design mix formula, prepared in accordance with Section 402 of the Indiana Department of Transportation Standard Specifications, Latest Revision, shall be based on the following table:

Mixture Type:	Type B	Type C	Type D
Design ESAL	<3,000,000	3,000,000 to <10,000,000	>10,000,000
Surface	9.5, 12.5 mm	9.5, 12.5 mm	9.5, 12.5 mm
Surface - PG Binder	64-22	70-22	70-22
Intermediate	9.5, 12.5, 19.0 mm	9.5, 12.5, 19.0 mm	9.5, 12.5, 19.0 mm
Intermediate - PG Binder	64-22	64-22	70-22
Base	25.0 mm	25.0 mm	25.0 mm
Base - PG Binder	64-22	64-22	64-22

D. Recycled Asphalt Pavement (RAP):

1. Recycled materials, up to 25%, may be used as a substitute for a portion of the new material required to produce HMA mixtures in accordance with 401.06 except Type B mixtures shall correspond to category 2 mixtures, Type C mixtures shall correspond to category 3 mixtures, and Type D mixtures shall correspond to category 4 mixtures.

E. Surface Aggregate Type:

For Type C mixtures, surface aggregates shall meet the requirements for less than 10,000,000 ESAL in Section 904 of the Indiana Department of Transportation Standard Specifications, Latest Revision.

F. Acceptance of Mixtures:

1. Acceptance shall be based on Section 402 of the Indiana Department of Transportation Standard Specifications, Latest Revision. The Type D Certification shall include the PG Binder Grade sent to the project.

G. Tack coat between asphalt courses shall meet the applicable portions of Section 406 of the Indiana Department of Transportation Standard Specifications, Latest Revision.

H. Asphaltic Material for Tack Coat:

1. A tack coat in accordance with applicable sections of the Indiana Department of Transportation Standard Specifications, Latest Revision shall be applied on a clean surface before placing the surface course. All HMA or concrete pavements shall be tacked at a rate of no less than 0.05 to 0.10 gallons per square yard prior to placement of subsequent HMA mixtures.

2.3 AGGREGATE SUBBASE AND BASE

- A. Aggregate subbase and base materials shall be as specified in Sections 32 05 16 Site Aggregates For Backfill and 32 11 23 Site Aggregate Subbase And Base Courses.

PART 3 EXECUTION

3.1 LIMITING CONDITIONS

- A. The aggregate base shall not be placed on a frozen or muddy subgrade. The bituminous courses shall be constructed only when the surface is dry and the weather is not foggy or rainy.
- B. Atmospheric temperature limitations for concrete placement shall be in accordance with Section 402 of the Indiana Department of Transportation Standard Specifications, Latest Revision.

3.2 EXISTING PAVEMENT REMOVAL

- A. Removal of existing pavements shall be as specified in Section 31 10 00 Site Clearing.
- B. If, after saw-cutting, the exposed pavement becomes cracked as a result of construction loads, additional saw-cutting and removal or milling will be required

3.3 SUBGRADE

- A. The subgrade shall be shaped to true lines and elevations and as specified in Section 31 23 23 Site Fill. Adequate drainage facilities shall be installed to provide for the disposition of underground seepage and the percolation of surface water.
 - 1. The subgrade shall be compacted to at least 98 percent of the maximum standard dry density as determined from test strip, in accordance with ASTM D2940.
- B. All soft, yield, or other unsuitable material, which will not compact readily when at optimum moisture, shall be removed and replaced with suitable material in accordance with Section 31 23 23 Site Fill. Any rock (or concrete foundation) encountered shall either be removed or broken off to conform to the required cross section.
- C. The prepared subgrade shall be protected by the Contractor to prevent undue rutting from truck or other equipment. If such damage does occur, the subgrade shall be reshaped and compacted prior to placing the aggregate courses.
- D. Any subgrade treatments as deemed necessary by a licensed Geotechnical Engineer shall be in accordance with Section 207 and all other applicable sections of the Indiana Department of Transportation Standard Specifications, Latest Revision

3.4 AGGREGATE SUBBASE AND BASE COURSES

- A. Construction of aggregate subbase and base courses shall be as specified in Sections 32 05 16 Site Aggregates For Backfill And 32 11 23 Site Aggregate Subbase And Base Courses.
- B. The thickness and materials of aggregate subbase and base courses shall be as shown on the plans.

3.5 PROOF ROLLING BEFORE FINAL PAVING

- A. Before placement of any hard surfaced materials subgrade, aggregate subbase and aggregate base (as shown on drawings) shall be verified to ensure dryness and readiness to support paving and imposed loads.
 - 1. Proof roll subgrade, aggregate subbase and aggregate base as specified in Section 31 23 23 Site Fill in order to identify any soft spots.
 - 2. Mitigate areas failing proof rolling as specified in Section 31 23 23 Site Fill.
- B. Verify subgrade, aggregate subbase and aggregate base has been inspected, gradients and elevations are correct.

3.6 ROADWAY CUTS

- A. HMA pavements shall be prepared, placed, compacted, and finished in accordance with Section 402 and all other applicable sections of the Indiana Department of Transportation Standard Specifications, Latest Revision.
- B. The thickness of all pavements to be placed under this specification shall be as shown on the plans.
 - 1. In the event that existing pavements are found to be thicker than the replacement pavements shown on the plans, the replacement pavement thickness shall be increased to match that of the existing pavement.

3.7 NEW CONSTRUCTION

- A. HMA pavements shall be prepared, placed, compacted, and finished in accordance with Section 402 and all other applicable sections of the Indiana Department of Transportation Standard Specifications, Latest Revision.
- B. The thickness of all pavements to be placed under this specification shall be as shown on the plans.
- C. Application of Tack Coats:

1. Asphalt material for tack coat shall be applied to existing pavement prior to the placing of base, intermediate or surface course under applicable provision of Section 406 of the Indiana Department of Transportation Standard Specifications, Latest Revision
2. If work is conducted in the public right-of-way, the tack coat shall be applied in such a manner as to minimize inconvenience to traffic and to permit one-lane traffic without pick-up or tracking of the asphalt material. Under no circumstances shall the Contractor leave tack coated areas unpaved at the end of a working day.

3.8 EXISTING CONDITIONS AND ACCESS

- A. The prepared subgrade shall be protected by the Contractor to prevent undue rutting from truck or other equipment. If such damage does occur, the subgrade shall be reshaped and compacted prior to placing the aggregate courses.
- B. The Contractor shall be responsible for maintaining safe access to the facility for the Owner and Engineer during construction for the purpose of performing day-to-day operation.
- C. All new construction, driveways and parking areas damaged during construction shall be restored to the original or better condition at no additional cost to the Owner.
- D. Contractor shall be responsible for ensuring that sidewalks within public right-of-way are maintained throughout construction. If a sidewalk needs to be taken out of service, Contractor shall be responsible for providing an appropriate route meeting all ADA accessibility requirements, which bypasses the sidewalk taken out of service.
- E. Additional aggregate required in trenches to maintain safe traffic flow, before placement of pavement shall be at the Contractor's expense. All excess aggregate removed to fit the placement of pavement shall be hauled from the site.

3.9 TESTING

- A. All materials provided under this Specification shall meet the requirements of the applicable standards of the Indiana Department of Transportation Standard Specifications, Latest Revision. The Contractor shall provide current certifications of such compliance, and the cost for such testing shall be borne by the Contractor.

3.10 CLEAN-UP

- A. Upon completion of paving operations, the Contractor shall remove all equipment and excess paving materials from the entire area paved; and all adjacent areas shall be restored to a condition equal to or better than that at commencement of this work.

- B. When restoration work is completed, unless specifically directed to the contrary, the Contractor shall place barricades on the new pavement to restrict traffic and protect pavement from possible damage prior to final inspection for acceptance.

END OF SECTION

SECTION 32 17 23 - PAVEMENT MARKINGS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Traffic lines and markings.
 - 2. Paint.

1.2 QUALITY ASSURANCE

- A. Perform work in accordance with Indiana Department of Transportation Standard Specifications, Latest Revision unless otherwise directed by these specifications.
- B. The conditions of INDOT Standard Specification 808 shall govern, except as modified herein. The Contractor shall apply a water-based Section 808.07 (a) Traffic Paint without beads

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittals

1.4 REQUIREMENTS

- A. Contractor shall replace pavement markings removed as part of pavement patching operations with new pavement markings of the same color and width in accordance with these specifications.
- B. Traffic Paint without beads – “BLUE” and “YELLOW” paint to all new longitudinal markings that delineate parking stalls as identified on the plans or as required by the Engineer.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Traffic Line Paint: Provide paint in accordance with all applicable sections of the Indiana Department of Transportation Standard Specifications, Latest Revision.
 - 1. No glass beads required for parking stall delineation.
 - 2. Paint shall be designed for outdoor pavement, parking lots, streets, or curbs and shall be applied per the manufacturer’s directions. Sidewalk and pavement shall be trimmed or masked to create a neat and crisp finish.

PART 3 EXECUTION

3.1 APPLICATION

- A. Applied traffic striping shall be of the color and width as indicated on the Plans.
- B. Provide traffic striping and control markings on pavement and parking stalls in accordance with the layout, configurations, and dimensions indicated on the Plans or to replace any disturbed or removed during construction, and approved Shop Drawings (if required).
- C. Paint application equipment shall conform to the applicable requirements of the INDOTSS.
- D. Traffic control markings and parking stalls shall be applied with the use of substantial cutout patterns and templates, or with striping equipment that applies straight, uniform width, sharp lines. Coverage of paint shall be thorough and complete in accordance with the paint manufacturer's instructions and recommendations.
- E. Traffic control markings and parking stalls shall be sharp and accurate, straight where required, without fuzziness at edges of lines.
- F. At completion, the Contractor shall check the work thoroughly and shall touchup traffic control markings and parking stalls that are not distinct or thorough in coverage, or are not uniform in color.

END OF SECTION

SECTION 32 92 19 - SITE FINISH GRADING AND PERMANENT SEEDING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

1. Seeding.
2. Hydroseeding.
3. Turf renovation.
4. Finish Grading

1.3 DEFINITIONS

- A. Duff Layer: The surface layer of native topsoil that is composed of mostly decayed leaves, twigs, and detritus.
- B. Finish Grade: Elevation of finished surface of planting soil.
- C. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
- D. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
- E. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. These include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- F. Planting Soil: Standardized topsoil; existing, native surface topsoil; existing, in-place surface soil; imported topsoil; or manufactured topsoil that is modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- G. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or top surface of a fill or backfill before planting soil is placed.

- H. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.
- I. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil, but in disturbed areas such as urban environments, the surface soil can be subsoil.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
 - 1. Pesticides and Herbicides: Include product label and manufacturer's application instructions specific to this Project.
- B. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture stating the botanical and common name, percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.
- C. Qualification Data: For qualified landscape Installer.
- D. Product Certificates: For soil amendments and fertilizers, from manufacturer.
- E. Material Test Reports: For existing native surface topsoil and imported or manufactured topsoil.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified landscape Installer whose work has resulted in successful turf and prairie establishment.
 - 1. Professional Membership: Installer shall be a member in good standing of either the Professional Landcare Network or the American Nursery and Landscape Association.
 - 2. Experience: Five years' experience in turf installation.
 - 3. Pesticide Applicator: State licensed, commercial.
- B. Soil-Testing Laboratory Qualifications: An independent laboratory or university laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.
- C. Soil Analysis: For each unamended planting soil type, furnish soil analysis and a written report by a qualified soil-testing laboratory stating percentages of organic

matter; gradation of sand, silt, and clay content; cation exchange capacity; sodium absorption ratio; deleterious material; pH; and mineral and plant-nutrient content of the soil.

1. Testing methods and written recommendations shall comply with USDA's Handbook No. 60.
2. A minimum of three representative samples shall be taken from varied locations for each soil to be used or amended for planting purposes.
3. Report suitability of tested soil for turf growth.
 - a. Based on the test results, state recommendations for soil treatments and soil amendments to be incorporated. State recommendations in weight per 1000 sq. ft. or volume per cu. yd. for nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory planting soil suitable for healthy, viable plants.
 - b. Report presence of problem salts, minerals, or heavy metals, including aluminum, arsenic, barium, cadmium, chromium, cobalt, lead, lithium, and vanadium. If such problem materials are present, provide additional recommendations for corrective action.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws, as applicable.
- B. Bulk Materials:
 1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
 2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
 3. Accompany each delivery of bulk fertilizers, lime, and soil amendments with appropriate certificates.

1.7 PROJECT CONDITIONS

- A. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with initial maintenance periods to provide required maintenance from date of Substantial Completion.
 - 1. Spring Planting: April 1 — May 31.
 - 2. Fall Planting: August 15 — October 15.
- B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.

1.8 MAINTENANCE SERVICE

- A. Initial Turf Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after each area is planted and continue until acceptable turf is established but for not less than the following periods:
 - 1. Seeded Turf: 60 days from date of Substantial Completion.
 - a. When initial maintenance period has not elapsed before end of planting season, or if turf is not fully established, continue maintenance during next planting season.

PART 2 PRODUCTS

2.1 PERMANENT SEEDING

- A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Journal of Seed Technology; Rules for Testing Seeds" for purity and germination tolerances.
- B. Seed Species: Seed of grass species as follows, with not less than 95 percent germination, not less than 85 percent pure seed, and not more than 0.5 percent weed seed:
 - 1. Proportioned by weight as follows:
 - a. 95 percent Turf Type Tall fescue blend with minimum of three top rated varieties.
 - b. 5 percent Kentucky bluegrass (*Poa pratensis*).

2.2 INORGANIC SOIL AMENDMENTS

- A. Provide soil amendments in forms and quantities recommended by qualified soils testing reports.
- B. Lime: ASTM C 602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent and as follows:
 - 1. Class: 0, with a minimum of 95 percent passing through No. 8 (2.36-mm) sieve and a minimum of 55 percent passing through No. 60(0.25-mm) sieve.
 - 2. Provide lime in form of ground dolomitic limestone.
- C. Sulfur: Granular, biodegradable, containing a minimum of 90 percent sulfur, and with a minimum of 99 percent passing through No. 6 (3.35-mm) sieve and a maximum of 10 percent passing through No. 40 (0.425-mm) sieve.
- D. Agricultural Gypsum: Minimum 90 percent calcium sulfate, finely ground with 90 percent passing through No. 50 (0.30-mm) sieve.
- E. Sand: Clean, washed, natural or manufactured, and free of toxic materials.

2.3 ORGANIC SOIL AMENDMENTS

- A. Provide soil amendments in forms and rates recommended by qualified soils testing reports.
- B. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1/2-inch sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:
 - 1. Organic Matter Content: 50 to 60 percent of dry weight.
 - 2. Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source-separated or compostable mixed solid waste.
- C. Muck Peat: Partially decomposed moss peat, native peat, or reed-sedge peat, finely divided or of granular texture, with a pH range of 6 to 7.5, and having a water-absorbing capacity of 1100 to 2000 percent.
- D. Wood Derivatives: Decomposed, nitrogen-treated sawdust, ground bark, or wood waste; of uniform texture and free of chips, stones, sticks, soil, or toxic materials.

- E. Manure: Well-rotted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, and material harmful to plant growth.

2.4 FERTILIZERS

- A. Superphosphate: Commercial, phosphate mixture, soluble; a minimum of 20 percent available phosphoric acid.
- B. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
 - 1. Composition: 1 lb/1000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.
 - 2. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing laboratory.
- C. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
 - 1. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing laboratory.

2.5 PLANTING AND TOPSOILS

- A. Planting Soil (Topsoil Type S3): Imported topsoil or manufactured topsoil from off-site sources. Obtain topsoil displaced from naturally well-drained construction or mining sites where topsoil occurs at least 4 inches deep; do not obtain from agricultural land, bogs or marshes.
 - 1. Additional Properties of Imported Topsoil or Manufactured Topsoil: Screened and free of stones 1/4 inch or larger in any dimension; free of roots, plants, sod, clods, clay lumps, pockets of coarse sand, paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials harmful to plant growth; free of obnoxious weeds and invasive plants including quackgrass, Johnsongrass, poison ivy, nutsedge, nimblewill, Canada thistle, bindweed, bentgrass, wild garlic, ground ivy, perennial sorrel, and brome grass; not infested with nematodes, grubs, other pests, pest eggs, or other undesirable organisms and disease-causing plant pathogens; friable and with sufficient structure to give good tilth and aeration. Continuous, air-filled, pore-space content on a volume/volume basis shall be at least 15 percent when

moisture is present at field capacity. Soil shall have a field capacity of at least 15 percent on a dry weight basis.

2. Mix imported topsoil or manufactured topsoil with soil amendments and fertilizers as required to produce planting soil.
- B. Planting Soil (Topsoil Type S4): Existing, native surface topsoil formed under natural conditions with the duff layer retained during excavation process and stockpiled on-site. Verify suitability of native surface topsoil to produce viable planting soil per Paragraph 1.5. Clean soil of roots, plants, sod, stones, rocks clay lumps, and other extraneous materials harmful to plant growth.
1. Supplement with another specified planting soil when quantities are insufficient.
 2. Mix existing, native surface topsoil with soil amendments and fertilizers as required to produce planting soil:

2.6 MULCHES

- A. Straw Mulch: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.
- B. Fiber Mulch: Biodegradable, dyed-wood, cellulose-fiber mulch; nontoxic and free of plant-growth or germination inhibitors; with a maximum moisture content of 15 percent and a pH range of 4.5 to 6.5.

2.7 PESTICIDES

- A. General: Pesticide, registered and approved by EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
- B. Pre-Emergent Herbicide (Selective and Non-Selective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.
- C. Post-Emergent Herbicide (Selective and Non-Selective): Effective for controlling weed growth that has already germinated.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine areas to be planted for compliance with requirements and other conditions affecting performance.
 - 1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
 - 2. Do not mix or place soils and soil amendments in frozen, wet, or muddy conditions.
 - 3. Suspend soil spreading, grading, and tilling operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
 - 4. Uniformly moisten excessively dry soil that is not workable and which is too dusty.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by ENGINEER and replace with new planting soil.

3.2 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.
 - 1. Protect grade stakes set by others until directed to remove them.
- B. Install erosion-control measures as indicated on plans.

3.3 TURF AREA PREPARATION

- A. Limit turf subgrade preparation to areas to be planted.
- B. Newly Graded Subgrades: Loosen subgrade to a minimum depth of 6 inches. Remove stones larger than 1/4 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off OWNER'S property.
 - 1. Apply superphosphate fertilizer directly to subgrade before loosening.

2. Spread topsoil, apply soil amendments and fertilizer on surface, and thoroughly blend planting soil.
 - a. Delay mixing fertilizer with planting soil if planting will not proceed within a few days.
 - b. Mix time with dry soil before mixing fertilizer.
3. Spread planting soil to a depth of 6 inches but not less than required to meet finish grades after light rolling and natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.
 - a. Spread approximately 1/2 the thickness of planting soil over loosened subgrade. Mix thoroughly into top 2 inches of subgrade. Spread remainder of planting soil.
- C. Unchanged Subgrades: If turf is to be planted in areas unaltered or undisturbed by excavating, grading, or surface-soil stripping operations, prepare surface soil as follows:
 1. Remove existing grass, vegetation, and turf. Do not mix into surface soil.
 2. Loosen surface soil to a depth of at least 6 inches. Apply soil amendments and fertilizers according to planting soil mix proportions and mix thoroughly into top 4 inches of soil. Till soil to a homogeneous mixture of fine texture.
 - a. Apply superphosphate fertilizer directly to surface soil before loosening.
 3. Remove stones larger than 1 inch in any dimension and sticks, roots, trash, and other extraneous matter.
 4. Legally dispose of waste material, including grass, vegetation, and turf, off OWNER'S property.
- D. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit finish grading to areas that can be planted in the immediate future.
- E. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
- F. Before planting, obtain Engineer's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.4 PERMANENT SEEDING

- A. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
 - 1. Do not use wet seed or seed that is moldy or otherwise damaged.
 - 2. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.
- B. Sow seed at a minimum total rate of 3 to 4 lb/1000 sq. ft.
- C. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray.
- D. Protect seeded areas with slopes exceeding 6 (horizontal) to 1 (vertical) with erosion-control blankets installed as indicated on plans.
- E. Protect seeded areas with slopes not exceeding 6 (horizontal) to 1 (vertical) by spreading straw mulch. Spread uniformly at a minimum rate of 2 tons/acre to form a continuous blanket 1 inch in loose thickness over seeded areas. Spread by hand, blower, or other suitable equipment.
 - 1. Anchor straw mulch by crimping into soil with suitable mechanical equipment.
- F. Protect seeded areas from hot, dry weather or drying winds by applying compost mulch within 24 hours after completing seeding operations. Soak areas, scatter mulch uniformly to a thickness of 3/16 inch, and roll surface smooth.
- G. In lieu of straw mulch, seeded areas may be hydromulched at Contractor's discretion. Apply slurry coat of fiber mulch at a rate of 1000 lb/acre. Protect adjacent structures, pavements and plantings from overspray.

3.5 TURF RENOVATION

- A. Renovate existing turf.
- B. Renovate existing turf damaged by CONTRACTOR'S operations, such as storage of materials or equipment and movement of vehicles.
 - 1. Reestablish turf where settlement or washouts occur or where minor regrading is required.
 - 2. Install new planting soil as required.

- C. Remove sod and vegetation from diseased or unsatisfactory turf areas; do not bury in soil.
- D. Remove topsoil containing foreign materials such as oil drippings, fuel spills, stones, gravel, and other construction materials resulting from CONTRACTOR'S operations, and replace with new planting soil.
- E. Mow, dethatch, core aerate, and rake existing turf.
- F. Remove weeds before seeding. Where weeds are extensive, apply selective herbicides as required. Do not use pre-emergence herbicides.
- G. Remove waste and foreign materials, including weeds, soil cores, grass, vegetation, and turf, and legally dispose of them off OWNER'S property.
- H. Till stripped, bare, and compacted areas thoroughly to a soil depth of 6 inches.
- I. Apply soil amendments and initial fertilizers required for establishing new turf and mix thoroughly into top 4 inches of existing soil. Install new planting soil to fill low spots and meet finish grades.
- J. Apply seed and protect with straw mulch or hydromulch as required for new turf.
- K. Water newly planted areas and keep moist until new turf is established.

3.6 TURF MAINTENANCE

- A. Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
 - 1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
 - 2. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.
 - 3. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.
- B. Watering: Provide tanker for landscape watering or install and maintain temporary piping, hoses, and turf-watering equipment to convey water from sources and to keep turf uniformly moist to a depth of 4 inches.

1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
 2. Water turf with fine spray at a minimum rate of 1 inch per week unless rainfall precipitation is adequate.
- C. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than 1/3 of grass height. Remove no more than 1/3 of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height:
1. Mow to a height of 2 to 3 inches.
- D. Turf Postfertilization: Apply fertilizer after initial mowing and when grass is dry.
1. Use fertilizer that will provide actual nitrogen of at least 1 lb/1000 sq. ft. to turf area.

3.7 SATISFACTORY TURF

- A. Use specified materials to reestablish turf that does not comply with requirements and continue maintenance until turf is satisfactory.
1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. and bare spots not exceeding 5 by 5 inches.

3.8 PESTICIDE APPLICATION

- A. Apply pesticides and other chemical products and biological control agents in accordance with requirements of authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.
- B. Post-Emergent Herbicides (Selective and Non-Selective): Apply only as necessary to treat already-germinated weeds and in accordance with manufacturer's written recommendations.

3.9 CLEANUP AND PROTECTION

- A. Promptly remove soil and debris created by turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

- B. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after plantings are established.
- C. Remove nondegradable erosion-control measures after grass establishment period.

END OF SECTION

(NO TEXT FOR THIS PAGE)

SECTION 334100 – SITE STORM DRAINAGE PIPING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Storm drainage pipe and fittings.
2. Bedding, haunching and initial backfill materials.
3. Miscellaneous storm sewerage accessories

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:

1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:

1. ASTM C14 - Standard Specification for Concrete Sewer, Storm Drain, and Culvert Pipe.
2. ASTM C76 - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.
3. ASTM C443 - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
4. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)).
5. ASTM C923 - Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes and Laterals.
6. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
7. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).
8. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

1.3 TEMPORARY STORM SEWER SERVICES FOR CONSTRUCTION PURPOSES

- ##### A. Provide and maintain required facilities and enclosures.

1.4 SUBMITTALS

- ##### A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

- ##### B. Product Data: Submit catalog cuts and other pertinent data indicating proposed products, accessories, details, and construction information.

- C. Submit reports indicating field tests made and results obtained.
- D. Manufacturer's Installation Instructions:
 - 1. Indicate special procedures required to install Products specified.
 - 2. Submit detailed description of procedures for connecting new sewer to existing sewer lines
- E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.5 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 Execution And Closeout Requirements: Requirements for submittals.
- B. Project Record Documents: Record location of pipe runs, connections, manholes, and invert elevations.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with Indiana Department of Transportation Standard Specifications, Latest Revision unless otherwise directed by these specifications.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 10 – Site Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Block individual and stockpiled pipe lengths to prevent moving.

1.8 FIELD MEASUREMENTS

- A. Verify field measurements and elevations are as indicated on Drawings.

1.9 COORDINATION

- A. Section 01 30 00 Administrative Requirements: Requirements for coordination.

PART 2 PRODUCTS

2.1 STORM DRAINAGE PIPE AND FITTINGS

- A. Round Reinforced Concrete Pipe: ASTM C76, Class III (unless otherwise noted) with Wall Type B. Bell and spigot ends.
 - 1. Steel reinforcement: Shall be in accordance with and placed to the requirements of ASTM C507 and AASHTO M207. The RCP shall be manufactured to provide a sacrificial depth of concrete cover over the reinforcing steel of not less than ½-inch in addition to the 1-inch cover requirements.
 - 2. Joints: ASTM C443 rubber compression gasket. All joints and gaskets shall be designed per ASTM C361.

3. Rejection of Damaged Pipe: RCP pipe possessing the following defects may be rejected for installation: variation from straight centerline; elliptical shape, illegible markings as required; deep or excessive gouges or spalling of the pipe wall; fractures, punctures, or cracks passing through the pipe wall; and damaged ends where such damage would prevent making a satisfactory joint.
 4. Pipe Markings: for RCP pipe, each length of pipe shall be marked per ASTM requirements and at a minimum with the following: name of manufacturer, trade name or trademark, nominal pipe size and ASTM designation. In addition, the plain end of each pipe length shall have rings painted around the pipe at the proper location to allow field checking of the correct setting depth of the pipe in the bell.
 5. Manufacturer and Construction: Pipes shall be manufactured and tested in accordance with appropriate ASTM standards
 6. Material Markings: Each length of pipe and each manhole or other structure shall be marked per the requirements of each respective ASTM Standard referenced within this Section.
 7. Certification of Materials
 - a. The Owner reserves the right to require material certification from the manufacturer prior to construction to ensure the material supplied conforms to the prescribed requirements.
 - b. Upon request, the Contractor shall furnish a certificate of conformance to the required ASTM Standards, this Specification, and other conformance certifications in the form of affidavits of conformance, test results, and/or copies of test reports.
 - c. Provisions for obtaining this certification shall be the responsibility of the Contractor. The Owner does not assume the responsibility for the expense of obtaining material certification:
 8. Handling, Storage and Color
 - a. The manufacturer shall package the pipe in a manner designed to deliver the pipe to the project site neatly, intact and without physical damage. The transportation carrier shall use an appropriate method to ensure the pipe is properly supported, stacked and restrained during transport. On-site, the pipe shall be stored on clean, level ground to prevent undue scratching or gouging. Pipe color shall be white.
- B. Standard Dimension Ratio Polyvinyl Chloride Pipe (SDR PVC)
1. Polyvinyl Chloride (PVC) storm drainage pipe and fittings four (4) inches through fifteen (15) inches in diameter shall be the integral wall bell and spigot-type with elastomeric seal joints and smooth walls conforming to ASTM D3034 and a minimum of SDR 35.
 2. PVC storm drainage pipe and fittings eighteen (18) inches in diameter and larger shall be smooth wall conforming to ASTM F679. All fittings shall be heavy walled fittings. Pipe shall have a minimum pipe stiffness of 46 psi when measured at 5% vertical ring deflection and tested in accordance with ASTM D 2412 and a minimum tensile strength of 34.5 MPa.
 3. Joints and Gaskets

- a. Flexible gasketed joints shall be compression type so that when assembled, the gasket inside the bell will be compressed radially on the pipe spigot to form a watertight seal.
 - b. For pipe conforming to ASTM D3034 and F 679, the joint shall meet the requirements of ASTM D 3212.
 - c. The assembly of joints shall be in accordance with the pipe manufacturer's recommendations.
 - d. All gaskets shall meet the requirements of ASTM F 477.
4. Field Cutting of Pipe
- a. All field-cutting of pipe shall be done in a neat, trim manner using a hand or power saw, and the cut end shall be beveled using a file or wheel to produce a smooth bevel of approximately 15 degrees and be a minimum depth of one-third (1/3) the pipe wall thickness or beveled as specifically recommended by the pipe manufacturer. Field cut pipe will only be allowed to be installed at manholes, at prefabricated tees and wyes, and at the connection of new sanitary to existing sanitary sewer.
5. Rejection of Damaged Pipe
- a. PVC pipe possessing the following defects may be rejected for installation: variation from straight centerline; elliptical shape, illegible markings as required; deep or excessive gouges or scratches of the pipe wall; fractures, punctures, or cracks passing through the pipe wall; and damaged ends where such damage would prevent making a satisfactory joint.
6. Pipe Markings
- a. For PVC pipe, each length of pipe must be marked per ASTM requirements and at a minimum with the following: name of manufacturer, trade name or trademark, nominal pipe size, production/extrusion code, material and cell class designation, ASTM designation, and SDR number. In addition, the plain end of each pipe length shall have rings painted around the pipe at the proper location to allow field checking of the correct setting depth of the pipe in the bell.
7. Manufacturer and Construction
- a. Pipes shall be manufactured and tested in accordance with appropriate ASTM standards to result in a solid wall pipe.
 - b. Tees, wyes, and other fittings shall be heavy-walled and capable of withstanding the same stresses as the pipe to which they are connected. All fittings shall be fabricated from pipe meeting the requirements of these standards.
8. Material Markings
- a. Each length of pipe and each manhole or other structure shall be marked per the requirements of each respective ASTM Standard referenced within this Section.
9. Certification of Materials
- a. The Owner reserves the right to require material certification from the manufacturer prior to construction to ensure the material supplied conforms to the prescribed requirements.

- b. Upon request, the Contractor shall furnish a certificate of conformance to the required ASTM Standards, this Specification, and other conformance certifications in the form of affidavits of conformance, test results, and/or copies of test reports.
 - c. Provisions for obtaining this certification shall be the responsibility of the Contractor. The Owner does not assume the responsibility for the expense of obtaining material certification.
10. Handling, Storage, and Color
- a. The manufacturer shall package the pipe in a manner designed to deliver the pipe to the project site neatly, intact, and without physical damage. The transportation carrier shall use an appropriate method to ensure the pipe is properly supported, stacked, and restrained during transport. On-site, the pipe shall be stored on clean, level ground to prevent undue scratching or gouging. Color of pipe shall be white.

C. High Density Polyethylene Pipe (HDPE Pipe)

- 1. All HDPE pipe shall be considered "flexible" and shall be installed as such. HDPE pipe shall not be installed where exposed to sunlight unless current material certifications guarantee that it will not be subject to ultraviolet degradation.
- 2. The drain pipe for the various pipe diameters may be "Sure-Lok" High Density Polyethylene (HDPE) pipe as manufactured by Hancor of Findley, Ohio, N-12 HDPE pipe as manufactured by ADS, Inc. of Columbus, Ohio or Eagle Corr PE (Dual Wall) HDPE pipe as manufactured by JM Eagle of Los Angeles, California or approved equal.
- 3. Production and Material Standards for HDPE
 - a. Corrugated High Density Polyethylene (HDPE) pipe shall be manufactured in accordance with AASHTO M 294 Type S. Pipe manufactured under this specification shall have a minimum cell class of 335420C in accordance with ASTM D-3350.
 - b. Smooth wall Polyethylene pipe shall be in accordance with ASTM F-714 for the specified sized. Pipe manufactured under this specification shall have a minimum cell class of 335420C in accordance with ASTM D-3350.
 - c. All polyethylene pipe and fittings shall be made from high molecular weight high density polyethylene material meeting the application cell class requirements. All polyethylene material used in drain pipe manufacture shall be virgin resin.
- 4. HDPE Joints
 - a. High-density polyethylene pipe shall possess male and female pipe ends or molded HDPE or PVC couplers that allow the construction of overlapping, gasketed pipe joints in accordance with the requirements of ASTM D-3212 for a gasketed joint. The gasket material shall conform to all requirements of ASTM F-477.
- 5. Rejection of Damaged HDPE Pipe and Fittings
 - a. High density polyethylene pipe and fittings possessing the following defects may be rejected for installation: variations from straight centerline; elliptical shape in pipe intended to be round; illegible or improper markings as

required herein; deep or excessive gouges or scratches on the pipe wall; fractures, punctures, or cracks; damaged or cracked ends where such damage would prevent making a satisfactory joint.

6. HDPE Pipe Markings
 - a. For high density polyethylene pipe products, each length of pipe shall be clearly marked with the following information as a minimum: manufacturer's name or identification symbol; nominal pipe size; and production/extrusion code.

D. LOCATION WIRE & CONNECTORS

1. Location wire shall be a 12 gauge insulated, solid copper wire. The wire shall be contiguous with no fabricated or field constructed connections interrupting the wires continuity from valve box to valve box. Wire insulation shall be highly resistant to alkalis, acid and other destructive agents found in soil. Wire shall be Copperhead #12 Superflex Soft Drawn #250 or approved equal.
2. Wire connectors shall be Copperhead Snake Bite corrosion proof wire connectors for direct bury by Copperhead Industries, LLC or approved equal.

2.2 CONCRETE ENCASEMENT AND CRADLES

- A. Concrete: Class "A" Concrete conforming to Indiana Department of Transportation Standard Specification, Latest Revision, 4,000 psi 28 day compressive strength, rough troweled finish.
- B. Concrete Reinforcement Bars: Bar reinforcement shall be ASTM A 615, grade 40, deformed.

2.3 ACCESSORIES

- A. Grout: As specified by Section 03 60 00 Site Grouting.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.
- B. Verify trench cut/excavation base is ready to receive work and excavations, dimensions, and elevations are as indicated on Drawings.

3.2 PREPARATION

- A. Correct over excavation per Specification Section 32 05 16 Site Aggregates For Backfill and 31 23 23 SITE FILL.
- B. Remove large stones or other hard matter capable of damaging pipe or impeding consistent backfilling or compaction.
- C. Protect and support existing sewer lines, utilities and appurtenances.
- D. Maintain profiles of utilities. Coordinate with other utilities to eliminate interference. Notify Architect/Engineer where crossing conflicts occur.

3.3 BEDDING

- A. Excavate pipe trench in accordance with Section 31 23 17 Site Trenching.
- B. Excavate to lines and grades shown on Drawings or required to accommodate installation of encasement.
- C. Dewater excavations to maintain dry conditions and preserve final grades at bottom of excavation in accordance with Specification Section 31 23 19 Site Dewatering.
- D. Provide sheeting and shoring in accordance with Section 31 23 17 Site Trenching.
- E. Place bedding material as indicated on the drawings and compact to 98 percent maximum dry density.
 - 1. In the event of soft or unsuitable soils, cut out soft areas and reestablish grade in accordance with Section 31 23 23 SITE FILL.
- F. Bedding and Haunching: Coarse Aggregate Type A1 in accordance with Specification Section 32 05 16 Site Aggregates For Backfill.
- G. Initial Backfill: Coarse Aggregate Type A1 in accordance with Specification Section 32 05 16 Site Aggregates For Backfill.

3.4 INSTALLATION - PIPE

- A. Install pipe, fittings, and accessories in accordance with ASTM D2321. Seal joints watertight.
- B. Lay pipe to slope gradients noted on Drawings. Begin at downstream end and progress upstream.
- C. Assemble and handle pipe in accordance with manufacturer's instructions except as modified on the Drawings or by Architect/Engineer.
- D. Keep pipe and fittings clean until work is completed and accepted by Architect/Engineer. Cap open ends during periods of work stoppage.

- E. Lay bell and spigot pipe with bells upstream.
- F. Connections to manholes shall be made using non-shrink grout in accordance with Section 03 60 00 Site Grouting.

3.5 INSTALLATION - MANHOLES

- A. NOT USED IN THIS PROJECT.

3.6 BACKFILLING

- A. Place haunching and initial backfill as shown on Drawings, in maximum lifts of 6 inches, tamp in place and compact to 98 percent maximum standard proctor dry density (ASTM D-698). Place and compact material immediately adjacent to pipes to avoid damage to pipe and prevent pipe misalignment.
- B. Maintain optimum moisture content of bedding material to attain required compaction density.

3.7 FIELD QUALITY CONTROL

- A. Section 01 40 10 Site Quality Requirements For Exterior Work and 01 70 00 Execution And Closeout Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Test in accordance with Section 31 23 17 Site Trenching.
- C. Request inspection prior to and immediately after placing bedding.
- D. Compaction Testing: In accordance with Section 31 23 17 Site Trenching.
- E. When tests indicate Work does not meet specified requirements, remove work, replace and retest.

3.8 PROTECTION OF FINISHED WORK

- A. Section 01 70 00 Execution And Closeout Requirements: Requirements for protecting finished Work.
- B. Protect pipe and aggregate cover from damage or displacement until backfilling operation is in progress.

3.9 TEMPORARY STORMWATER CONTROL FOR CONSTRUCTION PURPOSES

- A. Provide and maintain stormwater control devices for construction operations. Coordination with Owner, Owner's Authorized Representative or Engineer as required before shutting off existing services or extending new services.
- B. Use Owner's existing stormwater system, extended and supplemented with temporary devices as needed to maintain specified conditions for construction operations.

- C. Extend downspout outlets with piping to stabilized outlets located onsite so that the construction site stormwater outlet control and erosion control is maintained at all times.

END OF SECTION