

**PUBLIC WORKS PROJECT NUMBER: 89006007-23-034-C1
I-70 WB CENTERVILLE WELCOME CENTER
GREENFIELD DISTRICT / INDOT**

Volume 1 of 5

AUGUST 2024

**ERIC HOLCOMB
GOVERNOR**

**SUZANNE CROUCH
LIEUTENANT GOVERNOR**

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**BOB GROSSMAN
DIRECTOR, PUBLIC WORKS DIVISION**



PROJECT MANUAL

For construction of:

**I-70 WB Welcome Center
Centerville, Indiana**

**Public Works Project
89006007-23-034-C1**

For

Department of Transportation

Prepared by

**Janssen & Spaans Engineering
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Date of Issue

August 2024

CERTIFICATION PAGE

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Public Works Division
For
Department of Transportation

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**I-70 WB CENTERVILLE WELCOME CENTER
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STATE OF INDIANA

ERIC J. HOLCOMB, Governor

DEPARTMENT OF ADMINISTRATION

Public Works Division
402 West Washington Street, Room W462
Indiana Government Center – South
Indianapolis, Indiana 46204-2746
PHONE: (317) 232-3001

NOTICE TO BIDDERS

BY STATE OF INDIANA DEPARTMENT OF ADMINISTRATION, PUBLIC WORKS DIVISION FOR A PUBLIC WORKS CONSTRUCTION PROJECT ESTIMATED AT ONE HUNDRED FIFTY THOUSAND DOLLARS OR ABOVE

SECURED ELECTRONIC BIDS FOR:

Public Works Project No. 89006007-23-034-C1

I-70 WB Centerville Welcome Center Wayne County

will be received from Contractors, holding a current Certificate of Qualification, at Department of Administration, Public Works Division Email Bid Box-publicworks bids@idoa.in.gov
(note, do not cc: any other party)

Subject line MUST contain “Bid- 89006007-23-034-C1; - (I-70 Centerville Welcome Center) - (Your firm)”

Bid File (PDF) MUST be named-“(Bidding Firm name) Bid-89006007-23-034-C1; - (I-70 Centerville Welcome Center)” and not exceed 9Mb

Until **1:31 P.M (Indianapolis Time), Wednesday, October 9, 2024**, after which all bids will be publicly opened and read online in a Microsoft Teams Live Event- <https://on.in.gov/h8bfp>

Minority Contractors are encouraged to submit bids on this project as a prime contractor or through a prime contractor.

PDF Copies of the detailed Instructions to Bidders and Drawings and/or Specifications dated August, 2024 may be obtained from the office of: Janssen & Spaans Engineering, Inc.; 9120 Harrison Park Ct., Indianapolis, IN 46216; Phone: 317-254-9686, Ext. 277; Email: idalal@jsengr.com.

Bids shall be taken from Prime Contractors pre-qualified by the Public Works Certification Board in the following classification(s): 1542.00A – Institutional Buildings > \$10,000,000 and 1611.01 or 1771.01 Concrete Construction.

The Specified construction period is 730 calendar days. The State of Indiana reserves the right to reject any and all bids.

Project Goal of 7% MBE, 5% WBE and 3% IVOSB. Link: <https://www.in.gov/idoa/mwbe/2494.htm>

Project Manager:

John Grimes, Project Manager, DAPW (317) 234-8691 johgrimes@idoa.in.gov

John Grimes

Director of Public Works:

Robert Grossman, Director

Pre-Bid Information: A Mandatory Pre-Bid Meeting shall be held in Conference Room 1 of Janssen & Spaans Engineering, Inc.; 9120 Harrison Park Ct., Indianapolis, IN 46216 on September 25, 2024, at 10:00 AM (EST)

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 W462, Indianapolis, Indiana 46204, E-mail: _____ 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, a Women's Business Enterprise or an Indiana Veteran Owned Small 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 Business Enterprise (MBE) and Women's Business Enterprise (WBE): A business concern which is certified as at least fifty-one percent (51%) owned and controlled by one or more of the individuals classified as a minority group which includes: African Americans, Hispanic Americans, Native Americans, Hispanic Americans, Asian Americans, and other racial minority groups as defined by 13 CFR 124.103, or at least fifty-one percent (51%) owned and controlled by a woman or women.

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.

Indiana Veteran Owned Small Business Enterprise (IVOSB): means an Indiana small business enterprise which is certified as at least fifty-one percent (51%) owned and controlled by a veteran.

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 emailed 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 biddocuments.
- 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 ten percent (10%) of the bid including all additive alternates.
- J. Each Bidder must file with his bid a completed MBE/WBE/IVOSB Participation Plan (DAPW 26) and Good Faith Effort Work Sheet (DAPW 26 SUP2). Refer to the Supplement to the General Conditions for MBE/WBE/IVOSB Participation Policy (DAPW 26 SUP1) 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 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 handwritten signatures.
- N. All documents required by statute, rule or these instructions to be included in the bid must be submitted together in a single email file, plainly marked on the subject line and in the email file 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 email file.
- 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 4-13.6-6-4. 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 or other business entities) 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 (DAPW121)
 - 3. Contractor's Affidavit of Subs Employed (DAPW 12)
 - 4. MBE/WBE/IVOSB Participation Plan and Good Faith Effort Worksheet (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 22-5-1.7 whose final case result is final non-confirmation 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 follow the federal Fair Labor Standards Act of 1938, as amended (29 U.S.C. 201-209) and IC 22-2-2. 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 22-4-39.5. A contractor must be in compliance with IC 4-13-18.

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, woman, and veteran 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 an email letter stating that its bid was the lowest responsible and responsive bid and that the attached electronic format contract document is submitted to Contractor for its consideration. If Contractor finds it in accordance with the bid documents, Contractor will electronically sign the contract within ten (10) calendar days after receipt. Further state agency approvals are required, and Contractor is cautioned that a contract is not binding on the State until it is approved 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 handwritten 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. MBE/WBE/IVOSB Participation Plan and MBE/WBE/IVOSB Good Faith Effort Worksheet (DAPW 26 SUP2) 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 email subject line and bid form heading does not clearly identify the project number and description; if the name of the Bidder is not clearly indicated in the email and/or if the email is not received and date stamped within the Public Works Division electronic bid receipt mailbox 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.

DAVIS-BACON WAGE SCALE

General Decision Number IN20230006 shall apply to this contract.

The above referenced wage determination is available from the USDOL at the SAM internet website <https://sam.gov/content/wage-determinations>. Any modification published there by the USDOL not later than 10 days prior to letting is applicable to this contract.

The Contractor shall be responsible for verifying the correct wage scale.

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.

SIGNATURE AFFIDAVIT

PROJECT NO: _____

STATE OF _____ }
 } SS:
 COUNTY OF _____ }

Before me, the undersigned notary public, appeared _____ and being duly
 (name of bidder)

sworn, on his oath says that he/she is _____
 (president, general partner, owner)

of _____, bidder on Project No. _____, and
 (name of company)

Affirmed that:

1. This bid is submitted in good faith in the amount stated herein, and will be fulfilled according to the Contract Documents (contract, general and supplemental conditions, technical specification, drawings and addenda thereto), if this bid is accepted; and
2. The statements are true contained in the Non-Collusion Statement, and as applicable, the Contractor's Affidavit of Subs Employed and the MBE, WBE and IVOSB Participation Plan and Good Faith Efforts Worksheet.

By: _____
 (Signature)

 (Printed name)

 (Printed or typed name of company)

(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

 NOTARY PUBLIC PRINTED NAME

(SEAL)

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 _____
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)

Indiana Department of Administration MBE/WBE and IVOSB Participation Policy for Public Works Projects

I. Introduction

The Indiana Department of Administration (“IDOA”) in its commitment to Minority, Women’s and Indiana Veteran Owned Small Business participation in the state’s procurement and contracting process, expects MBE, WBE and IVOSB participation in bids for construction services \$150,000 and over with subcontracting opportunities.

II. Definitions

“Certification for MBE and WBE” means certification by the Indiana Department of Administration, Minority and Women’s Business Enterprises Division. (“MWBED”).

“Certification for IVOSB” means certification by the Indiana Department of Administration.

“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.

(4) IVOSB contractors and suppliers must perform a commercially useful function. A commercially useful function is generally deemed to be when an IVOSB contractor or supplier 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, an IVOSB contractor or supplier 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. An IVOSB contractor or supplier 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 IVOSB participation.

“Letter of Commitment” means a letter obtained from the MBE, WBE and IVOSB by the Bidders. The Letter of Commitment is a signed letter(s), on company letterhead, from the minority, women’s and/or Indiana Veteran Owned 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, women and/or Indiana Veteran Owned 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. MWBED is the final authority on all matters pertaining to the maintenance and administration of the MBE and WBE program and compliance thereto.

“Minority Business Enterprise (MBE) and Women’s Business Enterprise (WBE)” means 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, American Indians and other racial minorities. The MBE and WBE must meet the eligibility requirements of 25 IAC 5.

“Indiana Veteran Owned Small Business Enterprise (IVOSB)” means an Indiana business which is certified as at least fifty-one percent (51%) owned and controlled by a veteran.

“Participation Plan” means the IDOA prescribed document that sets forth the MBE, WBE and IVOSB 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
mwbe@idoa.in.gov

IV. Indiana Veteran Owned Small Business Enterprise

IVOSBs 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.

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Questions regarding Certification should be addressed to the following:

Indiana Department of Administration
402 W. Washington St., Room W478
Indianapolis, IN 46204
(317) 233-1494
Indianaveteranspreference@idoa.in.gov

V. 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 may attend most pre-bid meetings to discuss and answer questions related to the MBE, WBE and IVOSB participation goals. The MWBED will be available to assist Bidders in locating MBE, WBE or IVOSB firms to engage in the contract.

The 2018-2019 Contract Goals for construction projects are 7% for MBE's, 5% for WBE's and 3% for IVOSBs.

The following procedures will be implemented in the acceptance and evaluation of responsive and responsible bids.

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

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 of 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 35-44.1-2-1.

VI. Compliance

Contractors shall contract with all MBE, WBE and IVOSB 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, WBE and IVOSB Contract Goals will become incorporated into and a requirement of the Contract. Contractors shall not substitute, replace or terminate any MBE, WBE and IVOSB 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.

VII. Non Compliance

When a Respondent submits a Minority, Women and Indiana Veteran Owned Business Enterprises Participation Plan in accordance with IC 4-13-16.5, 25 IAC 5 and 25 IAC 9, (the "Plan"), Respondent will be held to those commitments.

After the bid is awarded, and if it is determined by MWBED that the Contractor is not in compliance with its Participation Plan, MWBED will notify the Contractor within ten (10) days after the initial compliance review or the site visit and will 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, 25 IAC 5, or 25 IAC 9, 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, WBE or IVOSB certification and eligibility to participate in the MBE, WBE or IVOSB program for a period of not more than thirty-six (36) months.

VIII. Forms and Attachments

Minority, Women's and Indiana Veteran Owned Business Enterprises Participation Plan

I. MINORITY, WOMEN'S AND INDIANA VETERAN OWNED BUSINESS ENTERPRISES PARTICIPATION PLAN

When a Respondent submits a Minority, Women's and Indiana Veteran Owned Business Enterprises Participation Plan in accordance with IC 4-13-16.5, 25 IAC 5 and 25 IAC 9, (the "Plan"), Respondent will be held to those commitments. The Plan must show that there are, participating in the proposed contract, Minority Business Enterprises (MBE), Women's Business Enterprises (WBE), and Indiana Veteran Owned Small Business Enterprises (IVOSB) listed in the Minority and Women's Business Enterprises Division (MWBED) directory and the IVOSB directory of certified firms. Respondents must indicate the name of the MBE, WBE and IVOSB 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, WBE and IVOSB prime contractors, are expected to meet the contract goals through use of subcontractors.

The Indiana Department of Administration ("IDOA") in its commitment to Minority, Women's and Indiana Veteran Owned Small Business participation in the state's procurement and contracting process, expects MBE, WBE and IVOSB participation in bids for public works projects with subcontracting opportunities. The Department reserves the right to verify all information included in the Plan.

Respondents may contact MWBED if they have any questions regarding their Participation Plan. A complete list of all currently certified MBE's and WBE's is located at this link: <http://www.in.gov/idoa/mwbe/2743.htm>. The complete list of certified IVOSBs can be found at this link http://www.in.gov/idoa/files/ivbe_certification_list.xls.

Minority, Women's and Indiana Veteran Owned Business Enterprises Participation Letter of Commitment

A signed letter(s), on company letterhead, from the MBE, WBE and/or IVOSB must accompany the Plan. This letter(s) shall state and will serve as acknowledgement from the MBE, WBE and/or IVOSB 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 MBE, WBE and IVOSB Programs. Questions involving the regulations governing the Plan should be directed to MWBED's Compliance Unit at 317/232-3061 or to IDOA at 317-233-1494.

MBE/WBE and IVOSB PARTICIPATION PLAN

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

(Circle One)

RFP / BID / QUOTE NAME _____

(Circle One)

RESPONDENT _____

ADDRESS _____

CITY/STATE/ZIP _____

PHONE () _____

The following MBEs and/or WBEs listed in the MWBED directory will be participating in the contract:

MBE/WBE PHONE COMPANY NAME SCOPE OF PRODUCTS/SERVICES UTILIZATION DATE AMOUNT

The following IVOSBs listed in the IVOSB directory will be participating in the contract:

IVOSB PHONE COMPANY NAME SCOPE OF PRODUCTS/SERVICES UTILIZATION DATE AMOUNT

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

**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 3% IVOSB

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

NOTARY PUBLIC PRINTEDNAME

(SEAL)

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

Date



STATE OF INDIANA DRUG-FREE WORKPLACE CERTIFICATION

State Form 44260 (R2 / 12-22)

Pursuant to Executive Order No. 90-5, April 12, 1990, issued by Governor Evan Bayh, the Indiana Department of Administration requires the inclusion of this certification in all contracts with and grants from the State of Indiana in excess of \$25,000. No award of a contract or grant shall be made, and no contract, purchase order or agreement, the total amount of which exceeds \$25,000, shall be valid unless and until this certification has been fully executed by the Contractor or Grantee and attached to the contract or agreement as part of the contract documents. False certification or violation of the certification may result in sanctions including, but not limited to, suspension of contract payments, termination of the contract or agreement and/or debarment of contracting opportunities with the State for up to three (3) years.

The Contractor/Grantee certifies and agrees that it will provide a drug-free workplace by:

(a) Publishing and providing to all of its employees a statement notifying employees 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; and

(b) Establishing a drug-free awareness program to inform employees about (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 employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such conviction;

(d) Notifying in writing the contracting State Agency and the Indiana Department of Administration 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) take appropriate personnel action against the employee, up to and including termination; or (2) require 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.

THE UNDERSIGNED AFFIRMS, UNDER PENALTIES OF PERJURY, THAT HE OR SHE IS AUTHORIZED TO EXECUTE THIS CERTIFICATION ON BEHALF OF THE DESIGNATED ORGANIZATION.

THE UNDERSIGNED ALSO AGREES THAT BY TYPING THEIR NAME ONTO THIS FORM, THEY AGREE TO THE USE OF THEIR DIGITAL NAME AS A LEGAL SIGNATURE

Printed Name of Organization

Contract/Grant ID Number

Authorized Representative

Date

Title

CONTRACTOR'S EMPLOYEE DRUG TESTING

IC 4-13-18 Chapter 18. Drug Testing of Employees of Public Works Contractors

4-13-18-1	Applicability
4-13-18-2	"Bid"
4-13-18-3	"Contractor"
4-13-18-4	"Public works contract"
4-13-18-5	Employee drug testing plan required in bid; collective bargaining agreements
4-13-18-6	Employee drug testing program requirements
4-13-18-7	Contract cancellation for noncompliance

IC 4-13-18-1 Applicability

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

As added by P.L.160-2006, SEC.2.

IC 4-13-18-2 "Bid"

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

As added by P.L.160-2006, SEC.2.

IC 4-13-18-3 "Contractor"

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.

As added by P.L.160-2006, SEC.2.

IC 4-13-18-4 "Public works contract"

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](#);
- (4) a public works contract covered by [IC 36-1-12](#);

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

As added by P.L.160-2006, SEC.2. Amended by P.L.72-2018, SEC.10.

**IC 4-13-18-5 Employee drug testing plan required in bid;
collective bargaining agreements**

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.

As added by P.L.160-2006, SEC.2.

IC 4-13-18-6 Employee drug testing program requirements

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 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:

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- (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.

As added by P.L.160-2006, SEC.2.

IC 4-13-18-7 Contract cancellation for noncompliance

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.

As added by P.L.160-2006, SEC.2.

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:

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" means the United States of America and includes all territory, continental or insular, subject to the jurisdiction of the United States.

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, alteration, repair, improvement or maintenance of Public Works contain a provision that, if any steel products are to be used or supplied in the performance of the contract or subcontract, only steel products as defined by this chapter 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 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:

(SEAL)

NOTARY PUBLIC - SIGNATURE

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 <u>indemnification provision</u>) 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



**INDIANA DEPARTMENT OF ADMINISTRATION
PUBLIC WORKS DIVISION**

GENERAL CONDITIONS

Indiana Department of Administration
Public Works Division
402 W. Washington Street, W462
Indianapolis, Indiana 46204

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STATE OF INDIANA
GENERAL CONDITIONS

ARTICLE 1 CONTRACT DOCUMENTS

1.1 Definitions

1.1.1 Contract Documents

The Contract Documents consist of the Contract, 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 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 Work

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

1.1.4 Project

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

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 Contractor has visited the site and correlated its 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 Contract 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 the Designer's 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, in some places, masculine in gender. The terms Designer, Engineer, Architect, (and in certain projects Director, Public Works Division, or his/her 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. Designer 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 itself 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. Designer 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 Designer's on-site observations, Designer 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. Designer will promptly render such interpretations as Designer 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. Designer will exercise its 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's decision shall be submitted 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, Designer 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. Owner's Site Representative shall report his/her 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. Owner's Site Representative may attend meetings at the site and he/she 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 Contract. The Contractor is referred to throughout the Contract Documents as if singular in number and, in some places, masculine in gender. The term Contractor means the Contractor or its 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 Contractor 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 its best skill and attention. Contractor 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 its 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. Contractor will endeavor to eliminate any embarrassment to the Owner caused by the dispute.

4.4.4. The Contractor shall at all times enforce strict discipline and good order among its employees and shall not employ on the Work any unfit person or any one employee unskilled in the Work assigned 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 Contractor observes that any of the Contract Documents are at variance therewith in any respect, Contractor shall promptly notify the Designer in writing, and any necessary changes shall be adjusted by change order. If Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Designer, Contractor 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 Contractor will not be required to employ persons against whom Contractor 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 Contractor's employ. The superintendent shall represent the Contractor and shall have full authority to act on its 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 its 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 its 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 its operations. At the completion of the Work, Contractor shall remove all waste material and rubbish from and about the building as well as all its 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, in some places, masculine in gender and means a Subcontractor or its authorized representative. The term Subcontractor does not include any separate Contractor or its 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 its 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 Contractor has a reasonable objection.

5.2.3 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.

5.2.4 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.

5.2.5 The Contractor and its 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 Sub Contractual 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 Subcontractor's 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 its 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 its 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 its 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 its 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 it 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 electronic mail (email), or by registered or certified mail to the last business address known to the person 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 its employees, agents or others for whose acts the party 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. Contractor 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, Designer 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 Contractor 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 its administration of the Contract, nor inspections, tests or approvals by persons other than the Contractor shall relieve the Contractor from its 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 Indiana Department of Homeland Security, the Indiana Department 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 its own forces. The Contractor shall submit copies of its payroll records, if requested by the Owner, showing the hours, rates and total costs for all personnel on its payroll detailed to the degree to ensure compliance with this paragraph and any Wage Determination provisions, if required.

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 its 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 Out-of-State business entities must be authorized to do business in the State, pursuant to Indiana Code 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, its 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/her 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 said employee 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 approval by the final state approving agency on the Owner-Contractor Contract 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 Contract 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. Contractor 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 all Subcontractors (fabricators) have been paid within ten (10) days of receipt of payment that pro rata amount of funds Contractor 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 its 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 Subcontractor 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 Subcontractor 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 Owner 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 Designer determines to be properly due, or state in writing its 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 its 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 its 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 Designer 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 Designer's opinion, Designer 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 Designer's 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 its 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. Contractor 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 its 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 its 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 Contractor 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 of its compliance with all items of insurance listed herein and in the Contract. 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 Contractor 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 its employees;
- C. claims for damages because of bodily injury, personal injury, sickness, disease or death of any person other than its 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 right 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 its 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, Contractor 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 Designer's 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 its 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 Contractor 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 Contractor 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 Contractor should make a general assignment for the benefit of its creditors, or if a receiver should be appointed on account of Contractor's insolvency, or if Contractor 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 Contractor 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 its surety and after giving the Contractor and its 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 hereinprovided.

END

**STATE OF INDIANA'S
STANDARD CONTRACT FOR PUBLIC WORKS CONSTRUCTION PROJECT
(For projects estimated more than \$150,000)**

Contract # _____

THIS PUBLIC WORKS CONSTRUCTION CONTRACT (“Contract”), entered into by and between the Indiana Department of Administration’s Public Works Division (“State”) and XXXXXXXXXX (“Contractor”), is executed pursuant to the terms and conditions set forth herein and is governed by Indiana Code 4-13.6, *et seq.* In consideration of those mutual undertakings and covenants, the parties agree as follows for the following Public Works Project:

Project Number: **XXXXXXXXXX**
Project Name: **XXXXXXXXXX**
Designer (if applicable): **XXXXXXXXXX**
Purchase Order Number: **XXXXXXXXXX**
Institution/Department: **XXXXXXXXXX**
Req. No: **XXXXXXXXXX**

1. Definitions. The following definition of “Contract Documents” applies throughout this Contract for the State’s Public Works Project Number **XXXXXX** (“Project”).

The term “Contract Documents” shall mean and include the following: this Contract and the Project Bid Package, which includes but is not limited to 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.XX
ALTERNATE(S):
TOTAL CONTRACT PRICE: \$XXXXXX.XX

4. Term. The term of this Contract is [X year(s) and/or xx month(s)] commencing on the date of the last state signatory to this Contract.

5. 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.

6. 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.

7. 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.

8. 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.

9. 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.

10. Assignment; Successors.

A. The Contractor binds its successors and assignees to all the terms and conditions of this Contract. 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.

B. The Contractor shall not assign or subcontract the whole or any part of this Contract without the State's prior written consent. Additionally, the Contractor shall provide prompt written notice to the State of any change in the Contractor's legal name or legal status so that the changes may be documented and payments to the successor entity may be made.

11. 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.

12. 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 "Contractor" under 2 C.F.R. 200.331 for purposes of this Contract. However, if it is determined that the Contractor is a "subrecipient" and 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.*

13. 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.

14. 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.

15. 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.* and the regulations promulgated thereunder. **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, 35-44.1-1-4, 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.

16. 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.

17. 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.

18. 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).

19. 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.

20. 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.

21. 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 thirty (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 (10) 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 thirty (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.

F. This paragraph shall not be construed to abrogate provisions of IC § 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 IC § 4-6-2-11, which requires approval of the Governor and Attorney General.

22. 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.

23. Employment Eligibility Verification As required by IC § 22-5-1.7, the Contractor swears or affirms under the penalties of perjury that the Contractor does not knowingly employ an unauthorized alien. The Contractor further agrees that:

A. 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.

B. 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.

C. 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.

24. 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.

25. 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.

26. Funding Cancellation. As required by Financial Management Circular 3.3 and IC § 5-22-17-5, 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.

27. 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.

28. 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.

29. 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.

30. 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 Contractor shall provide the State with a Certificate of Insurance evidencing such coverage prior to starting work under this Contract.

31. Indiana Veteran Owned Small Business Enterprise Compliance. Award of this Contract was based, in part, on the Indiana Veteran Owned Small Business Enterprise ("IVOSB") participation plan, as detailed in the IVOSB Subcontractor Commitment Form, commonly referred to as "Attachment A-1" in the procurement documentation and incorporated by reference herein. Therefore, any changes to this information during the Contract term must be approved by IDOA's Division of Supplier Diversity and may require an amendment. It is the State's expectation that the Contractor will meet the subcontractor

commitments during the Contract term. The following certified IVOSB subcontractor(s) will be participating in this Contract: **[Add additional IVOSBs using the same format.]**

IVOSB	COMPANY NAME	PHONE	EMAIL OF CONTACT PERSON	PERCENT
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Briefly describe the IVOSB service(s)/product(s) to be provided under this Contract and include the estimated date(s) for utilization during the Contract term:

A copy of each subcontractor agreement must be submitted to the Division of Supplier Diversity within thirty (30) days of the effective date of this Contract. The subcontractor agreements may be uploaded into Pay Audit (Indiana’s subcontractor payment auditing system), emailed to IndianaVeteransPreference@idoa.IN.gov, or mailed to IDOA, 402 W. Washington Street, Room W-462, Indianapolis, IN 46204. Failure to provide a copy of any subcontractor agreement may be deemed a violation of the rules governing IVOSB procurement and may result in sanctions allowable under 25 IAC 9-5-2. Requests for changes must be submitted to IndianaVeteransPreference@idoa.IN.gov for review and approval before changing the participation plan submitted in connection with this Contract.

The Contractor shall report payments made to certified IVOSB subcontractors under this Contract on a monthly basis using Pay Audit. The Contractor shall notify subcontractors that they must confirm payments received from the Contractor in Pay Audit. The Pay Audit system can be accessed on the IDOA webpage at: www.in.gov/idoa/mwbe/payaudit.htm. The Contractor may also be required to report IVOSB certified subcontractor payments directly to the Division of Supplier Diversity, as reasonably requested and in the format required by the Division of Supplier Diversity.

The Contractor’s failure to comply with the provisions in this clause may be considered a material breach of the Contract.

32. Information Technology Enterprise Architecture Requirements. If this Contract involves information technology-related products or services, the Contractor agrees that all such products or services are compatible with any of the technology standards found at <https://www.in.gov/iot/2394.htm> that are applicable, including the assistive technology standard. The State may terminate this Contract for default if the terms of this paragraph are breached.

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. The required limits of liability can be obtained with a combination of primary and excess liability policies.

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 as detailed in the Minority and Women’s Business Enterprises Subcontractor Commitment Form, commonly referred to as “Attachment A” in the procurement documentation and incorporated by reference herein. Therefore, any changes to this information during the Contract term must be approved by the Division of Supplier Diversity and may require an amendment. It is the State’s expectation that the Contractor will meet the subcontractor commitments during the Contract term.

The following Division of Supplier Diversity certified MBE and/or WBE subcontractors will be participating in this Contract: **[Add additional MBEs and WBEs using the same format.]**

MBE or WBE	COMPANY NAME	PHONE	EMAIL OF CONTACT PERSON	PERCENT
------------	--------------	-------	-------------------------	---------

Briefly describe the MBE and/or WBE service(s)/product(s) to be provided under this Contract and include the estimated date(s) for utilization during the Contract term:

A copy of each subcontractor agreement must be submitted to the Division of Supplier Diversity within thirty (30) days of the effective date of this Contract. The subcontractor agreements may be uploaded into Pay Audit (Indiana’s subcontractor payment auditing system), emailed to MWBECompliance@idoa.IN.gov, or mailed to Division of Supplier Diversity, 402 W. Washington Street, Indianapolis IN 46204. Failure to provide a copy of any subcontractor agreement may be deemed a violation of the rules governing MBE/WBE procurement and may result in sanctions allowable under 25 IAC 5-7-8. Requests for changes must be submitted to MWBECompliance@idoa.IN.gov for review and approval before changing the participation plan submitted in connection with this Contract.

The Contractor shall report payments made to Division of Supplier Diversity certified subcontractors under this Contract on a monthly basis using Pay Audit. The Contractor shall notify subcontractors that

they must confirm payments received from the Contractor in Pay Audit. The Pay Audit system can be accessed on the IDOA webpage at: www.in.gov/idoa/mwbe/payaudit.htm. The Contractor may also be required to report Division of Supplier Diversity certified subcontractor payments directly to the Division of Supplier Diversity, as reasonably requested and in the format required by the Division of Supplier Diversity.

The Contractor's failure to comply with the provisions in this clause may be considered a material breach of the Contract.

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 will be sent by E-mail or first-class U.S. mail service to the following addresses, unless otherwise specifically advised. Such notice, statement or other communication shall include the Public Works Project Number in the subject line of the E-mail and the body of the notice or other communication.

A. Notices to the State shall be sent to: Public Works Division, Director
Indiana Department of Administration
402 W Washington St Room W462
Indianapolis, IN 46204
E-mail: rgrossman@idoa.IN.gov

B. Notices to the Contractor shall be sent to: [INSERT CONTRACTOR NAME]
[INSERT CONTRACTOR'S
ADDRESS]

E-mail: _____

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, (1) 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 thirty five (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. If the Contractor is being paid in advance for the maintenance of equipment, software or a service as a subscription, then pursuant to IC § 4-13-2-20(b)(14), the Contractor agrees that if it fails to fully provide or perform 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.

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 the State will post this Contract on the transparency portal as required by Executive

Order 05-07 and IC § 5-14-3.5-2. 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 authorized by this Contract. Permitted expenses will be reimbursed at the rate paid by the State and in accordance with the *Indiana Department of Administration's Travel Policies and Procedures* in effect at the time the expenditure is made. Out-of-state travel requests must be reviewed by the State for availability of funds and for conformance with *Travel Policy* guidelines.

52. 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.

53. 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.

THE REMAINDER OF THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.

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.**

Agreement to Use Electronic Signatures

I agree, and it is my intent, to sign this Contract by accessing State of Indiana Supplier Portal using the secure password assigned to me and by electronically submitting this Contract to the State of Indiana. I understand that my signing and submitting this Contract in this fashion is the legal equivalent of having placed my handwritten signature on the submitted Contract and this affirmation. I understand and agree that by electronically signing and submitting this Contract in this fashion I am affirming to the truth of the information contained herein. I understand that this Contract will not become binding on the State until it has been approved by the Department of Administration, the State Budget Agency, and the Office of the Attorney General, which approvals will be posted on the Active Contracts Database: <https://secure.in.gov/apps/idoa/contractsearch/>

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.

Contractor: XXXXXXXXXXXX

**Department of Administration
Public Works Division**

By: _____
Printed Name: _____
Title: _____

Date: _____

By: _____
Robert Grossman, Director
For IDOA Commissioner if less than \$10,000,000

Date: _____

Approved by:
Department of Administration

Approved by:
State Budget Agency

By: _____ (for)
Rebecca Holwerda, Commissioner

By: _____ (for)
Zachary Q. Jackson, 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 October 5, 2022.
FA 22-49*

This document prepared and reviewed by:

Counsel, Indiana Department of Administration

**STATE OF INDIANA'S
PUBLIC WORKS CONSTRUCTION CONTRACT
CHANGE ORDER/AMENDMENT #_
Contract # _____**

THIS IS AMENDMENT #_ to the Public Works Construction Contract ("Contract") entered into by and between the Indiana Department of Administration's Public Works Division ("State") and **XXXXXXXXXX** ("Contractor"), executed pursuant to the terms and conditions set forth herein, governed by Indiana Code 4-13.6, *et seq.* and approved by the last State signatory on _____.

In consideration of the mutual undertakings and covenants hereinafter set forth, the parties agree to amend the Contract as follows:

1. A written change has been requested by the Contractor, as detailed in **Amendment #_ Exhibit A**, attached hereto and incorporated herein, in connection with the following Public Works Project:

Project Number: **XXXXXXXXXX**
 Project Name: **XXXXXXXXXX**
 Designer (if applicable): **XXXXXXXXXX**
 Purchase Order Number: **XXXXXXXXXX**
 Institution Department: **XXXXXXXXXX**
 Req. No: **XXXXXXXXXX**
 Change Order No: **XXXXXXXXXX**

2. The Designer has recommended the Contractor's change in writing, as evidenced by **Amendment # Exhibit**, attached hereto and incorporated herein.
 No Designer has been contracted for this Project.

3. The State has approved the change request, as detailed in **Amendment # Exhibit B**, attached hereto and incorporated herein.

4. The consideration for this Amendment # is as follows:

ORIGINAL CONTRACT VALUE	\$ _____
TOTAL PREVIOUS AMENDMENT VALUE	\$ _____
PRE-AMENDMENT CONTRACT TOTAL	\$ _____
<input type="checkbox"/> INCREASE / <input type="checkbox"/> DECREASE THIS AMENDMENT	\$ _____
<input type="checkbox"/> <u>INCREASE</u> / <input type="checkbox"/> <u>DECREASE REMEDIATION ALLOWANCE</u>	\$ _____
NEW CONTRACT TOTAL REMUNERATION	\$ _____

This change represents a \$**XX,XXX** increase / decrease in the original contract and a \$**XX,XXX** increase/ decrease in remediation allowance, for a total increase/ decrease of \$**XX,XXX**.
 Retainage will/ will not be withheld on this change order amount.

5. The term of this Contract is hereby extended for an additional **XXX** days.
 decreased by **XXX** days.
 remains the same.

Therefore, the Contract shall terminate on _____

6. A. Minority and Women's Business Enterprises Compliance. Include one of the options, as applicable; delete the inapplicable option.

OPTION 1-to be used if the MBE and/or WBE subcontractor(s) will continue to be utilized during the extension period.

As required by 25 IAC 5-6-2(b), the following Division of Supplier Diversity certified MBE or WBE subcontractor(s) will be participating in this Contract under this Change Order/Amendment. This participation represents [] the same percentage or [] an increase of ___% above the original MBE and/or WBE commitment. **[Add additional MBEs and WBEs using the same format.]**

MBE or WBE	COMPANY NAME	PHONE	EMAIL OF CONTACT PERSON	PERCENT
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Briefly describe the MBE and/or WBE service(s)/product(s) to be provided under this Amendment and include the estimated date(s) for utilization during the extension period:

A copy of each subcontractor agreement must be submitted to the Division of Supplier Diversity within thirty (30) days of the effective date of this Amendment. The subcontractor agreements may be uploaded into Pay Audit (Indiana’s subcontractor payment auditing system), emailed to MWBECompliance@idoa.IN.gov, or mailed to Division of Supplier Diversity, 402 W. Washington Street, RoomW-462, Indianapolis IN 46204. Failure to provide a copy of any subcontractor agreement may be deemed a violation of the rules governing MBE/WBE procurement and may result in sanctions allowable under 25 IAC 5-7-8. Requests for changes must be submitted to MWBECompliance@idoa.IN.gov for review and approval before changing the participation plan submitted in connection with this Amendment.

The Contractor shall report payments made to Division of Supplier Diversity certified subcontractors under this Contract on a monthly basis using Pay Audit. The Contractor shall notify subcontractors that they must confirm payments received from Contractor in Pay Audit. The Pay Audit system can be accessed on the IDOA webpage at: www.in.gov/idoa/mwbe/payaudit.htm. Contractor may also be required to report Division of Supplier Diversity certified subcontractor payments directly to the Division of Supplier Diversity, as reasonably requested and in the format required by the Division of Supplier Diversity.

Contractor’s failure to comply with the provisions in this clause may be considered a material breach of the Contract.

OPTION 2 – to be used if the original Contract identified subcontractors in this clause, but the Contractor will not be utilizing the MBE and WBE subcontractors during the extension period.

No certified MBE or WBE subcontractors will be participating in this Contract under this Change Order/Amendment.

B. Indiana Veteran Owned Small Business Enterprises Compliance. Include one of the options, as applicable; delete the inapplicable option.

OPTION 1-to be used if the IVOSB subcontractor(s) will continue to be utilized during the extension period.

As required by 25 IAC 9-4-1(b), the following certified IVOSB subcontractors will be participating in this Contract under this Change Order/Amendment. This participation represents [] the same percentage or [] an increase of ___% above the original IVOSB commitment. **[Add additional IVOSBs using the same format.]**

IVOSB	COMPANY NAME	PHONE	EMAIL OF CONTACT PERSON	PERCENT
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Briefly describe the IVOSB service(s)/product(s) to be provided under this Amendment and include the estimated date(s) for utilization during the extension period:

A copy of each subcontractor agreement must be submitted to IDOA’s Division of Supplier Diversity within thirty (30) days of the effective date of this Amendment. The subcontractor agreements may be uploaded into Pay Audit (Indiana’s subcontractor payment auditing system), emailed to IndianaVeteransPreference@idoa.IN.gov, or mailed to IDOA, 402 W. Washington Street, Room W-462, Indianapolis, IN 46204. Failure to provide a copy of any subcontractor agreement may be deemed a violation of the rules governing IVOSB procurement and may result in sanctions allowable under 25 IAC 9-5-2. Requests for changes must be submitted to IndianaVeteransPreference@idoa.IN.gov for review and approval before changing the participation plan submitted in connection with this Amendment.

The Contractor shall report payments made to certified IVOSB subcontractors under this Contract on a monthly basis using Pay Audit. The Contractor shall notify subcontractors that they must confirm payments received from Contractor in Pay Audit. The Pay Audit system can be accessed on the IDOA webpage at: www.in.gov/idoa/mwbe/payaudit.htm. The Contractor may also be required to report IVOSB certified subcontractor payments directly to the Division of Supplier Diversity, as reasonably requested and in the format required by the Division of Supplier Diversity.

The Contractor’s failure to comply with the provisions in this clause may be considered a material breach of the Contract.

OPTION 2 – to be used if the original Contract identified subcontractors in this clause, but the Contractor will not be utilizing the IVOSB subcontractors during the extension period.

No certified IVOSB subcontractors will be participating in this Contract under this Change Order/Amendment.

All matters set forth in the original Contract and not affected by this Amendment shall remain in full force and effect.

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 Amendment 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.**

Agreement to Use Electronic Signatures

I agree, and it is my intent, to sign this Contract by accessing State of Indiana Supplier Portal using the secure password assigned to me and by electronically submitting this Contract to the State of Indiana. I understand that my signing and submitting this Contract in this fashion is the legal equivalent of having placed my handwritten signature on the submitted Contract and this affirmation. I understand and agree that by electronically signing and submitting this Contract in this fashion I am affirming to the truth of the information contained therein. I understand that this Contract will not become binding on the State until it has been approved by the Department of Administration, the State Budget Agency, and the Office of the Attorney General, which approvals will be posted on the Active Contracts Database: <https://secure.in.gov/apps/idoa/contractsearch/>

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

Contractor: XXXXXXXXXXXX

**Department of Administration
Public Works Division**

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

By: _____
Robert Grossman, Director
For IDOA Commissioner if less than \$10,000,000
Date: _____

Approved by:
Department of Administration

Approved by:
State Budget Agency *PURSUANT TO IC 4-13-2-14.1*
APPROVAL OF THE BUDGET AGENCY
IS NOT REQUIRED FOR CONTRACTS
UNDER \$100,000.00

By: _____ (for)
Rebecca Holwerda, Commissioner

By: _____ (for)
Zachary Q. Jackson, 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 October 5, 2022.
FA 22-48

This document prepared and reviewed by:

Counsel, Indiana Department of Administration

**CONSTRUCTION CONTRACT CHANGE ORDER/AMENDMEN #_
AMENDMENT #_ EXHIBIT A**

See Documents to Follow for Exhibit

**CONSTRUCTION CONTRACT CHANGE ORDER/AMENDMENT #_
AMENDMENT #_ EXHIBIT B**

See Documents to Follow for Exhibit



CERTIFICATE OF SUBSTANTIAL COMPLETION

State Form 1084 (R / 10-22) / DAPW 5

INDIANA PUBLIC WORKS PROJECT NUMBER: _____

PROJECT NAME: _____

TO: Department of Administration
State of Indiana

THROUGH: Director Public Works

DESIGNER: _____

CONTRACTOR: _____

CONTRACT FOR: _____
(GENERAL, MECHANICAL, ELECTRICAL, OTHER)

CONTRACT DATE: _____ CONTRACTOR P.O.NO: _____

PROJECT OR DESIGNATED AREA SHALL INCLUDE: _____

The contractor hereby certifies the Work of this project to be in complete conformance to the Contract Documents and to be substantially complete, enabling the Owner to make use of the Work as intended.

By his signature below the Contractor further requests Designer and Owner to inspect the Work and to concur in the Work's substantial completion by their signature and/or to provide in a timely manner to Contractor a listing of work items adjudged by them as remaining to be completed or corrected. Contractor agrees to complete and correct all work items representative of such listing within days from date of receipt from designer.

Contractor Company Name _____
By (written) (typed or printed) _____ Date _____
(Shall be signed by same representative who signed Contract)

A list of items to be completed or corrected, verified by the Designer and Owner, is (is not) appended hereto. Failure to include any incomplete items on such list does not alter the responsibility of the Contractor to provide all Work in complete conformance with the Contract Documents.

Designer Company Name _____
By (written) (typed or printed) _____ Date _____
(Shall be signed by Designer of Record with Certification Responsibility to the State of Indiana)

The Work performed under this Contract has been reviewed and found to be substantially complete by the Director of Public Works who has hereby established the Date of Substantial Completion as _____ which is also the date of commencement of all warranties and guarantees required by the Contract Documents. The Date of Substantial Completion of the Work or designated portion thereof is the date established by the Director of Public Works when construction is sufficiently complete, in accordance with the Contract Documents, so the Owner may occupy the Work, or designated portion thereof, for the use for which it is intended.

The Owner accepts the Work or designated portion thereof as substantially complete and assumes full possession thereof, in accordance with the contract documents.

STATE OF INDIANA
Owner _____
By: Director Public Works _____ Date _____
(Shall be signed by Director of Public Works as Owner's representative)

The responsibilities of the Owner and the Contractor for maintenance, heat, utilities, and insurance shall be as set out in the Contract Documents.

I-70 Centerville Welcome Center

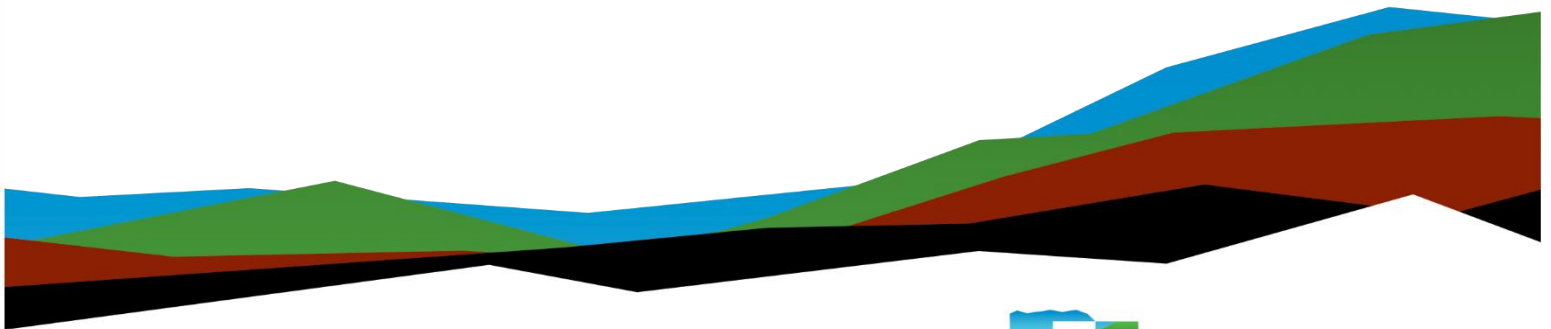
Designation Number: 2000500

Geotechnical Engineering Report

January 17, 2024 | Terracon Project No. CJ235394.1

Prepared for:

Janssen & Spaans Engineering, Inc.
9120 Harrison Park Ct
Indianapolis, IN 46216



Nationwide
[Terracon.com](https://www.terracon.com)

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January 17, 2024

Janssen & Spaans Engineering, Inc.
9120 Harrison Park Ct
Indianapolis, IN 46216

Attn: Robert M. Gray, P.E.
E: BGray@jsengr.com

Re: Geotechnical Engineering Report
I-70 Centerville Welcome Center
Des. No.: 2000500
Centerville, Indiana
Terracon Project No. CJ235394.1

Dear Mr. Gray:

We have completed the scope of Geotechnical Engineering services for the referenced project in general accordance with the provided scope sent via email, dated August 16, 2022 and the Subconsultant Agreement For Professional Services dated January 16, 2023. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations, floor slabs, and pavements for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,

Terracon Consultants, Inc.

Matt JW Mickelson, E.I.
Staff Engineer

Kellen P. Heavin, P.E.
Office Manager

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Geotechnical Engineering Report

I-70 Centerville Welcome Center | Centerville, Indiana

January 17, 2024 | Terracon Project No. CJ235394.1



**Site Location and Exploration Plans
Exploration and Laboratory Results
Supporting Information**

Refer to each individual Attachment for a listing of contents.

Introduction

This report presents the results of our subsurface exploration and Geotechnical Engineering services performed for the proposed welcome center to be located near Centerville, Indiana. The purpose of these services was to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil conditions
- Groundwater conditions
- Seismic site classification per IBC
- Site preparation and earthwork
- Demolition considerations
- Dewatering considerations
- Foundation design and construction
- Floor slab design and construction
- Lateral earth pressure
- Pavement design parameters
- Stormwater pond considerations

The geotechnical engineering Scope of Services for this project included the advancement of soil borings, laboratory testing, engineering analysis, and preparation of this report.

Drawings showing the site and boring locations are shown on the [Site Location](#) and [Exploration Plan](#), respectively. The results of the laboratory testing performed on soil samples obtained from the site during our field exploration are included on the boring logs in the [Exploration Results](#) section.

Site Conditions

The following description of site conditions is derived from our site visit in association with the field exploration and our review of publicly available geologic and topographic maps.

Item	Description
Parcel Information	The project is located at an existing rest area along I-70, servicing the westbound lanes of traffic approximately 3½ mi northwest of Centerville, Indiana.

	Latitude/Longitude (approximate) 39.8606/ -85.0238 See Site Location
Existing Improvements	The site is currently occupied by an existing rest area consisting of a main building and shelters which is surrounded on all sides by concrete pavement. Additionally, a ditch surrounds the existing rest area to the north, west, and east. Additionally, the site was previously occupied by another rest area, which preceded the existing development. Based on publicly available historic aerial imagery, the previous rest area was demolished sometime between 2008 and 2010. See Historic Aerial – 2008 .
Current Ground Cover	Concrete pavement, grass, wetlands, and wooded areas
Existing Topography	Site grades typically increase moving east to west and range from about EL 1085 to 1101 ft. However, elevations as low as 1078 were noted to the southeast near the bottom of the ditch.

Project Description

Our initial understanding of the project was provided in our proposal, and our current understanding of the project conditions is as follows:

Item	Description
Information Provided	Information for the project was provided by JSE on an ongoing basis over the course of the project and is still being finalized. This information includes site plans, structure types and locations, existing utility maps, and topographic information (though an official topographic map is not yet available).
Project Description	We understand that the Indiana Department of Transportation (INDOT) plans to construct a new rest area to service the westbound travelers along I-70 near Centerville, Indiana. The site is currently occupied by an existing rest area which is planned to be demolished. The majority of existing concrete pavement on site is planned to remain.
Proposed Construction	Structures associated with the new rest area are as follows: <ul style="list-style-type: none"> ■ A new Welcome Center, approximately 12,000 sqft in size, ■ Two bathroom buildings, each approximately 1,300 sqft in size,

Item	Description
	<ul style="list-style-type: none"> ■ A maintenance building, approximately 750 sqft in size, ■ A new playground, ■ A walking trail, ■ New and existing (to remain in most areas) concrete pavement, ■ A 54-in. diameter culvert, approximately 110 ft in length, passing below the new entrance drive, ■ A new dumpster pad, ■ Two retention ponds, though we understand consideration is being given to shifting one of these to a new area to function as a stormwater detention pond, and ■ A new 8-in. diameter gravity sanitary sewer. The sewer is planned to be constructed via conventional cut-and-cover techniques and be established approximately 5 to 9 ft below the existing ground surface. <p>The welcome center, maintenance building, and two small bathrooms are anticipated to be of slab-on-grade construction and supported via conventional shallow spread foundations.</p>
<p>Finished Floor Elevation</p>	<p>Finished floor elevation for the welcome center is anticipated to be 1097 ft and 1095 ft (BR-2) and 1097 (BR-1) ft at the bathroom buildings, based on the plans provided.</p>
<p>Maximum Loads</p>	<p>Anticipated structural loads were not provided at the time of this report. In the absence of information provided by the design team, we considered the following loads in estimating settlement based on our experience with similar projects.</p> <ul style="list-style-type: none"> ■ Columns: 30 to 180 kips ■ Walls: 3 kips per linear ft (klf)
<p>Grading/Slopes</p>	<p>Site grades are anticipated to remain relatively close to existing grades over the majority of the development. However, up to between 10 to 15 ft of fill is anticipated to reach final grade where proposed construction crosses the ditch, up to about 10 ft of fill near the center of the grassy area to the east of the existing welcome center (near Sta. 15+50 of PR-CR1), and up to about 13 ft of fill and 10 ft of cut for the realignment of the existing ditch located in the northwest quadrant of the truck parking where the existing pavements are planned to be</p>

Item	Description
	expanded. Slopes for this ditch realignment are not planned to exceed a 2H to 1V slope, at the steepest.
Below-Grade Structures	Non-anticipated.
Free-Standing Retaining Walls	Non-anticipated
Pavements	We understand that the majority of the existing pavement is anticipated to remain in place. New pavement is planned to be constructed from I-70 to the new welcome center and to supplement the existing pavements to facilitate the new layout as shown in the Exploration Plan .

Terracon should be notified if any of the above information is inconsistent with the planned construction, especially the proposed structural loads and grading, as modifications to our recommendations may be necessary.

Geotechnical Characterization

Surface Conditions

Borings BR-1, BR-2, MB-1, and PG-2, along with Pavement Cores PC-1 through PC-4 were performed in the existing pavements and the surficial conditions at these locations consisted of Portland cement concrete pavement (PCCP). PCCP thicknesses typically ranged from about 14.2 to 16.2 in. in thickness. Exceptions to this range were observed at Pavement Core PC-3 and PG-2 which exhibited thicknesses of 10.4 in. and 18.4 in., respectively. The PCCP was typically underlain by crushed stone which was observed to be approximately 3 to 5 in. in thickness. An exception was noted at BR-2, where 8 in. of sand and gravel was observed underlying the PCCP.

The surficial conditions observed in the remaining borings typically consisted of about 5 to 10 in. of surface soil with root mats, except for P-10 and DP-2 where approximately 12 to 4 in. of crushed stone was observed, respectively.

Subsurface Conditions

The above noted surficial conditions were underlain by primarily cohesive soils, consisting of layers of loam, clay loam, and sandy loam. However, granular soils were observed at various depths in isolated areas across the site. In profile, the clay and sandy loam (with AASHTO designations of A-6) were typically observed in the upper 5 to 11 ft of the subsurface profile and were underlain by loam (with AASHTO designations of

A-4) that extended to the maximum depth explored. Instances of granular soils are summarized in the table below.

Boring	Description	Depth to Top of Layer¹	Depth to Bottom of Layer¹
CB-1	Sandy Loam; medium dense	8½	11
PG-2	Sandy Loam; medium dense	1½	3
P-2	Sandy Loam; very dense	11	15
P-8	Sand; medium dense	6	7½ ²
P-9	Sand and Gravel; medium dense	¾	3½
P-10	Sand and Gravel; very dense	1½	3

1. Below existing ground surface
2. Maximum depth explored

The cohesive soils typically exhibited medium stiff to hard consistency based on STP N-value Criteria established by INDOT. Soft soils were noted and various depths, typically within the upper 8 ft, of Borings CB-5, P-6, DP-1, and DP-2. The shallower A-6 soils typically exhibited moisture contents ranging from the low teens to low to twenties. However, moisture contents as low as 7 percent and as high as 29 percent were observed at Borings P-13 and P-3, respectively. Hand penetrometer readings were highly variable but generally ranged from 1 tsf to greater than 4½ tsf. Hand penetrometer and unconfined compression tests indicating less than 1 tsf were observed within the upper 5 ft at Borings CB-5 and BR-1ST.

The underlying A-4 soils typically exhibited moisture contents ranging from about 6 to 12 percent. However, moisture contents ranging from 14 to 16 percent were observed at Borings DP-2 and DP-4. Hand penetrometer readings were typically higher than those observed in the upper profile. However, a hand penetrometer reading of ½-tsf was observed at DP-4. The observed granular soils exhibited medium dense to very dense relative densities.

Instances of relatively low N-values, hand penetrometer readings, or unconfined compressive strength test results are included in the table below. Additional information regarding the subsurface conditions is included in the attached boring logs.

Boring	Description	Sample Depth (ft) ¹	Moisture Content (%)	N-value	Hand Penetrometer Reading (tsf)
CB-5	Clay Loam	3½ to 5	27.4	3	½
BR-1ST	Loam	2 to 4	20.4	--	0.6 ²
DP-1	Clay	6 to 7½	11.6	5	1
DP-2	Sandy Loam	½ to 3	14.2	4	1¼
DP-4	Sandy Loam	3½ to 6	15.8	6	½

- 1. Below existing ground surface
- 2. Unconfined compressive test
- Indicates no data at this interval

Additionally, hand auger soundings were performed in areas where borings were desired but were inaccessible (PG-1, PG-3, and P-4), either due to slopes or other access restrictions such as trees and brush, as well as within the extents of the proposed walking trail (WT-1 through WT-11). These sounding were extended to depths of 3 to 5 ft below the existing ground surface and consisted of cohesive soils similar to those noted above. Moisture contents of the soils encountered at PG-1, PG-3, and P-4 also remained consistent with those observed in the borings. However, the soils recovered from walking trail soundings exhibited moisture contents ranging from 18 to 43 percent. More information can be found on the attached [Summary of Hand Auger Soundings](#).

The borings were advanced using hollow stem augers that allow short-term groundwater observations to be made while drilling. Groundwater level observations were made during and at the completion of the sampling process. Select boreholes were allowed to remain open for up to 24 hrs for extended water level readings. The observed groundwater depths are noted on the boring logs and are summarized below.

Boring Number	Approximate Groundwater Depth (ft) ¹		
	During Drilling	At Completion	Up to 24 hrs after Drilling
CB-01	None Observed	14	6
CB-02	None Observed	None Observed	--
CB-03	19	16	--
CB-04	18½	18½	4
CB-05	None Observed	None Observed	4
CB-06	18	14	2
CB-07	None Observed		6
BR-1	13½	7	--
BR-2	None Observed	None Observed	7
MB-1	None Observed	None Observed	--
PG-2	16	None Observed	--
P-1 through P-13	None Observed		--
DP-1	19	None Observed	7
DP-2	None Observed		--
DP-3	18½	None Observed	--
DP-4	None Observed		--

1. Below existing ground surface

-- Indicates no reading taken at this interval.

Mapping by the Natural Resources Conservation Service (NRCS) indicates a seasonal (perched) high groundwater level within 2½ ft of ground surface. Groundwater conditions may be different at the time of construction because of seasonal variations in rainfall, runoff, and other conditions not apparent at the time of drilling. Also, trapped or “perched” water could be present within the sand or silt seams within native clay soils and/or in cohesionless soils (fill and native) above lower permeability clay soil layers. Observation of long-term groundwater levels was outside the scope of services for this project.

Seismic Site Class

The seismic design requirements for buildings and other structures are based on Seismic Design Category. Site Classification is required to determine the Seismic Design Category for a structure. The Site Classification is based on subsurface conditions in the

upper 100 ft of the site profile defined by a weighted average value of either shear wave velocity, standard penetration resistance, or undrained shear strength in accordance with Section 20.4 of ASCE 7 and the International Building Code (IBC). Based on the soil properties observed at the site and as described on the exploration logs and results, our professional opinion is for that a **Seismic Site Classification of D** be considered for the project. Subsurface explorations at this site extended to a maximum depth of 20 ft. The site properties below the boring depth to 100 ft were estimated based on our experience and knowledge of geologic conditions of the general area. Additional deeper borings or geophysical testing may be performed to confirm the conditions below the current boring depth or provide a less conservative Site Classification.

Geotechnical Overview

The site appears to be generally suitable for the proposed construction based upon the geotechnical conditions encountered at the exploratory locations, provided that the recommendations provided in this report are implemented in the design and construction phases of this project.

The recommendations contained in this report are based upon the results of field and laboratory testing (presented in the **Exploration Results**), engineering analyses, and our current understanding of the proposed project. The **General Comments** section provides an understanding of the report limitations.

The majority of building borings generally encountered suitable soils. However, Borings CB-5 and BR-1ST encountered softer soils, as noted above. Where similar soils are observed at the foundation level, undercutting will be required.

Additionally, softer soils were also noted at Borings DP-1, DP-2, and DP-4. These or similar soils may also require removal and replacement prior to earthwork activities where they are deemed unsuitable during proofrolling.

Additionally, fill of up to 15 ft is anticipated where the development crosses the ditch that surrounds the existing rest area and up to about 10 ft of fill near Sta. 15+50 of PR-CR1. The planned fill will cause consolidation settlement and, as such, we recommend that the construction of foundations, floor slabs and pavements above these fills be delayed until the settlement is mostly completed. Consolidation settlement is anticipated to be less than approximately 1 in. where the development crosses the ditch and less than approximately ½ in. near Sta. 15+50 of PR-CR1.

Relatively high moisture contents were observed at several of the hand auger soundings performed within the extents of the walking trail. As such, chemical drying (in accordance with ISS 217) of near surface soils may be required to construct a suitable

working surface and facilitate construction of the trail if the trail is planned to be paved. However, the proposed trail surface was unknown at the time of this report.

Although not observed at the test boring locations, remnants of the previous rest area and fill used to establish the current grade may be present. It is not known whether the fill was placed with adequate compactive effort. If this development had below grade structures or ditches similar in depth to the current development, there is a risk of larger quantities of unsuitable fill soils/materials. Additional discussion and recommendations regarding design and construction are provided in the following paragraphs.

Earthwork

We anticipate that earthwork will include demolition, clearing and grubbing, excavations, and fill placement. The following sections provide recommendations for use in the preparation of specifications for the work. Recommendations include quality criteria necessary to render the site in the state considered in our geotechnical engineering evaluation for foundations, floor slabs, and pavements.

Demolition

We understand that the existing welcome center is planned to be demolished and will be replaced by new pavement and landscaped areas. As such, we recommend existing foundations, floor slabs, and utilities be removed where they conflict with proposed utilities, earthwork activities, and pavements. In such cases, existing foundations, floor slabs, and utilities should be removed to a depth of at least 2 ft below the affected utility foundation soils or design pavement subgrade elevation. Grade should be reestablished using fill as discussed later in this report.

Site Preparation

Prior to placing fill, existing vegetation, surface soil with root mats, and root mats should be removed. Complete stripping of the surface soil with root mats should be performed in the proposed building and parking/driveway areas.

Trees are located within or near the footprint of the proposed structures, and within the extents of the proposed walking trail and new pavements, which will require removal at the onset of construction. Tree root systems can remove substantial moisture from surrounding soils. Where trees are removed, the full root ball and all associated dry and desiccated soils should be removed. Soil that contains less than 5 percent organic matter can be reused as fill provided the soil is moisture conditioned and properly compacted.

Additionally, while borings were not performed within the bottom of the ditch, we anticipate soft saturated soils may be present near the surface of the bed of the ditch. As such undercutting may be required prior to the placement of the aforementioned fill.

Where new fill is placed on existing slopes steeper than 5H:1V, benches should be cut into the existing slopes prior to fill placement. The benches should have a minimum vertical face height of 1 ft and a maximum horizontal face height of 4 ft and should be cut wide enough to accommodate the compaction equipment. This benching will help provide a positive bond between the fill and natural soils and reduce the possibility of failure along the fill/natural soil interface.

As noted above, large quantities of fill are anticipated to be required to establish site grades in several areas. The planned fill will cause consolidation settlement and we recommend monitoring as discussed above. As such, we recommend that the construction of foundations, floor slabs and pavements be delayed until the settlement is mostly completed. To monitor the magnitude and rate of settlement, we recommend the use of settlement plates. We recommend a minimum of seven settlement plates be placed to monitor the settlement of the natural soils across the site. The plates should be placed as close as practical to the locations included in the table below and depicted in the [Approximate Settlement Plate Location Plan](#). A Terracon Representative should be on site at the time of installation to confirm and potentially adjust the recommended locations.

Settlement Plate Designation	Approximate Latitude	Approximate Longitude
SP-1	39.861715	-85.023707
SP-2	39.860935	-85.023259
SP-3	39.859972	-85.021812
SP-4	39.860527	-85.024428
SP-5	39.860630	-85.024080
SP-6	39.860448	-85.023893
SP-7	39.860382	-85.023620

The settlement monitoring program should be performed in accordance with Section 204.03(b) of the ISS, "Instrument Readings and Settlement Period", until instrument readings indicate the settlement is ¼ inch or less, in a 7-day week, for four consecutive weeks after fill placement is complete. The soils in the areas noted above are overconsolidated, so the settlement is anticipated to occur as the fill is being placed. As such, additional time (i.e., beyond 4 weeks) to allow settlement to occur is not anticipated to be necessary.

Although no evidence of fill or underground facilities (such as septic tanks, cesspools, basements, and utilities) was observed during the exploration and site reconnaissance, such features could be encountered during construction. Especially in the area of the previously demolished rest area (demolished sometime between 2008 and 2009). If unexpected fills or underground facilities are encountered, such features should be removed, and the excavation thoroughly cleaned prior to backfill placement and/or construction.

Foundation Soil Preparation

We recommend that unsuitable soils be removed or remediated within the footprint of the structures and pavements and a minimum of 15 ft beyond the outside edge of footings. On-site soils, with the exception of topsoil and other soils containing deleterious materials such as organic matter, are considered suitable to be used as fill materials.

We recommend the foundation soils be proofrolled with an adequately loaded vehicle such as a fully-loaded tandem-axle dump truck. The proofrolling should be performed under the observation of a Terracon representative. Areas excessively deflecting under the proofroll should be delineated and subsequently addressed. Such areas could be removed or modified by treating/applying/mixing with Portland cement or kiln dust depending on the observations and depth of the unsuitable conditions. Excessively wet or dry material should either be removed, or moisture conditioned and recompacted.

Any unstable soils which will receive fill, building elements, or pavements once properly cleared and benched, where necessary, should be removed or scarified to a minimum depth of 10 in., moisture conditioned, and compacted per the compaction requirements in this report. Compacted fill soils should then be placed to the proposed design grade and the water content and compaction of foundation soils should be maintained until foundation or pavement construction.

Foundation Soil Stabilization

Where unsuitable soils are observed or should conditions deteriorate foundation soil improvement may be required. Methods of foundation soil improvement, as described below, could include scarification, moisture conditioning and recompaction, removal of unstable materials and replacement with granular fill (with or without geosynthetics), and chemical stabilization. The appropriate method of improvement, if required, would be dependent on factors such as schedule, weather, the size of area to be stabilized, and the nature of the instability. More detailed recommendations can be provided during construction as the need for foundation soil stabilization occurs. Performing site grading operations during warm seasons and dry periods would help reduce the amount of foundation soil stabilization required.

If the exposed foundation soil is unstable during proofrolling operations, it could be stabilized using one of the methods outlined below.

- **Crushed Stone** - The use of crushed stone or crushed gravel is a common procedure to improve foundation soil stability. Typical undercut depths would be expected to range from about 1 to 2 ft below finished foundation soil elevation. The use of a geotextile for pavement (Type 2A in accordance with ISS 918.02[c]) could also be considered after underground work such as utility construction is completed. Prior to placing the geotextile, we recommend that all below-grade construction, such as utility line installation, be completed to avoid damaging the geotextile. Equipment should not be operated above the geotextile until one full lift of crushed stone fill is placed above it. The maximum particle size of granular material placed over geotextile should not exceed 1½ in.
- **Chemical Modification** - Improvement of foundation soils using chemical drying in accordance with ISS 217 could be considered for improving unstable soils. The hazards of chemicals blowing across the site or onto adjacent property should also be considered.

Further evaluation of the need and recommendations for foundation soil improvement can be provided during construction as the geotechnical conditions are exposed.

Fill Material Types

The in-situ cohesive soils appear suitable for reuse as fill, as needed. For that, it will require moisture conditioning prior to obtaining adequate compaction. Moisture conditioning is typically accomplished by continuously discing the soils to reduce the moisture content and breakdown soil clods. If earthwork is planned to be performed during traditionally wet periods of the year, moisture conditioning will be difficult to accomplish. In areas where smaller equipment will be necessary for compaction (i.e., due to space constraints), we recommend granular soil for fill.

We also recommend that the fill be placed in controlled lifts and compacted to the required dry density as noted below. It should also be noted that the acceptable thickness of loose lifts of fill and/or the number of passes required by the compaction equipment to achieve compaction to the density recommended in this report will be a function of the type of compaction equipment and techniques used, the soil type, as well as proper control of the soil moisture content and the season in which construction takes place.

We recommend that fill used to raise grades or backfill of undercut areas be placed in loose lift thickness not exceeding 8 in. and be compacted to 95 percent of the maximum density obtained in accordance with AASHTO T 99 as specified in the ISS.

Fill should consist of approved materials free of organic matter and debris with a maximum particle size of 3 in. Frozen material should not be used, and fill should not be placed on frozen foundation soils. A sample of each material type should be submitted to Terracon for evaluation prior to use on this site. Additional geotechnical consultation should be provided prior to use of uniformly graded gravel on the site.

Utility Trench Backfill

We recommend that any soft or unsuitable soils encountered at the bottom of utility trench excavations be removed and replaced with structure backfill. This recommendation is particularly applicable to utility work requiring grade control and/or in areas where subsequent grade raising could cause settlement in the foundation soil supporting the utility. Trench excavations should not be extended below a downward 1:1 projection from foundations or infrastructure without an engineering review of shoring requirements and geotechnical observation during construction.

On-site soils are considered suitable for backfill of utility and pipe trenches in areas where settlement is not a concern. In these areas, the observed cohesive soils can be used from 1 ft above the top of the pipe to the final ground surface, provided the soil is free of organic matter and deleterious substances. In areas near buildings and pavement, where settlement is a concern, we recommend the use of structure backfill.

Compaction of initial lifts should be accomplished with hand-operated tampers or other lightweight compactors. Flooding or jetting for placement and compaction of backfill is not recommended.

For low permeability foundation soils, utility trenches are a common source of water infiltration and migration. Utility trenches penetrating beneath the buildings should be effectively sealed to restrict water intrusion and flow through the trenches, which could migrate below the buildings. The trench should provide an effective trench plug that extends at least 5 ft from the face of the building exteriors. The plug material should consist of cementitious flowable fill or low permeability clay. The trench plug material should be placed to surround the utility line. If used, the clay trench plug material should be placed and compacted to comply with the water content and compaction recommendations for fill stated previously in this report.

Grading and Drainage

All grades must provide effective drainage away from the structures during and after construction and should be maintained throughout the life of the structure. Water retained next to buildings can result in soil movements greater than those discussed in this report. Greater movements can result in unacceptable differential floor slab and/or foundation movements, cracked slabs and walls, and roof leaks. The roof should have

gutters/drains with downspouts that discharge onto splash blocks at a distance of at least 10 ft from buildings.

Exposed ground should be sloped and maintained at a minimum 5 percent away from the structures for at least 10 ft beyond the perimeter of the structures. Locally, flatter grades may be necessary to transition ADA access requirements for flatwork. After building construction and landscaping have been completed, final grades should be verified to document effective drainage has been achieved. Grades around the structure should also be periodically observed and adjusted, as necessary, as part of the structure's maintenance program. Where paving or flatwork abuts the structure, a maintenance program should be established to effectively seal and maintain joints and prevent surface water infiltration.

Earthwork Construction Considerations

Shallow excavations for the proposed structure are anticipated to be accomplished with conventional construction equipment. Upon completion of filling and grading, care should be taken to maintain the foundation soil water content prior to construction of grade-supported improvements such as floor slabs and pavements. Construction traffic over the completed foundation soils should be avoided. The site should also be graded to prevent ponding of surface water on the prepared foundation soils or in excavations. Water collecting over or adjacent to construction areas should be removed. If the foundation soil freezes, desiccates, saturates, or is disturbed, the affected material should be removed, or the materials should be scarified, moisture conditioned, and recompacted prior to floor slab or pavement construction.

The groundwater level or perched groundwater trapped in sand seams could affect over-excavation efforts, especially for excavation and replacement of lower strength soils. For excavations in the cohesive soils predominantly encountered on this site, a temporary dewatering system consisting of sumps with pumps may be necessary to achieve the recommended depth of over excavation depending on groundwater conditions at the time of construction.

As a minimum, excavations should be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P, "Excavations" and its appendices, and in accordance with any applicable local and/or state regulations.

Construction site safety is the sole responsibility of the contractor who controls the means, methods, and sequencing of construction operations. Under no circumstances shall the information provided herein be interpreted to mean Terracon is assuming responsibility for construction site safety or the contractor's activities; such responsibility shall neither be implied nor inferred.

Excavations or other activities resulting in ground disturbance have the potential to affect adjoining infrastructure or structures. Our scope of services does not include review of available final grading information or consider potential temporary grading performed by the contractor for potential effects such as ground movement beyond the project limits. If there is a concern, a preconstruction/ precondition survey should be conducted to document nearby property/infrastructure prior to any site development activity. As part of this survey, excavation or ground disturbance activities adjacent or near property lines should be observed or instrumented for potential ground movements that could negatively affect adjoining property and/or structures.

Shallow Foundations

If the site has been prepared in accordance with the requirements noted in [Earthwork](#), the following design parameters are applicable for shallow foundations.

Design Parameters – Compressive Loads

Item	Description
Factored Bearing Resistance ^{1, 2}	2,000 psf
Required Bearing Stratum ³	Undisturbed medium stiff or better cohesive soils or fill above similar soils
Minimum Foundation Dimensions	Columns: 30 in. wide Continuous: 18 in. wide
Minimum Embedment below Finished Grade ⁴	36 in.
Estimated Total Settlement from Structural Loads ²	Less than about 1 in.
Estimated Differential Settlement ^{2, 5}	About 1/2 of total settlement

1. The factored bearing resistance is in excess of the minimum surrounding overburden pressure at the footing base elevation. Values assume that exterior grades are no steeper than 20 percent within 10 ft of the structure.
2. Structural loads were not provided. Values provided are for maximum loads noted in [Project Description](#). Additional geotechnical consultation will be necessary if higher loads are anticipated.
3. Unsuitable or soft soils should be overexcavated and replaced per the recommendations presented in [Earthwork](#).
4. Embedment necessary to minimize the effects of frost and/or seasonal water content variations. For sloping ground, maintain depth below the lowest adjacent exterior grade within 5 horizontal ft of the structure.

Item	Description
5.	Differential settlements are noted for equivalent-loaded foundations and bearing elevation as measured over a span of 50 ft.

Design Parameters – Overturning and Uplift Loads

Shallow foundations subjected to overturning loads should be proportioned such that the resultant eccentricity is maintained in the center-third of the foundation (e.g., $e < b/6$, where b is the foundation width). This requirement is intended to keep the entire foundation area in compression during the extreme lateral/overturning load event. Foundation oversizing may be required to satisfy this condition.

Uplift resistance of spread footings can be developed from the effective weight of the footing and the overlying soils with consideration to the IBC basic load combinations.

Item	Description
Soil Moist Unit Weight	110 pcf
Soil Effective Unit Weight ¹	50 pcf
Soil Weight Included in Uplift Resistance¹	Soil included within the prism extending up from the top perimeter of the footing at an angle of 20 degrees from vertical to ground surface

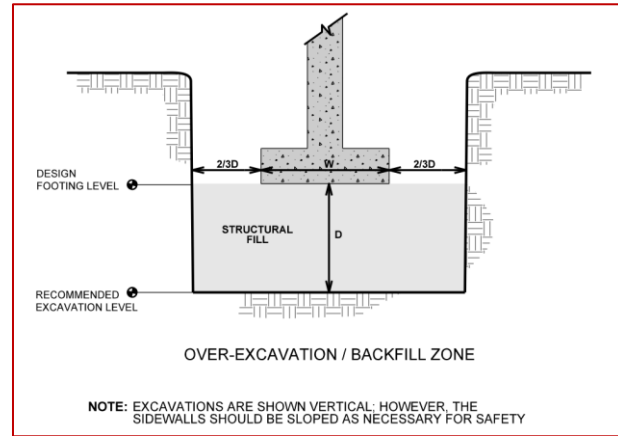
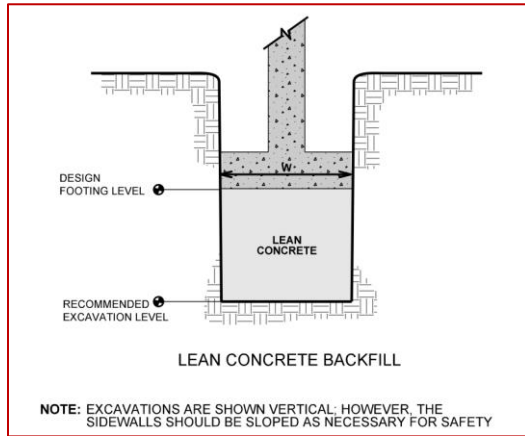
1. Effective (or buoyant) unit weight should be used for soil above the foundation level and below the shallowest anticipated groundwater level.

Foundation Construction Considerations

The base of all foundation excavations should be free of water and loose soil, prior to placing concrete. Concrete should be placed soon after excavating to reduce bearing soil disturbance. Care should be taken to prevent wetting or drying of the bearing materials during construction. Excessively wet or dry material or any loose/disturbed material in the bottom of the footing excavations should be removed/reconditioned before foundation concrete is placed.

We recommend that granular soils exposed at the base of footing excavations be compacted in place with manually-operated compaction equipment prior to placing fill, steel, and/or concrete. Should surficial compaction not be adequate, construction of a working surface consisting of either crushed stone or a lean concrete mud mat may be required prior to the placement of reinforcing steel and construction of foundations.

If unsuitable bearing soils (such as those noted at Boring CB-5) are observed at the base of the planned footing excavation, the excavation should be extended deeper to suitable soils, and the footings could be established directly on these soils at the lower level or on lean concrete backfill placed in the excavations. The lean concrete replacement zone is illustrated on the sketch below. Overexcavation for fill placement below footings should be performed as shown below. The overexcavation should be backfilled up to the Design Footing Level with granular soils placed as recommended in the **Earthwork** section.



Floor Slabs

Design parameters for floor slabs assume the requirements for **Earthwork** have been followed. Specific attention should be given to positive drainage away from the structure and positive drainage of the aggregate base beneath the floor slab.

Floor Slab Design Parameters

Item	Description
Floor Slab Support ¹	Minimum of 6 in. of free-draining granular material compacted to 95 percent maximum density as determined in accordance with AASHTO T99
Estimated Modulus of Subgrade Reaction ²	100 pounds per square in. per in. (psi/in) for point loads

1. Floor slabs should be structurally independent of building footings or walls to reduce the possibility of floor slab cracking caused by differential movements between the slab and foundation.
2. Modulus of subgrade reaction is an estimated value based upon our experience with the subgrade condition, the requirements noted in **Earthwork**, and the

Item	Description
------	-------------

floor slab support as noted in this table. It is provided for point loads. For large area loads the modulus of subgrade reaction would be lower.

The use of a vapor retarder should be considered beneath concrete slabs on grade covered with wood, tile, carpet, or other moisture sensitive or impervious coverings, when the project includes humidity-controlled areas, or when the slab will support equipment sensitive to moisture. When conditions warrant the use of a vapor retarder, the slab designer should refer to ACI 302 and/or ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder.

Saw-cut contraction joints should be placed in the slab to help control the location and extent of cracking. For additional recommendations, refer to the ACI Design Manual. Joints or cracks should be sealed with a waterproof, non-extruding compressible compound specifically recommended for wet environments.

Where floor slabs are tied to perimeter walls or turn-down slabs to meet structural or other construction objectives, our experience indicates there is a higher risk of differential movement between the walls and slabs in adjacent slab expansion joints or cracks in the floor slab beyond the length of the structural dowels. The Structural Engineer should account for potential differential settlement through use of sufficient control joints, appropriate reinforcing, or other means.

Floor Slab Construction Considerations

Finished foundation soils should be protected from traffic, rutting, or other disturbance and maintained in a relatively moist condition until floor slabs are constructed. If the foundation soil should become damaged or desiccated prior to construction of floor slabs, the affected soil should be removed, and fill should be added to replace the resulting excavation. Final conditioning of the finished foundation soil should be performed immediately prior to placement of the floor slab support course.

A Terracon representative should observe the condition of the floor slab foundation soils immediately prior to placement of the floor slab support course, reinforcing steel, and concrete. Attention should be paid to high traffic areas that were rutted and disturbed earlier, and to areas where backfilled trenches are located.

Pavements

Pavement Subgrade Support Characteristics

Provided the foundation soil is prepared as previously discussed, the following design criteria may be utilized for the pavement design.

Design Soil	A-6 Clay Loam
Resilient Modulus (M_r) for Improved Subgrade, psi	Type IC: 12,000
Resilient Modulus (M_r) for Natural Subgrade, psi¹	3,000
Percent Passing No. 200 Sieve, percent	62
Percent Silt, percent	38
Liquid Limit (LL), percent	33
Plastic Limit (PL), percent	15
Plasticity Index (PI)	18
Depth to Water, ft	Seasonal (Spring 3 ft, Summer 6 ft, Autumn 6 ft, Winter 3 ft)
Organic Content, percent	Up to 5 percent
Marl Content	Not observed
Depth to Rock, ft	> 20 ft
Recommended Subgrade Treatment	IC for new and/or temporary pavement or areas of new pavement with limited access
Geotextile for underdrains (ISS 918.02[b])	1B

Pavement Drainage

Pavements should be sloped to provide drainage of surface water. Water allowed to pond on or adjacent to the pavements could saturate the subgrade and contribute to premature pavement deterioration. In addition, the pavement subgrade should be graded to provide positive drainage within any granular base section. Appropriate sub-drainage or connection to a suitable daylight outlet should be provided to remove water from any granular subbase.

Based on the possibility of shallow and/or perched groundwater, we recommend installing a pavement subdrain system to control groundwater, improve stability, and improve long-term pavement performance.

Retention Pond Considerations

The soils observed at the borings performed near the planned retention ponds (i.e., Borings DP-1 through DP-4) consist predominately of cohesive soils to the maximum depth explored. Based on our experience, we anticipate the cohesive soils observed within the proposed retention pond areas to be of low permeability. Therefore, the cohesive soils are considered favorable for the design of retention basins, as they have the potential to retain water for a significant amount of time. However, layers and seams of sand were observed in other areas of the site. As such, the retention pond may still require the installation of a liner system if a sustained pond level is desired. Some possible liner options are included below.

Finished slopes for the ponds were not available at the time of this report. Global stability of sideslopes as steep as 3H:1V is not of concern. However, slopes steeper than 3H:1V will create maintenance issues as they are not accessible with conventional mowing equipment and tend to slough (surficial). The sloughing will be exacerbated if the water level of the basin fluctuates frequently. To minimize sloughing and erosion, it is important to provide adequate protection against these conditions at the face of the slope. We recommend the use of riprap overlying geotextiles where slopes are steeper than 3H:1V to reduce the risk of sloughing and frequent maintenance.

Based on groundwater depths observed during our exploration and the NRCS seasonal (perched) high groundwater level, dewatering as a result of groundwater infiltration during pond construction will be needed. In addition, all excavations should conform with the OSHA requirements. The contractor is solely responsible for excavation safety.

Compacted Clay Liner

A clay liner could be constructed using on-site clay soils or off-site borrow material. The designer should evaluate if there is enough on-site clay from the pond excavation to create the liner. Whether the material is found on-site or brought in from an off-site source, the pond liner material should be clean and free of organic material, debris, deleterious materials and frozen soils. The use of moderate to high plasticity cohesive soils would be the most desirable soil type to retain water.

The placement and gradation of the clay liner should be such that the material is free of lenses, pockets, streaks, voids or layers of material differing substantially in texture, gradation, or water content from the surrounding material. The clay should be placed in accordance with the ISS. It should be noted that a clay liner must be kept wet to function. If the level of the pond is lowered, either intentionally or not, the liner can desiccate and crack, rendering it ineffective even after it is rehydrated. The owner must be aware of this risk if a clay liner is selected.

Synthetic Pond Liner

The pond could be lined with a traditional PVC, HDPE, or rubber liner. Rubber pond liners tend to be more flexible and conform to the contours of the ground surface more easily than other synthetic pond liners. However, synthetic liners have a shorter life expectancy than the clay liner indicated previously. In addition, if this type of liner is selected, it is imperative that dewatering pumps be directed to fill the pond after the liner is completed to reduce the risk of damage to the liner from hydrostatic forces.

Geosynthetic Clay Liner

If suitable on-site material cannot be appropriated from the site and the acquisition of off-site borrow material is determined not to be economical, an alternative would be to utilize a Geosynthetic Clay Liner. Geosynthetic Clay Liners typically consist of a combination of geotextiles encasing a layer of bentonite. The bentonite has a high swell potential and low permeability, which provides for an adequate liner. A specialty firm should be retained to supply, design, install and comment on the risks of an appropriate liner which can provide the required permeability.

Conventional Cut-and-Cover Considerations

Foundation Soil Considerations

We understand that a proposed 8-in. diameter sanitary sewer (near Borings P-3, P-9, BR- 1, BR-2, and P-12) and proposed culvert (near Boring P-2) are planned to be installed using an open cut-and-cover technique. Based on information obtained at nearby boring locations, the foundation soils at the inverts is generally anticipated to consist of medium stiff to hard cohesive soils. However, softer soils that require undercutting may be present depending on the conditions observed at the time of construction.

As previously mentioned, the condition of the foundation soils will be affected by the care and workmanship of the contractor in protecting them from water. The cohesive soils and observed near the planned invert at the test boring locations are moisture-sensitive and will soften when exposed to water.

Where soft/unsuitable soil is present at the pipe or culvert inverts or if stiff conditions degrade due to exposure to moisture, we recommend the foundation soil be undercut up to a depth of up to 2 ft and grade be reestablished by placing compacted granular fill, such as INDOT No. 8 stone on a geotextile for separation. We recommend that fill placed for this purpose be compacted via several passes with a vibratory compactor. Undercutting in areas of poor foundation soil conditions, will require judgement in the field during construction. To reduce the potential for softening of the foundation soils and additional undercutting, we recommend

that the construction activities be scheduled such that the foundation soils are undercut, then reestablished as soon as practical. This will require having all backfill materials present during excavation activities. We recommend that a Terracon representative observe the foundation soils prior to the placement of the bedding layer to confirm the presence of a suitable bearing stratum. Additionally, if granular soils are encountered, we recommend that they be compacted via several passes with a vibratory compactor.

If any of the areas where cut-and-cover techniques are utilized may be developed in the future (settlement sensitive areas), the use of structure backfill is recommended. This is because of the ease of compaction as compared to cohesive soils which reduces the risk of settlement. We recommend that the pipe manufacturer be contacted to discuss special bedding and backfill requirements. We recommend the fill recommendations included in the [Earthwork](#) section be followed.

Buoyancy Considerations

We understand that manhole structures are planned at various locations along the proposed sewer alignment. As such, the effects of buoyancy should be considered for design, regarding the manhole structures as well as the proposed culvert. Due to the possibility of perched groundwater conditions, we recommend using a groundwater level at or near the exterior grade for design. The weight of the structures in addition to the weight of the soils above the "lip" of the base of the structures should be considered to provide the necessary resistance to the uplift forces. We recommend that a unit weight of the soil of 60 pcf be utilized for this purpose.

General Comments

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner

is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly affect excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety and cost estimating including excavation support and dewatering requirements/design are the responsibility of others. Construction and site development have the potential to affect adjacent properties. Such impacts can include damages due to vibration, modification of groundwater/surface water flow during construction, foundation movement due to undermining or subsidence from excavation, as well as noise or air quality concerns. Evaluation of these items on nearby properties are commonly associated with contractor means and methods and are not addressed in this report. The owner and contractor should consider a preconstruction/precondition survey of surrounding development and/or vibration monitoring. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

Geotechnical Engineering Report

I-70 Centerville Welcome Center | Centerville, Indiana

January 17, 2024 | Terracon Project No. CJ235394.1



Attachments

Exploration and Testing Procedures

Field Exploration

Number of Explorations	Approximate Boring Depth (ft)	Location	Designation
7 ¹	20	Welcome Center	CB
3 ^{1,2}	5 to 15	Playground	PG
21	20	Bathrooms	BR
1 ¹	20	Maintenance Building	MB
13 ^{1,2}	5 to 20	Pavement	P
4 ¹	20	Ponds	DP
11 ²	3 to 4	Walking Trail	WT
4 ³	--	Existing Pavements	PC

Exploration Type:

1. Soil Boring
2. Hand Auger Sounding
3. Pavement Core

Boring Layout and Elevations: Terracon personnel provided the boring layout using handheld GPS equipment (estimated horizontal accuracy of about ±10 ft). Approximate ground surface elevations were obtained by interpolation from the grading plan. If elevations and a more precise boring layout are desired, we recommend borings be surveyed.

Subsurface Exploration Procedures: We advanced the borings with an ATV-mounted and truck-mounted rotary drill rigs using continuous hollow stem flight augers. Six samples were obtained in the upper 15 ft of each boring with additional samples obtained at intervals of 5 ft thereafter using thin-walled and split-barrel sampling procedures. In the thin-walled tube sampling procedure, a thin-walled, seamless steel tube with a sharp cutting edge was pushed hydraulically into the soil to obtain a relatively undisturbed sample. In the split-barrel sampling procedure, a standard 2-in. outer diameter split-barrel sampling spoon was driven into the ground by a 140-pound automatic hammer falling a distance of 30 in. The number of blows required to advance the sampling spoon the last 12 in. of a normal 18-in. penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths.

The pavement cores were performed using a diamond impregnated core barrel. The hand auger soundings were performed using a hand auger to advance the boreholes. One soil sample per soil type was collected at the walking trail soundings and one per foot was collected at each other sounding locations to observe the underlying soils. Following the completion of our exploratory activities, the boreholes were backfilled with a mixture of auger cuttings and the pavement surface was restored with a concrete pavement patch.

The sampling depths, penetration distances, and other sampling information were recorded on the field logs. The samples were placed in appropriate containers and taken to our soil laboratory for testing. Our exploration team prepared field logs as part of the drilling operations. These field logs included visual classifications of the materials observed during drilling and our interpretation of the subsurface conditions between samples. Final boring logs were prepared from the field logs. The final boring logs represent our interpretation of the field logs and include modifications based on observations and tests of the samples in our laboratory.

Laboratory Testing

The laboratory testing program included observation of soil samples by an engineer. Based on the results of our field and laboratory programs, we described and classified the soil samples in general accordance with the Unified Soil Classification System.

The project engineer then reviewed the field data and assigned laboratory tests. The laboratory testing program included the following types of tests:

- Hand penetrometer readings (i.e., HP, which provide an indication of the shear strength characteristics of cohesive-type soils),
- Natural water content tests (W%),
- Atterberg limit determinations,
- Unit weight determinations (γ_d),
- Grain size analyses,
- Unconfined compression tests,
- Loss on Ignition (LOI; organic content),
- Soluble sulfate content,
- Specific gravity, and
- Standard Proctor

Geotechnical Engineering Report

I-70 Centerville Welcome Center | Centerville, Indiana

January 17, 2024 | Terracon Project No. CJ235394.1



Site Location and Exploration Plans

Contents:

Site Location

Exploration Plan

Historic Aerial – 2008

Approximate Settlement Plate Location Plan

Note: All attachments are one page unless noted above.

Site Location

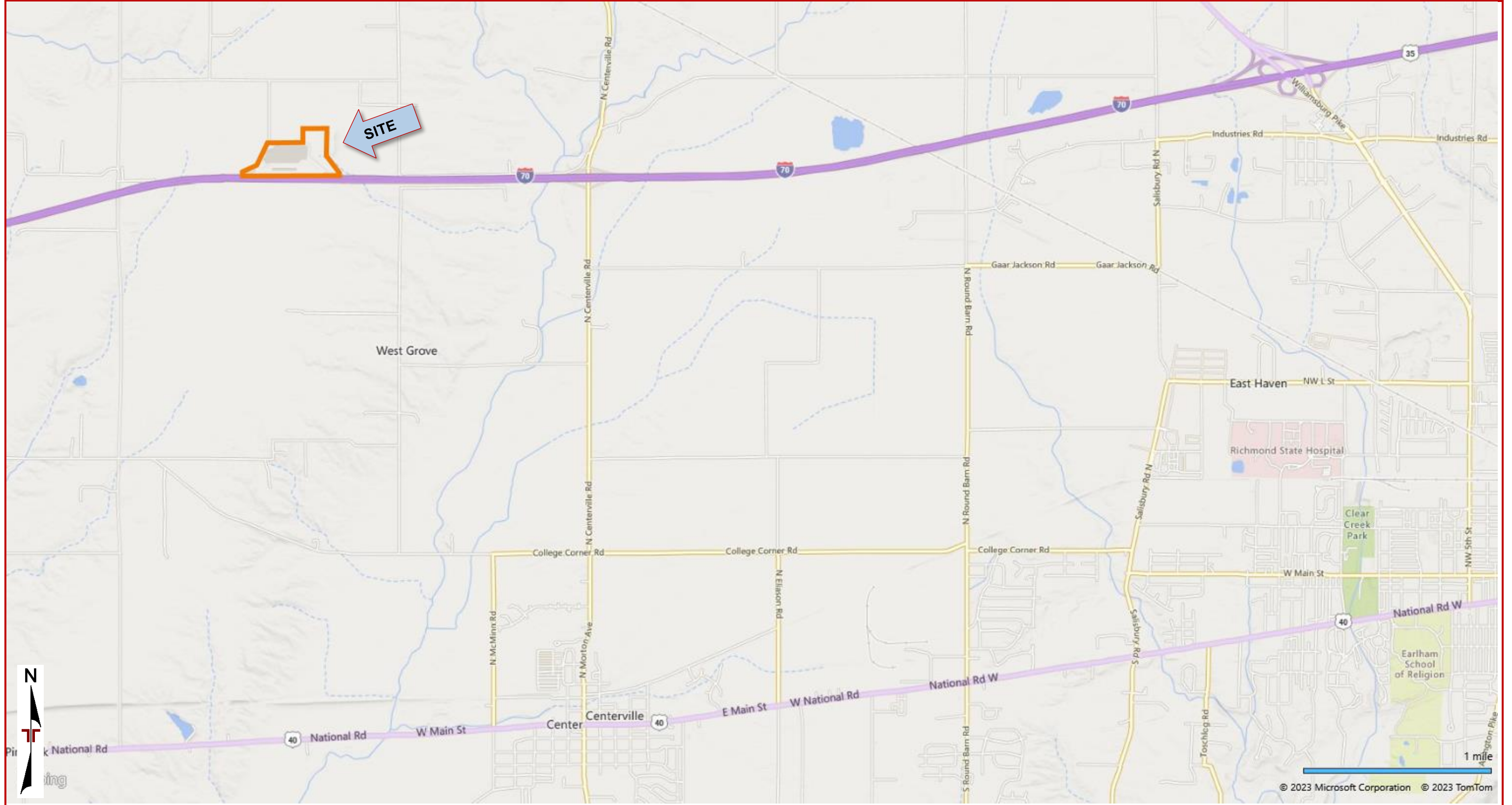


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

Exploration Plan

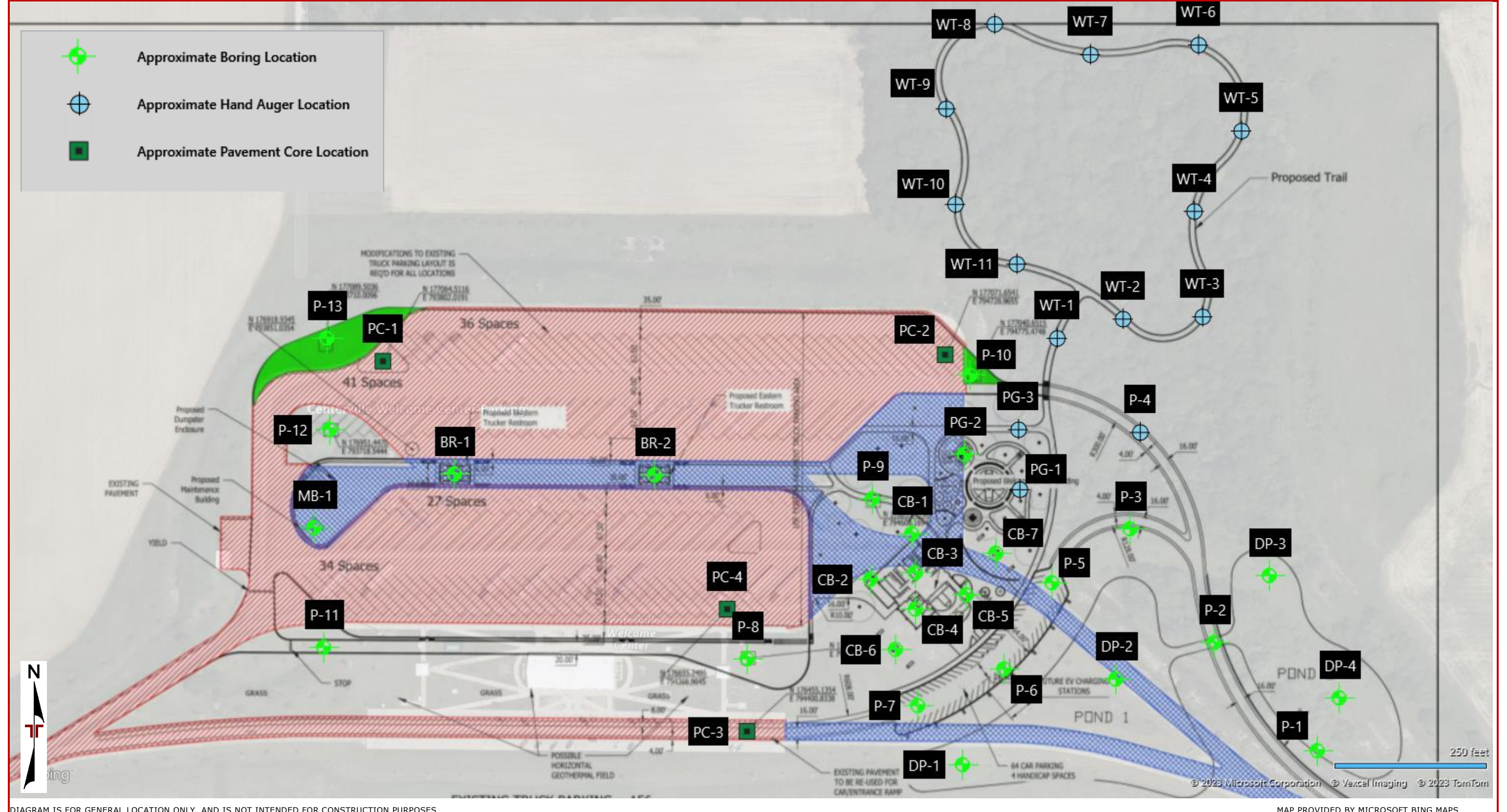


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

Historic Aerial -2008



Approximate Settlement Plate Location Plan

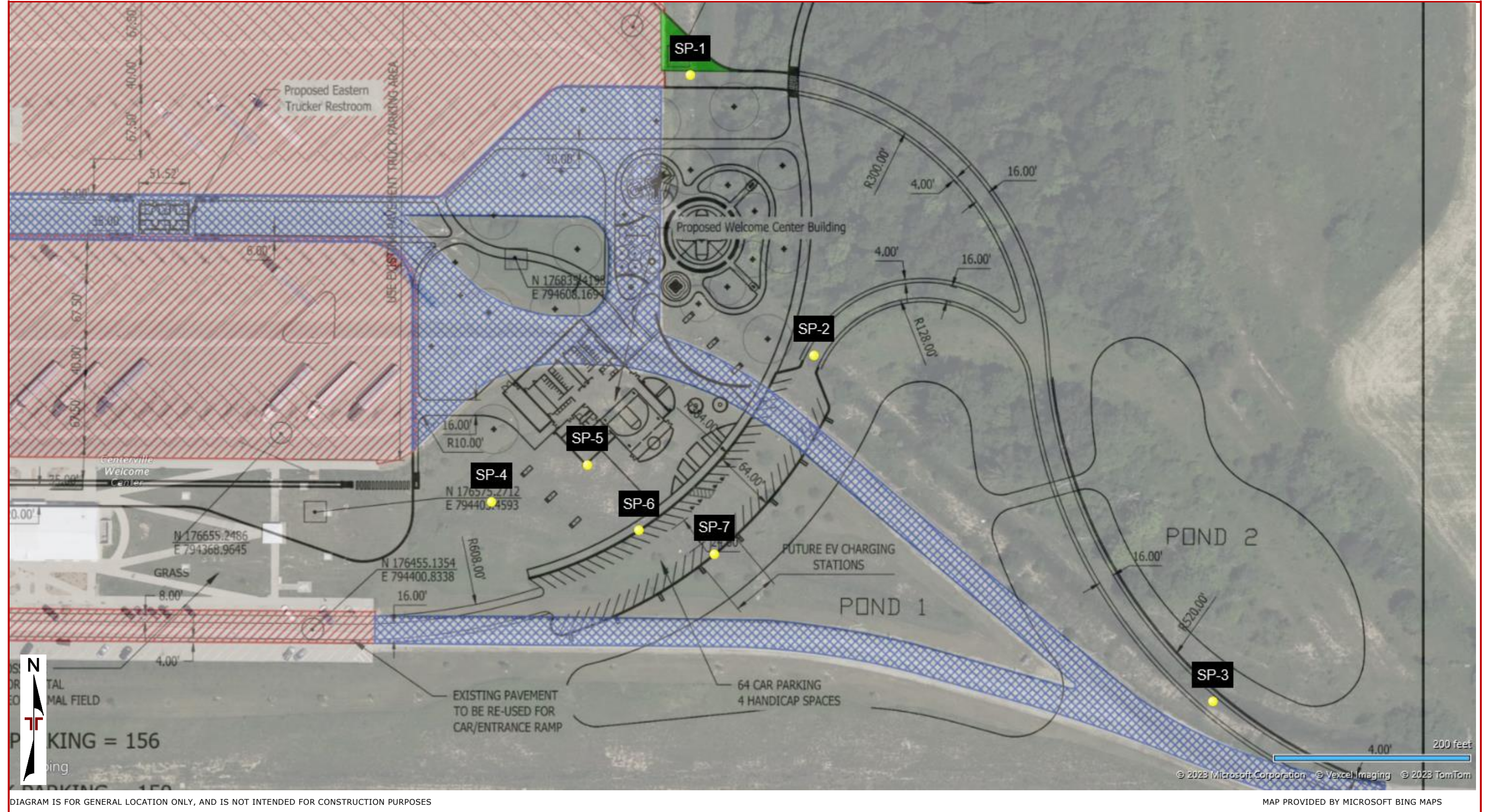


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

Exploration and Laboratory Results

Contents:

Boring Logs (CB-1 through CB-7, PG-1 and PG-2, BR-1 and BR-2, MB-1, P-1 through P-3 and P-5 through P-13, and DP-1 through DP-4)
Summary of Hand Auger Soundings (2 pages)
Pavement Core Log (PC-1 through PC-4 and PG-2, BR-1, BR-2, and MB-1)
Atterberg Limit Results
Grain Size Distribution
Unconfined Compression Test (3 pages)
Proctor pages

Note: All attachments are one page unless noted above.



LOG OF TEST BORING

BORING NO.: **CB-1**
 SHEET 1 OF 1
 LATITUDE : 39.86106
 LONGITUDE : -85.02411
 DATUM : _____
 DATE STARTED : 06-20-23
 DATE COMPLETED : 06-20-23

CLIENT : Janssen & Spaans Engineering, Inc.
 DES NO. : 2000500 STRUCTURE # : _____

PROJECT TYPE : _____
 LOCATION : I-70 Centerville Welcome Center
 COUNTY : Wayne PROJECT NO.: CJ225394

ELEVATION : <u>1092.0</u>	BORING METHOD : <u>Hollow Stem Auger</u>	HAMMER : <u>Auto</u>
STATION : _____	RIG TYPE : <u>D-50 Track</u>	DRILLER/INSP : <u>J.S.</u>
OFFSET : _____	CASING DIA. : <u>---</u>	TEMPERATURE : <u>72 °F</u>
LINE : _____	CORE SIZE : <u>---</u>	WEATHER : <u>Clear</u>
DEPTH : <u>20.0 ft</u>		

GROUNDWATER: Encountered at NW At completion 14.0 ft Caved in at 17.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		Topsoil, (and crushed stone) 0.5											
1090.0	2.5	Clay Loam , medium stiff, moist, brown, A-6, Lab No. M00061	SS 1	3-3-5	100	17.5		3.75					4.0, SS-2 : pH = 7.8, SG = 2.73
	3.0												
	5.0	Sandy Loam , medium stiff to very stiff, moist, brown, A-4(0), Lab No. M00058	SS 2	2-4-6	67	8.7	131.0	>4.5	2.15	19	12	7	
1085.0	7.5		SS 3	8-8-11	100	9.8		>4.5					
	8.5												
	10.0	Sandy Loam , medium dense, moist, brown, A-4, Lab No. M00060	SS 4	4-6-11	100								
	11.0												
1080.0	12.5		SS 5	8-16-23	100	6.8		3.75					
	15.0	Loam , very stiff to hard, moist, gray, with sandy loam seam near 12 ft, A-4, Lab No. M00059	SS 6	8-10-12	100	8.8		>4.5					
1075.0	17.5												
	20.0		SS 7	8-28-31	100	8.2							
	20.0	Bottom of Boring at 20.0 ft											

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: **CB-2**
 SHEET 1 OF 1
 LATITUDE : 39.86085
 LONGITUDE : -85.02435
 DATUM : _____
 DATE STARTED : 06-19-23
 DATE COMPLETED : 06-19-23

CLIENT : Janssen & Spaans Engineering, Inc.
 DES NO. : 2000500 STRUCTURE # : _____

PROJECT TYPE : _____
 LOCATION : I-70 Centerville Welcome Center
 COUNTY : Wayne PROJECT NO.: CJ225394

ELEVATION : <u>1094.0</u>	BORING METHOD : <u>Hollow Stem Auger</u>	HAMMER : <u>Auto</u>
STATION : _____	RIG TYPE : <u>D-50 Track</u>	DRILLER/INSP : <u>J.S.</u>
OFFSET : _____	CASING DIA. : <u>---</u>	TEMPERATURE : <u>60. °F</u>
LINE : _____	CORE SIZE : <u>---</u>	WEATHER : <u>Cloudy</u>
DEPTH : <u>20.0 ft</u>		

GROUNDWATER: Encountered at NW At completion NW Caved in at 18.5 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		Topsoil 0.4											
	2.5	Clay Loam , medium stiff, moist, brown, A-6, Lab No. M00061	SS 1	4-4-6	67	22.6		1.25					
1090.0	5.0	Sandy Loam , medium stiff to stiff, moist, brown, A-4, Lab No. M00058	SS 2	3-3-4	67	11.6		2.0					
	7.5		SS 3	3-5-7	0								
1085.0	10.0		SS 4	5-7-10	67	7.9		3.0					
	12.5		SS 5	5-7-8	67	10.2		>4.5					
1080.0	15.0	Loam , stiff to hard, moist, brown to gray near 12 ft, A-4, Lab No. M00059	SS 6	5-7-9	100	9.7		2.75					
1075.0	20.0		SS 7	11-18-39	6	11.0		2.75					
		Bottom of Boring at 20.0 ft											

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: **CB-3**
 SHEET: 1 OF 1
 LATITUDE: 39.86088
 LONGITUDE: -85.02409
 DATUM: _____
 DATE STARTED: 06-20-23
 DATE COMPLETED: 06-20-23

CLIENT: Janssen & Spaans Engineering, Inc.
 DES NO.: 2000500 STRUCTURE #: _____

PROJECT TYPE: _____
 LOCATION: I-70 Centerville Welcome Center
 COUNTY: Wayne PROJECT NO.: CJ225394

ELEVATION: <u>1093.0</u>	BORING METHOD: <u>Hollow Stem Auger</u>	HAMMER: <u>Auto</u>
STATION: _____	RIG TYPE: <u>D-50 Track</u>	DRILLER/INSP: <u>J.S.</u>
OFFSET: _____	CASING DIA.: <u>---</u>	TEMPERATURE: <u>62 °F</u>
LINE: _____	CORE SIZE: <u>---</u>	WEATHER: <u>Clear</u>
DEPTH: <u>20.0 ft</u>		

GROUNDWATER: Encountered at 19.0 ft At completion 16.0 ft Caved in at 18.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		0.4											
		6.0											
1090.0	2.5	Topsoil	SS 1	3-4-6	67	8.6		4.0					
	5.0	Sandy Loam , medium stiff, moist, brown, A-4, Lab No. M00058	SS 2	2-2-5	78	11.7		2.5					
1085.0	7.5		SS 3	8-8-9	100	8.8		>4.5					
	10.0		SS 4	9-18-22	100								
1080.0	12.5	Loam , very stiff to hard, moist, brown to gray below 12 ft, with sandy loam seam near 10 ft, A-4, Lab No. M00059	SS 5	8-15-28	100	6.6		>4.5					
	15.0		SS 6	23-26-31	100	7.1		>4.5					
1075.0	17.5												
	20.0	20.0	SS 7	10-13-16	100	10.2		>4.5					
		Bottom of Boring at 20.0 ft											
1070.0	22.5												
	25.0												
1065.0	27.5												
	30.0												

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: **CB-5**
 SHEET 1 OF 1
 LATITUDE : 39.86078
 LONGITUDE : -85.02379
 DATUM : _____
 DATE STARTED : 06-20-23
 DATE COMPLETED : 06-20-23

CLIENT : Janssen & Spaans Engineering, Inc.
 DES NO. : 2000500 STRUCTURE # : _____

PROJECT TYPE: _____

LOCATION : I-70 Centerville Welcome Center

COUNTY : Wayne PROJECT NO.: CJ225394

ELEVATION : <u>1091.0</u>	BORING METHOD : <u>Hollow Stem Auger</u>	HAMMER : <u>Auto</u>
STATION : _____	RIG TYPE : <u>D-50 Track</u>	DRILLER/INSP : <u>J.S.</u>
OFFSET : _____	CASING DIA. : <u>---</u>	TEMPERATURE : <u>66 °F</u>
LINE : _____	CORE SIZE : <u>---</u>	WEATHER : <u>Clear</u>
DEPTH : <u>20.0 ft</u>		

GROUNDWATER: Encountered at NW At completion NW Caved in at 18.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
1090.0		Topsoil 0.4											
	2.5	Clay Loam , very soft to soft, moist, brown, A-6, Lab No. M00061	SS 1	2-2-3	67	24.0		1.75					
	5.0		SS 2	1-1-2	33	27.4		0.5					
1085.0	6.0	Loam , stiff to very stiff, moist, gray, A-4, Lab No. M00059	SS 3	5-10-9	100	9.6		>4.5					
	7.5		SS 4	5-7-7	100	9.4		>4.5					
	10.0		SS 5	6-11-15	100	8.3		>4.5					
	12.5		SS 6	5-6-7	100	10.4		3.75					
	15.0		SS 7	10-14-14	100	9.2		3.75					
1070.0	20.0	Bottom of Boring at 20.0 ft											

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: **CB-6**
 SHEET 1 OF 1
 LATITUDE : 39.86054
 LONGITUDE : -85.02421
 DATUM : _____
 DATE STARTED : 06-20-23
 DATE COMPLETED : 06-20-23

CLIENT : Janssen & Spaans Engineering, Inc.
 DES NO. : 2000500 STRUCTURE # : _____

PROJECT TYPE : _____
 LOCATION : I-70 Centerville Welcome Center
 COUNTY : Wayne PROJECT NO.: CJ225394

ELEVATION : <u>1088.0</u>	BORING METHOD : <u>Hollow Stem Auger</u>	HAMMER : <u>Auto</u>
STATION : _____	RIG TYPE : <u>D-50 Track</u>	DRILLER/INSP : <u>J.S.</u>
OFFSET : _____	CASING DIA. : <u>---</u>	TEMPERATURE : <u>75 °F</u>
LINE : _____	CORE SIZE : <u>---</u>	WEATHER : <u>Clear</u>
DEPTH : <u>20.0 ft</u>		

GROUNDWATER: Encountered at 18.0 ft At completion 14.0 ft Caved in at 18.5 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		0.4											
1085.0	2.5	Sandy Loam , very stiff, moist, brown, A-4, Lab No. M00058	SS 1	5-7-8	100	8.9							
	5.0	5.0	SS 2	7-9-10	100	8.9		4.0					
1080.0	7.5		SS 3	9-20-25	100	7.9		>4.5					
	10.0		SS 4	10-17-19	100	8.4	134.2	>4.5	8.73	19	12	7	9.0, SS-4 : pH = 8.1, SG = 2.72
1075.0	12.5	Loam , very stiff to hard, moist, brown to gray near 10 ft, A-4(1), Lab No. M00059	SS 5	4-6-20	0								
	15.0		SS 6	22-24-25	100	7.5		>4.5					
1070.0	17.5												
	20.0	20.0	SS 7	18-28-36	100	7.9		4.25					
		Bottom of Boring at 20.0 ft											

EEI BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: **PG-2**
 SHEET: 1 OF 1
 LATITUDE: 39.86141
 LONGITUDE: -85.02381
 DATUM: _____
 DATE STARTED: 06-23-23
 DATE COMPLETED: 06-23-23

CLIENT: Janssen & Spaans Engineering, Inc.
 DES NO.: 2000500 STRUCTURE #: _____

PROJECT TYPE: _____

LOCATION: I-70 Centerville Welcome Center

COUNTY: Wayne PROJECT NO.: CJ225394

ELEVATION: <u>1091.0</u>	BORING METHOD: <u>Hollow Stem Auger</u>	HAMMER: <u>Auto</u>
STATION: _____	RIG TYPE: <u>D-50 Track</u>	DRILLER/INSP: <u>M.M.</u>
OFFSET: _____	CASING DIA.: <u>---</u>	TEMPERATURE: <u>70 °F</u>
LINE: _____	CORE SIZE: <u>---</u>	WEATHER: <u>Cloudy</u>
DEPTH: <u>20.0 ft</u>		

GROUNDWATER: Encountered at 16.0 ft At completion NW Caved in at 14.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
1090.0		Portland Cement Concrete											
		1.3											
		1.5											
	2.5	Granular Subbase, (crushed stone)	SS 1	6-14-8	56								
		Sandy Loam, medium dense, moist, brown, (fill; visual)											
		3.0											
	5.0		SS 2	8-13-12	89	8.0		>4.5					
1085.0	7.5		SS 3	12-14-6	89			3.25		21	15	6	6.0, SS-3 : pH = 8.1, SG = 2.77, soluble sulfate = 80 ppm
	10.0		SS 4	10-19-17	56	9.6		3.0					
1080.0	12.5	Loam, very stiff to hard, moist, brown to gray near 12 ft, with cobbles near 15 ft, A-4(1), Lab No. M00066	SS 5	6-12-17	100	9.7		>4.5					
	15.0		SS 6	6-7-9	67	11.9		2.5					
1075.0	20.0		SS 7	8-10-6	100	12.4		1.5					
		20.0											
1070.0		Bottom of Boring at 20.0 ft											

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: **BR-1**
 SHEET 1 OF 1
 LATITUDE : 39.86132
 LONGITUDE : -85.02678
 DATUM : _____
 DATE STARTED : 06-25-23
 DATE COMPLETED : 06-25-23

CLIENT : Janssen & Spaans Engineering, Inc.
 DES NO. : 2000500 STRUCTURE # : _____

PROJECT TYPE : _____
 LOCATION : I-70 Centerville Welcome Center
 COUNTY : Wayne PROJECT NO.: CJ225394

ELEVATION : 1095.0 BORING METHOD : Hollow Stem Auger HAMMER : Auto
 STATION : _____ RIG TYPE : CME 750 DRILLER/INSP : B.N.
 OFFSET : _____ CASING DIA. : --- TEMPERATURE : 75 °F
 LINE : _____ CORE SIZE : --- WEATHER : Sunny
 DEPTH : 20.0 ft

GROUNDWATER: Encountered at 13.5 ft At completion 7.0 ft Caved in at 13.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		Portland Cement Concrete											
		Granular Subbase, (crushed stone)											
	2.5		SS 1	11-15-14	83	14.0		2.25					
	5.0	Loam, very stiff, moist, brown, A-6, Lab No. M00065	SS 2	13-9-9	100	8.8		2.75					
1090.0	7.5		SS 3	8-8-12	100	7.4		>4.5					
	10.0		SS 4	8-8-13	89	9.4		4.25					
1085.0	12.5	Loam, stiff to hard, moist, brown to gray below 15 ft, with sand seam near 10 ft, A-4, Lab No. M00066	SS 5	8-20-21	100	10.4		3.25					
	15.0		SS 6	17-17-21	56	8.3		3.5					
1080.0	20.0		SS 7	8-8-5	89	10.1		2.25					
1075.0		Bottom of Boring at 20.0 ft											
	22.5												
1070.0	25.0												
	27.5												
1065.0	30.0												

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: **BR-1ST**
 SHEET: 1 OF 1
 LATITUDE: 39.86132
 LONGITUDE: -85.02678
 DATUM: _____
 DATE STARTED: 06-25-23
 DATE COMPLETED: 06-25-23

CLIENT: Janssen & Spaans Engineering, Inc.
 DES NO.: 2000500 STRUCTURE #: _____

PROJECT TYPE: _____

LOCATION: I-70 Centerville Welcome Center

COUNTY: Wayne PROJECT NO.: CJ225394

ELEVATION: <u>1095.0</u>	BORING METHOD: <u>Hollow Stem Auger</u>	HAMMER: <u>Auto</u>
STATION: _____	RIG TYPE: <u>CME 750</u>	DRILLER/INSP: <u>B.N.</u>
OFFSET: _____	CASING DIA.: <u>---</u>	TEMPERATURE: <u>75 °F</u>
LINE: _____	CORE SIZE: <u>---</u>	WEATHER: <u>Sunny</u>
DEPTH: <u>4.0 ft</u>		

GROUNDWATER: Encountered at NW At completion NW

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		Drilled without sampling											
	2.0												
	2.5	Loam, moist, brown, A-6(5), Lab No. M00065	ST 1		96	20.4	105.6		0.60	31	16	15	2.0, ST-1 : pH = 7.0
	4.0												
		Bottom of Boring at 4.0 ft											
1090.0	5.0												
	7.5												
1085.0	10.0												

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: **BR-2**
 SHEET 1 OF 1
 LATITUDE : 39.86132
 LONGITUDE : -85.02561
 DATUM : _____
 DATE STARTED : 06-26-23
 DATE COMPLETED : 06-26-23

CLIENT : Janssen & Spaans Engineering, Inc.
 DES NO. : 2000500 STRUCTURE # : _____

PROJECT TYPE : _____
 LOCATION : I-70 Centerville Welcome Center
 COUNTY : Wayne PROJECT NO.: CJ225394

ELEVATION : 1093.0 BORING METHOD : Hollow Stem Auger HAMMER : Auto
 STATION : _____ RIG TYPE : CME 750 DRILLER/INSP : B.N.
 OFFSET : _____ CASING DIA. : --- TEMPERATURE : 70 °F
 LINE : _____ CORE SIZE : --- WEATHER : Sunny
 DEPTH : 20.0 ft

GROUNDWATER: Encountered at NW At completion NW 7.0 ft After 1.5 hrs Caved in at 15.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		Portland Cement Concrete											
		Granular Subbase, (sand and gravel)											
1090.0	2.5		SS 1	15-10-15	56	11.3		2.25					
	5.0		SS 2	22-23-8	78	8.4		2.5					
1085.0	7.5		SS 3	15-22-18	100	7.0		>4.5					
	10.0		SS 4	15-15-15	100	9.3		>4.5					
1080.0	12.5	Loam, very stiff to hard, moist, brown to gray near 12 ft, A-4, Lab No. M00059	SS 5	21-35-31	100	6.5		>4.5					
	15.0		SS 6	16-21-26	44	5.9							
1075.0	17.5												
	20.0		SS 7	11-14-18	44	9.8		4.5					
	20.0	Bottom of Boring at 20.0 ft											

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: **MB-1**
 SHEET: 1 OF 1
 LATITUDE: 39.86108
 LONGITUDE: -85.02759
 DATUM: _____
 DATE STARTED: 06-23-23
 DATE COMPLETED: 06-23-23

CLIENT: Janssen & Spaans Engineering, Inc.
 DES NO.: 2000500 STRUCTURE #: _____

PROJECT TYPE: _____
 LOCATION: I-70 Centerville Welcome Center
 COUNTY: Wayne PROJECT NO.: CJ225394

ELEVATION: <u>1100.0</u>	BORING METHOD: <u>Hollow Stem Auger</u>	HAMMER: <u>Auto</u>
STATION: _____	RIG TYPE: <u>B-29</u>	DRILLER/INSP: <u>M.M.</u>
OFFSET: _____	CASING DIA.: <u>---</u>	TEMPERATURE: <u>72 °F</u>
LINE: _____	CORE SIZE: <u>---</u>	WEATHER: <u>Cloudy</u>
DEPTH: <u>20.0 ft</u>		

GROUNDWATER: Encountered at NW At completion NW Caved in at 16.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		1.3 Portland Cement Concrete											
		1.7 Granular Subbase, (crushed stone)											
	2.5	Loam, very stiff, moist, gray, A-6, Lab No. M00061	SS 1	6-8-8	89	20.7		2.0					
		4.0											
1095.0	5.0	Clay Loam, stiff, moist, brown, A-6, Lab No. M00061	SS 2	6-7-7	100	18.1		4.5					
		6.0											
	7.5	Sandy Loam, medium stiff, moist, brown, A-4, Lab No. M00058	SS 3	5-4-5	100	9.6		1.25					
		8.0											
			SS 4	5-4-5	100	10.2		3.0					
1090.0	10.0		SS 5	5-5-8	100	10.1		2.0					
			SS 6	6-6-7	100	11.1		4.0					
1085.0	15.0	Loam, medium stiff to very stiff, moist, brown to gray near 19 ft, A-4, Lab No. M00059											
			SS 7	13-13-15	100	10.4		>4.5					
1080.0	20.0	20.0 Bottom of Boring at 20.0 ft											
	22.5												
1075.0	25.0												
	27.5												
1070.0	30.0												

E:\BORING LOG (INDOT FORMAT) \LAT.\LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: **P-01**
 SHEET 1 OF 1
 LATITUDE : 39.86009
 LONGITUDE : -85.02175
 DATUM : _____
 DATE STARTED : 06-21-23
 DATE COMPLETED : 06-21-23

CLIENT : Janssen & Spaans Engineering, Inc.
 DES NO. : 2000500 STRUCTURE # : _____

PROJECT TYPE: _____

LOCATION : I-70 Centerville Welcome Center

COUNTY : Wayne PROJECT NO.: CJ225394

ELEVATION : <u>1086.0</u>	BORING METHOD : <u>Hollow Stem Auger</u>	HAMMER : <u>Auto</u>
STATION : _____	RIG TYPE : <u>D-50 Track</u>	DRILLER/INSP : <u>J.S.</u>
OFFSET : _____	CASING DIA. : <u>---</u>	TEMPERATURE : <u>78 °F</u>
LINE : _____	CORE SIZE : <u>---</u>	WEATHER : <u>Sunny</u>
DEPTH : <u>7.5 ft</u>		

GROUNDWATER: Encountered at NW At completion NW Caved in at 3.5 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
1085.0	0.7	Topsoil											
2.5			SS 1	4-6-7	100	10.0		2.75					
5.0		Loam, stiff to very stiff, moist, brown, A-4, Lab No. M00059	SS 2	3-5-7	100	9.4		>4.5		21	13	8	3.5, SS-2 : pH = 8.1, soluble sulfate < 40 ppm
1080.0			SS 3	8-9-12	100	10.1		3.0					
7.5	7.5	Bottom of Boring at 7.5 ft											
10.0													

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: P-02
 SHEET 1 OF 1
 LATITUDE : 39.86057
 LONGITUDE : -85.02235
 DATUM : _____
 DATE STARTED : 06-21-23
 DATE COMPLETED : 06-21-23

CLIENT : Janssen & Spaans Engineering, Inc.
 DES NO. : 2000500 STRUCTURE # : _____

PROJECT TYPE: _____

LOCATION : I-70 Centerville Welcome Center

COUNTY : Wayne PROJECT NO.: CJ225394

ELEVATION : <u>1088.0</u>	BORING METHOD : <u>Hollow Stem Auger</u>	HAMMER : <u>Auto</u>
STATION : _____	RIG TYPE : <u>D-50 Track</u>	DRILLER/INSP : <u>J.S.</u>
OFFSET : _____	CASING DIA. : <u>---</u>	TEMPERATURE : <u>76 °F</u>
LINE : _____	CORE SIZE : <u>---</u>	WEATHER : <u>Sunny</u>
DEPTH : <u>20.0 ft</u>		

GROUNDWATER: Encountered at NW At completion NW Caved in at 15.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		0.7											
		3.0											
1085.0	2.5	Clay Loam , medium stiff, moist, brown, A-6, Lab No. M00061	SS 1	2-3-5	67	22.4		2.75					
	5.0		SS 2	2-3-7	67	8.7		3.0					
1080.0	7.5	Loam , medium stiff to very stiff, moist, brown to gray near 10 ft, A-4, Lab No. M00059	SS 3	7-11-17	100	9.0		>4.5					
	10.0		SS 4	11-15-13	100	8.8		>4.5					
	11.0												
1075.0	12.5	Sandy Loam , very dense, moist, gray, A-4(0), Lab No. M00060	SS 5	5-20-34	100					NP	NP	NP	11.0, SS-5 : pH = 8.1, SG = 2.72, soluble sulfate = 167 ppm
	15.0		SS 6	19-27-36	100								
1070.0	17.5	Loam , hard, moist, gray, A-4, Lab No. M00059											
	20.0		SS 7	8-14-17	100	7.2		>4.5					
	20.0	Bottom of Boring at 20.0 ft											
1065.0	22.5												
	25.0												
1060.0	27.5												
	30.0												

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: **P-03**
 SHEET 1 OF 1
 LATITUDE : 39.86108
 LONGITUDE : -85.02284
 DATUM : _____
 DATE STARTED : 06-21-23
 DATE COMPLETED : 06-21-23

CLIENT : Janssen & Spaans Engineering, Inc.
 DES NO. : 2000500 STRUCTURE # : _____

PROJECT TYPE : _____
 LOCATION : I-70 Centerville Welcome Center
 COUNTY : Wayne PROJECT NO.: CJ225394

ELEVATION : <u>1090.0</u>	BORING METHOD : <u>Hollow Stem Auger</u>	HAMMER : <u>Auto</u>
STATION : _____	RIG TYPE : <u>D-50 Track</u>	DRILLER/INSP : <u>J.S.</u>
OFFSET : _____	CASING DIA. : <u>---</u>	TEMPERATURE : <u>85 °F</u>
LINE : _____	CORE SIZE : <u>---</u>	WEATHER : <u>Sunny</u>
DEPTH : <u>12.5 ft</u>		

GROUNDWATER: Encountered at NW At completion NW Caved in at 8.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		Topsoil											
	0.7												
	2.5		SS 1	4-4-6	67	25.4		3.25					
1085.0	5.0	Clay Loam, medium stiff to stiff, moist, brown, A-6, Lab No. M00061	SS 2	3-3-4	94	21.4		1.5					
	7.5		SS 3	4-6-6	100	29.2		2.25					
	8.0												
1080.0	10.0	Loam, very stiff, moist, brown, A-4, Lab No. M00066	SS 4	6-8-9	100	9.2		2.5					
	12.5		SS 5	5-9-10	100	10.2		>4.5					
	12.5	Bottom of Boring at 12.5 ft											
1075.0	15.0												

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: P-05
 SHEET 1 OF 1
 LATITUDE : 39.86084
 LONGITUDE : -85.02330
 DATUM : _____
 DATE STARTED : 06-20-23
 DATE COMPLETED : 06-20-23

CLIENT : Janssen & Spaans Engineering, Inc.
 DES NO. : 2000500 STRUCTURE #: _____

PROJECT TYPE: _____
 LOCATION : I-70 Centerville Welcome Center
 COUNTY : Wayne PROJECT NO.: CJ225394

ELEVATION : <u> 1087.0 </u>	BORING METHOD : <u> Hollow Stem Auger </u>	HAMMER : <u> Auto </u>
STATION : _____	RIG TYPE : <u> D-50 Track </u>	DRILLER/INSP : <u> J.S. </u>
OFFSET : _____	CASING DIA. : <u> --- </u>	TEMPERATURE : <u> 82 °F </u>
LINE : _____	CORE SIZE : <u> --- </u>	WEATHER : <u> Clear </u>
DEPTH : <u> 7.5 ft </u>		

GROUNDWATER: Encountered at NW At completion NW Caved in at 6.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		Topsoil											
	0.8												
1085.0	2.5		SS 1	3-4-4	100	22.2		2.5					
		Clay Loam, medium stiff to very stiff, moist, brown, A-6, Lab No. M00061											
	5.0		SS 2	3-3-4	100	16.9		1.75					
1080.0	7.5		SS 3	6-8-9	100	22.0		1.25					
		Bottom of Boring at 7.5 ft											
	10.0												

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: **P-06**
 SHEET: 1 OF 1
 LATITUDE: 39.86045
 LONGITUDE: -85.02357
 DATUM: _____
 DATE STARTED: 06-20-23
 DATE COMPLETED: 06-20-23

CLIENT: Janssen & Spaans Engineering, Inc.
 DES NO.: 2000500 STRUCTURE #: _____

PROJECT TYPE: _____

LOCATION: I-70 Centerville Welcome Center

COUNTY: Wayne PROJECT NO.: CJ225394

ELEVATION: <u>1088.0</u>	BORING METHOD: <u>Hollow Stem Auger</u>	HAMMER: <u>Auto</u>
STATION: _____	RIG TYPE: <u>D-50 Track</u>	DRILLER/INSP: <u>J.S.</u>
OFFSET: _____	CASING DIA.: <u>---</u>	TEMPERATURE: <u>78 °F</u>
LINE: _____	CORE SIZE: <u>---</u>	WEATHER: <u>Clear</u>
DEPTH: <u>7.5 ft</u>		

GROUNDWATER: Encountered at NW At completion NW Caved in at 5.5 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
	0.4	Topsoil											
	2.5	Clay Loam, soft to medium stiff, moist, brown, with loam seam near 5 ft, A-6, Lab No. M00061	SS 1	1-2-2	67	12.0		1.5		21	13	8	1.0, SS-1 : pH = 8.3, soluble sulfate = 213 ppm
	5.0		SS 2	3-3-4	100	9.1		1.5					
	7.5	Sandy Loam, stiff, moist, brown, A-4, Lab No. M00058	SS 3	4-6-7	100	11.5		3.5					
	7.5	Bottom of Boring at 7.5 ft											
1080.0													
1085.0													

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: P-07
 SHEET 1 OF 1
 LATITUDE : 39.86029
 LONGITUDE : -85.02408
 DATUM : _____
 DATE STARTED : 06-21-23
 DATE COMPLETED : 06-21-23

CLIENT : Janssen & Spaans Engineering, Inc.
 DES NO. : 2000500 STRUCTURE #: _____

PROJECT TYPE: _____

LOCATION : I-70 Centerville Welcome Center

COUNTY : Wayne PROJECT NO.: CJ225394

ELEVATION : <u>1092.0</u>	BORING METHOD : <u>Hollow Stem Auger</u>	HAMMER : <u>Auto</u>
STATION : _____	RIG TYPE : <u>D-50 Track</u>	DRILLER/INSP : <u>J.S.</u>
OFFSET : _____	CASING DIA. : <u>---</u>	TEMPERATURE : <u>68 °F</u>
LINE : _____	CORE SIZE : <u>---</u>	WEATHER : <u>Sunny</u>
DEPTH : <u>7.5 ft</u>		

GROUNDWATER: Encountered at NW At completion NW Caved in at 3.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		Topsoil											
	0.5												
1090.0	2.5		SS 1	7-6-8	28	11.1		3.75					
		Clay Loam , medium stiff to stiff, moist, brown, A-6, Lab No. M00061											
	5.0		SS 2	2-3-4	67	18.4		2.5					
1085.0	7.5		SS 3	3-3-5	67	17.4		2.0					
	7.5	Bottom of Boring at 7.5 ft											
	10.0												

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: **P-08**
 SHEET 1 OF 1
 LATITUDE : 39.86050
 LONGITUDE : -85.02507
 DATUM : _____
 DATE STARTED : 06-19-23
 DATE COMPLETED : 06-19-23

CLIENT : Janssen & Spaans Engineering, Inc.
 DES NO. : 2000500 STRUCTURE # : _____

PROJECT TYPE : _____

LOCATION : I-70 Centerville Welcome Center

COUNTY : Wayne PROJECT NO.: CJ225394

ELEVATION : <u>1096.0</u>	BORING METHOD : <u>Hollow Stem Auger</u>	HAMMER : <u>Auto</u>
STATION : _____	RIG TYPE : <u>D-50 Track</u>	DRILLER/INSP : <u>J.S.</u>
OFFSET : _____	CASING DIA. : <u>---</u>	TEMPERATURE : <u>60 °F</u>
LINE : _____	CORE SIZE : <u>---</u>	WEATHER : <u>Cloudy</u>
DEPTH : <u>7.5 ft</u>		

GROUNDWATER: Encountered at NW At completion NW Caved in at 5.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
	0.4	Topsoil											
1095.0			SS 1	9-6-7	44	11.2		>4.5					
	2.5												
		Clay Loam, stiff, moist, brown, A-6, Lab No. M00061	SS 2	5-6-9	67	9.9		>4.5					
	5.0												
1090.0			SS 3	7-12-12	100								
	6.5												
		Sand, medium dense, moist, brown, (visual)											
	7.5												
		Bottom of Boring at 7.5 ft											
	7.5												
	10.0												

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: **P-08BS**
 SHEET: 1 OF 1
 LATITUDE: 39.86050
 LONGITUDE: -85.02507
 DATUM: _____
 DATE STARTED: 06-19-23
 DATE COMPLETED: 06-19-23

CLIENT: Janssen & Spaans Engineering, Inc.
 DES NO.: 2000500 STRUCTURE #: _____

PROJECT TYPE: _____

LOCATION: I-70 Centerville Welcome Center

COUNTY: Wayne PROJECT NO.: CJ225394

ELEVATION: <u>1096.0</u>	BORING METHOD: <u>Hollow Stem Auger</u>	HAMMER: <u>Auto</u>
STATION: _____	RIG TYPE: <u>D-50 Track</u>	DRILLER/INSP: <u>J.S.</u>
OFFSET: _____	CASING DIA.: <u>---</u>	TEMPERATURE: <u>60 °F</u>
LINE: _____	CORE SIZE: <u>---</u>	WEATHER: <u>Cloudy</u>
DEPTH: <u>3.0 ft</u>		

GROUNDWATER: Encountered at NW At completion NW

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
1095.0		Clay Loam , moist, A-6(8), Lab No. M00061	BS 1			16.2				33	15	18	1.0, BS-1 : pH = 8.1, SG = 2.76, soluble sulfate = 313 ppm
	2.5												
	3.0	Bottom of Boring at 3.0 ft											
5.0													

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: **P-09**
 SHEET 1 OF 1
 LATITUDE : 39.86121
 LONGITUDE : -85.02434
 DATUM : _____
 DATE STARTED : 06-21-23
 DATE COMPLETED : 06-21-23

CLIENT : Janssen & Spaans Engineering, Inc.
 DES NO. : 2000500 STRUCTURE # : _____

PROJECT TYPE: _____

LOCATION : I-70 Centerville Welcome Center

COUNTY : Wayne PROJECT NO.: CJ225394

ELEVATION : <u>1088.0</u>	BORING METHOD : <u>Hollow Stem Auger</u>	HAMMER : <u>Auto</u>
STATION : _____	RIG TYPE : <u>D-50 Track</u>	DRILLER/INSP : <u>J.S.</u>
OFFSET : _____	CASING DIA. : <u>---</u>	TEMPERATURE : <u>72 °F</u>
LINE : _____	CORE SIZE : <u>---</u>	WEATHER : <u>Sunny</u>
DEPTH : <u>7.5 ft</u>		

GROUNDWATER: Encountered at NW At completion NW Caved in at 5.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
	0.7	Topsoil											
	2.5	Sand and Gravel, medium dense, moist, brown, A-1-b(0), Lab No. M00064	SS 1	4-6-6	67								1.0, SS-1 : soluble sulfate = 87 ppm
1085.0	3.5												
	5.0	Loam, stiff to very stiff, moist, brown, A-4, Lab No. M00066	SS 2	4-7-7	83	10.8		4.25					
	7.5												
	7.5	Bottom of Boring at 7.5 ft	SS 3	9-11-18	100	9.1		3.25					
1080.0													
	10.0												

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: **P-10**
 SHEET 1 OF 1
 LATITUDE : 39.86177
 LONGITUDE : -85.02377
 DATUM : _____
 DATE STARTED : 06-21-23
 DATE COMPLETED : 06-21-23

CLIENT : Janssen & Spaans Engineering, Inc.
 DES NO. : 2000500 STRUCTURE # : _____

PROJECT TYPE: _____

LOCATION : I-70 Centerville Welcome Center

COUNTY : Wayne PROJECT NO.: CJ225394

ELEVATION : <u>1091.0</u>	BORING METHOD : <u>Hollow Stem Auger</u>	HAMMER : <u>Auto</u>
STATION : _____	RIG TYPE : <u>D-50 Track</u>	DRILLER/INSP : <u>J.S.</u>
OFFSET : _____	CASING DIA. : <u>---</u>	TEMPERATURE : <u>71 °F</u>
LINE : _____	CORE SIZE : <u>---</u>	WEATHER : <u>Sunny</u>
DEPTH : <u>7.5 ft</u>		

GROUNDWATER: Encountered at NW At completion NW Caved in at 3.5 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
1090.0	1.0	Crushed Stone											
	2.5	Sand and Gravel, very dense, moist, brown, A-1-b(0), Lab No. M00064	SS 1	4-38-42	94								
	3.5												
	5.0	Loam, stiff to very stiff, moist, brown, A-4	SS 2	8-12-8	67	7.7		>4.5					
1085.0	7.5		SS 3	6-6-6	67	8.4		4.25					
	7.5	Bottom of Boring at 7.5 ft											
	10.0												

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: P-11
 SHEET 1 OF 1
 LATITUDE : 39.86055
 LONGITUDE : -85.02754
 DATUM : _____
 DATE STARTED : 06-21-23
 DATE COMPLETED : 06-21-23

CLIENT : Janssen & Spaans Engineering, Inc.
 DES NO. : 2000500 STRUCTURE # : _____

PROJECT TYPE: _____

LOCATION : I-70 Centerville Welcome Center

COUNTY : Wayne PROJECT NO.: CJ225394

ELEVATION : <u>1099.0</u>	BORING METHOD : <u>Hollow Stem Auger</u>	HAMMER : <u>Auto</u>
STATION : _____	RIG TYPE : <u>D-50 Track</u>	DRILLER/INSP : <u>J.S.</u>
OFFSET : _____	CASING DIA. : <u>---</u>	TEMPERATURE : <u>69 °F</u>
LINE : _____	CORE SIZE : <u>---</u>	WEATHER : <u>Sunny</u>
DEPTH : <u>7.5 ft</u>		

GROUNDWATER: Encountered at NW At completion NW Caved in at 4.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
	0.5	Topsoil											
	2.5	Clay Loam, very stiff, moist, brown, A-6, Lab No. M00062	SS 1	10-8-9	67	11.2		>4.5					
	3.5												
1095.0	5.0	Loam, medium stiff, moist, brown, A-6, Lab No. M00063	SS 2	2-2-4	67	15.5		1.75					
	7.5												
	7.5	Bottom of Boring at 7.5 ft	SS 3	4-4-6	67	12.9		1.5					
1090.0	10.0												

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: **P-11BS**
 SHEET: 1 OF 1
 LATITUDE: 39.86055
 LONGITUDE: -85.02754
 DATUM: _____
 DATE STARTED: 06-21-23
 DATE COMPLETED: 06-21-23

CLIENT: Janssen & Spaans Engineering, Inc.
 DES NO.: 2000500 STRUCTURE #: _____

PROJECT TYPE: _____

LOCATION: I-70 Centerville Welcome Center

COUNTY: Wayne PROJECT NO.: CJ225394

ELEVATION: <u>1099.0</u>	BORING METHOD: <u>Hollow Stem Auger</u>	HAMMER: <u>Auto</u>
STATION: _____	RIG TYPE: <u>D-50 Track</u>	DRILLER/INSP: <u>J.S.</u>
OFFSET: _____	CASING DIA.: <u>---</u>	TEMPERATURE: <u>69 °F</u>
LINE: _____	CORE SIZE: <u>---</u>	WEATHER: <u>Sunny</u>
DEPTH: <u>3.0 ft</u>		

GROUNDWATER: Encountered at NW At completion NW

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
1095.0	2.5	Clay Loam, moist, A-6(14), Lab No. M00062	BS 1			21.1				37	17	20	1.0, BS-1 : pH = 8.1, SG = 2.73, soluble sulfate = 187 ppm
	3.0	Bottom of Boring at 3.0 ft											
5.0													

E:\BORING LOG (INDOT FORMAT) \LAT.\LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: **P-12**
 SHEET: 1 OF 1
 LATITUDE: 39.86152
 LONGITUDE: -85.02750
 DATUM: _____
 DATE STARTED: 06-21-23
 DATE COMPLETED: 06-21-23

CLIENT: Janssen & Spaans Engineering, Inc.
 DES NO.: 2000500 STRUCTURE #: _____

PROJECT TYPE: _____

LOCATION: I-70 Centerville Welcome Center

COUNTY: Wayne PROJECT NO.: CJ225394

ELEVATION: <u>1094.0</u>	BORING METHOD: <u>Hollow Stem Auger</u>	HAMMER: <u>Auto</u>
STATION: _____	RIG TYPE: <u>D-50 Track</u>	DRILLER/INSP: <u>J.S.</u>
OFFSET: _____	CASING DIA.: <u>---</u>	TEMPERATURE: <u>70 °F</u>
LINE: _____	CORE SIZE: <u>---</u>	WEATHER: <u>Sunny</u>
DEPTH: <u>7.5 ft</u>		

GROUNDWATER: Encountered at NW At completion NW Caved in at 3.5 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
	0.5	Topsoil											
	2.5	Sand and Gravel, loose, moist, brown, A-1-b(0), Lab No. M00064	SS 1	4-5-5	67								
	3.5												
1090.0	5.0	Loam, medium stiff to stiff, moist, brown, A-6, Lab No. M00063	SS 2	3-3-5	100	10.2		2.25					
	7.5												
	7.5	Bottom of Boring at 7.5 ft	SS 3	5-5-7	100	12.8		1.5					
1085.0	10.0												

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: P-13
 SHEET 1 OF 1
 LATITUDE : 39.86193
 LONGITUDE : -85.02752
 DATUM : _____
 DATE STARTED : 06-21-23
 DATE COMPLETED : 06-21-23

CLIENT : Janssen & Spaans Engineering, Inc.
 DES NO. : 2000500 STRUCTURE #: _____

PROJECT TYPE: _____

LOCATION : I-70 Centerville Welcome Center

COUNTY : Wayne PROJECT NO.: CJ225394

ELEVATION : <u>1089.0</u>	BORING METHOD : <u>Hollow Stem Auger</u>	HAMMER : <u>Auto</u>
STATION : _____	RIG TYPE : <u>D-50 Track</u>	DRILLER/INSP : <u>J.S.</u>
OFFSET : _____	CASING DIA. : <u>---</u>	TEMPERATURE : <u>72 °F</u>
LINE : _____	CORE SIZE : <u>---</u>	WEATHER : <u>Sunny</u>
DEPTH : <u>7.5 ft</u>		

GROUNDWATER: Encountered at NW At completion NW Caved in at 4.5 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		Topsoil											
	0.7												
	2.5		SS 1	4-6-7	67	7.6		>4.5					
1085.0		Loam, stiff to hard, moist, brown, A-6, Lab No. M00063	SS 2	4-7-8	100	8.9		2.75					
	5.0												
	7.5		SS 3	12-14-18	100	8.4		4.5					
		Bottom of Boring at 7.5 ft											
1080.0													
	10.0												

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: **P-13BS**
 SHEET: 1 OF 1
 LATITUDE: 39.86193
 LONGITUDE: -85.02752
 DATUM: _____
 DATE STARTED: 06-21-23
 DATE COMPLETED: 06-21-23

CLIENT: Janssen & Spaans Engineering, Inc.
 DES NO.: 2000500 STRUCTURE #: _____

PROJECT TYPE: _____

LOCATION: I-70 Centerville Welcome Center

COUNTY: Wayne PROJECT NO.: CJ225394

ELEVATION: <u>1089.0</u>	BORING METHOD: <u>Hollow Stem Auger</u>	HAMMER: <u>Auto</u>
STATION: _____	RIG TYPE: <u>D-50 Track</u>	DRILLER/INSP: <u>J.S.</u>
OFFSET: _____	CASING DIA.: <u>---</u>	TEMPERATURE: <u>72 °F</u>
LINE: _____	CORE SIZE: <u>---</u>	WEATHER: <u>Sunny</u>
DEPTH: <u>3.0 ft</u>		

GROUNDWATER: Encountered at NW At completion NW

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
1085.0	2.5	Loam, moist, A-6(4), Lab No. M00063	BS 1			11.0				25	14	11	1.0, BS-1 : pH = 7.9, SG = 2.77, soluble sulfate = 467 ppm
	3.0	Bottom of Boring at 3.0 ft											
5.0													

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: **DP-1**
 SHEET 1 OF 1
 LATITUDE : 39.86003
 LONGITUDE : -85.02382
 DATUM : _____
 DATE STARTED : 06-21-23
 DATE COMPLETED : 06-21-23

CLIENT : Janssen & Spaans Engineering, Inc.
 DES NO. : 2000500 STRUCTURE # : _____

PROJECT TYPE : _____
 LOCATION : I-70 Centerville Welcome Center
 COUNTY : Wayne PROJECT NO.: CJ225394

ELEVATION : 1093.0 BORING METHOD : Hollow Stem Auger HAMMER : Auto
 STATION : _____ RIG TYPE : D-50 Track DRILLER/INSP : J.S.
 OFFSET : _____ CASING DIA. : --- TEMPERATURE : 68 °F
 LINE : _____ CORE SIZE : --- WEATHER : Sunny
 DEPTH : 20.0 ft

GROUNDWATER: Encountered at 19.0 ft At completion NW Caved in at 16.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		Topsoil 0.5											
1090.0	2.5	Clay , soft to stiff, moist, brown, A-6, Lab No. M00061	SS 1	4-5-6	67	19.7		3.0					
	5.0		SS 2	2-3-4	67	14.3		1.5					
1085.0	7.5		SS 3	1-2-3	100	11.6		1.0					
	10.0		SS 4	1-3-4	100	12.9		2.75					
	11.0												
1080.0	12.5	Loam , very stiff to hard, moist, gray, A-4, Lab No. M00059	SS 5	8-16-19	67	5.9		>4.5					
	15.0		SS 6	8-9-10	100	8.8		3.75					
1075.0	20.0		SS 7	14-19-23	100	8.8		3.75					
	20.0	Bottom of Boring at 20.0 ft											
1070.0	22.5												
	25.0												
	27.5												
1065.0	30.0												

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: DP-2
 SHEET 1 OF 1
 LATITUDE : 39.86041
 LONGITUDE : -85.02292
 DATUM : _____
 DATE STARTED : 06-23-23
 DATE COMPLETED : 06-23-23

CLIENT : Janssen & Spaans Engineering, Inc.
 DES NO. : 2000500 STRUCTURE #: _____

PROJECT TYPE: _____
 LOCATION : I-70 Centerville Welcome Center
 COUNTY : Wayne PROJECT NO.: CJ225394

ELEVATION : <u>1091.0</u>	BORING METHOD : <u>Hollow Stem Auger</u>	HAMMER : <u>Auto</u>
STATION : _____	RIG TYPE : <u>D-50 Track</u>	DRILLER/INSP : <u>M.M.</u>
OFFSET : _____	CASING DIA. : <u>---</u>	TEMPERATURE : <u>70 °F</u>
LINE : _____	CORE SIZE : <u>---</u>	WEATHER : <u>Cloudy</u>
DEPTH : <u>20.0 ft</u>		

GROUNDWATER: Encountered at NW At completion NW

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
1090.0		Crushed Stone 0.3											
	2.5	Sandy Loam , soft, moist, gray, A-4, Lab No. M00058	SS 1	2-2-2	11	14.2		1.25					
	5.0	Clay Loam , medium stiff to stiff, moist, brown, A-6, Lab No. M00061	SS 2	3-3-3	56	20.2		1.0					
1085.0													
	7.5		SS 3	3-5-7	78	11.5		3.25					
	10.0		SS 4	6-13-35	100	11.3		4.25					
1080.0													
	12.5		SS 5	12-9-5	33	11.1		2.0					
	15.0	Loam , stiff to hard, moist, gray, with cobbles near 11 ft and 16 ft, A-4, Lab No. M00059	SS 6	12-28-40	100	10.6		2.25					
1075.0													
	17.5												
	20.0		SS 7	17-24-50	100	7.4		>4.5					
1070.0		Bottom of Boring at 20.0 ft											
	22.5												
	25.0												
1065.0													
	27.5												
	30.0												

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: **DP-3**
 SHEET 1 OF 1
 LATITUDE : 39.86087
 LONGITUDE : -85.02203
 DATUM : _____
 DATE STARTED : 06-21-23
 DATE COMPLETED : 06-21-23

CLIENT : Janssen & Spaans Engineering, Inc.
 DES NO. : 2000500 STRUCTURE # : _____

PROJECT TYPE : _____

LOCATION : I-70 Centerville Welcome Center

COUNTY : Wayne PROJECT NO.: CJ225394

ELEVATION : <u>1092.0</u>	BORING METHOD : <u>Hollow Stem Auger</u>	HAMMER : <u>Auto</u>
STATION : _____	RIG TYPE : <u>D-50 Track</u>	DRILLER/INSP : <u>J.S.</u>
OFFSET : _____	CASING DIA. : <u>---</u>	TEMPERATURE : <u>85 °F</u>
LINE : _____	CORE SIZE : <u>---</u>	WEATHER : <u>Sunny</u>
DEPTH : <u>20.0 ft</u>		

GROUNDWATER: Encountered at 18.5 ft At completion NW Caved in at 9.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		Topsoil 0.7											
1090.0	2.5	Clay Loam , stiff, moist, brown, with trace organic matter = 4.1 percent, A-6, Lab No. M00061	SS 1	4-5-7	83	24.1		3.0					
	5.0		SS 2	4-6-7	83	8.9		3.0					
1085.0	7.5		SS 3	2-3-4	67	11.1		1.75					
	10.0		SS 4	2-3-5	100	11.6		1.25					
1080.0	12.5	Loam , medium stiff to stiff, hard near 18.5 to 20 ft, moist, brown to gray near 12 ft, with clay loam seam near 15 ft, A-4, Lab No. M00059	SS 5	2-4-5	83	10.6		2.75					
	15.0		SS 6	3-4-5	17	11.6		1.0					
1075.0	17.5												
	20.0		SS 7	13-18-21	67	9.9		>4.5					
	20.0	Bottom of Boring at 20.0 ft											

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23



LOG OF TEST BORING

BORING NO.: DP-4
 SHEET 1 OF 1
 LATITUDE : 39.86032
 LONGITUDE : -85.02162
 DATUM : _____
 DATE STARTED : 06-21-23
 DATE COMPLETED : 06-21-23

CLIENT : Janssen & Spaans Engineering, Inc.
 DES NO. : 2000500 STRUCTURE # : _____

PROJECT TYPE: _____
 LOCATION : I-70 Centerville Welcome Center
 COUNTY : Wayne PROJECT NO.: CJ225394

ELEVATION : <u>1087.0</u>	BORING METHOD : <u>Hollow Stem Auger</u>	HAMMER : <u>Auto</u>
STATION : _____	RIG TYPE : <u>D-50 Track</u>	DRILLER/INSP : <u>J.S.</u>
OFFSET : _____	CASING DIA. : <u>---</u>	TEMPERATURE : <u>82 °F</u>
LINE : _____	CORE SIZE : <u>---</u>	WEATHER : <u>Sunny</u>
DEPTH : <u>20.0 ft</u>		

GROUNDWATER: Encountered at NW At completion NW Caved in at 14.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		0.7											
1085.0	2.5	Topsoil Clay Loam , medium stiff, moist, brown, A-6, Lab No. M00061	SS 1	3-3-4	100	21.0		2.25					
		3.5											
	5.0	Sandy Loam , medium stiff, moist, brown, A-4, Lab No. M00058	SS 2	1-2-4	100	15.8		0.5					
		6.0											
1080.0	7.5		SS 3	4-16-26	100	9.9		>4.5					
	10.0		SS 4	6-10-16	100	7.5		>4.5					
1075.0	12.5	Loam , very stiff to hard, moist, brown to gray near 10 ft, A-4, Lab No. M00059	SS 5	10-13-20	67	8.1		>4.5					
	15.0		SS 6	10-14-27	100	6.3		>4.5					
1070.0	17.5												
	20.0	20.0	SS 7	9-14-16	100	7.4		>4.5					
		Bottom of Boring at 20.0 ft											
1065.0	22.5												
	25.0												
1060.0	27.5												
	30.0												

EEL BORING LOG (INDOT FORMAT) LAT./LONG. CJ225394 INDOT.GPJ IN_DOT1.GDT 8/17/23

SUMMARY OF HAND AUGER SOUNDINGS

Project: I-70 Centerville Welcome Center
Location: Centerville, IN
Client: Janssen & Spaans Engineering, Inc.
Des No.: 2000500
Terracon Project No.: CJ225394

Page 1 of 2

Boring No.	Lat.	Long.	Approx. Ground Surface Elevation	Depth Interval (ft)	Description - All Classifications are visual
WT-01	39.86193°	85.02327°	1093	0 – 4 ft	Clay Loam, moist, brown, (MC: 32%)
WT-02	39.86202°	-85.02289°	1092	0 – 3 ft	Clay Loam, moist, brown (MC: 32%) hard near 3 ft
WT-03	39.86203°	-85.02243°	1091	0 – 3 ft	Clay Loam ,moist, brown (MC: 25%) *Hand Auger refusal at 3 ft
WT-04	39.86250°	-85.02248°	1093	0 – 1 ft 1 – 4 ft	Clay Loam, moist, brown (MC: 35%) Clay Loam, moist, brown (MC: 23%)
WT-05	39.86286°	-85.02220°	1094	0 – 1 ft 1 – 4 ft	Clay Loam, moist, brown, (MC: 33%) Clay, moist, brown, , (MC:28 %)
WT-06	39.86325°	-85.02245°	1095	0 – 3 ft	Clay Loam, moist, brown, (MC: 20%) *Hand Auger refusal at 3 ft
WT-07	39.86320°	-85.02308°	1096	0 – 2 ft 2 – 4 ft	Clay Loam, moist, brown (MC: 29%) Clay Loam, moist, brown (MC: 25%)

SUMMARY OF HAND AUGER SOUNDINGS

Project: I-70 Centerville Welcome Center
Location: Centerville, IN
Client: Janssen & Spaans Engineering, Inc.
Des No.: 2000500
Terracon Project No.: CJ225394

Page 2 of 2

Boring No.	Lat.	Long.	Approx. Ground Surface Elevation	Depth Interval (ft)	Description - All Classifications are visual
WT-08	39.86334°	-85.02364°	1096	0 – 1 ft 1 – 4 ft	Loam, moist, brown (MC: 20%) Clay Loam, moist, brown (MC: 23%)
WT-09	39.86296°	-85.02392°	1096	0 – 1½ ft 1½ – 4 ft	Clay Loam, moist, brown (MC: 43%) Clay Loam, moist, brown (MC: 25%)
WT-10	39.86253°	-85.02387°	1097	0 – 4 ft	Clay Loam, moist, brown (MC: 25%)
WT-11	39.86227°	-85.02351°	1095	0 – 3 ft	Clay Loam, moist, brown (MC: 18%) <small>*Hand Auger refusal at 3 ft</small>
P-4	39.86151°	85.022790°	1093	0 – 5 ft	Clay Loam, brown, (MC: 6-13%)
PG-3	39.86153°	85.02350°	1094	0 – 3 ft 3 – 5 ft	Sandy Loam, moist, brown (MC: 7-9%) Clay Loam, moist, brown (MC: 10-11%)
PG-1	39.86126°	85.02349°	1093	0 – 3 ft 3 – 5 ft	Sandy Loam, moist, brown (MC: 7-9%) Loam, stiff, brown (MC: 7-8%)

PAVEMENT CORE LOG NO. BR-1

PROJECT: I-70 Centerville Welcome Center

CLIENT: Janssen & Spaans Engineering, Inc


SITE: Centerville Welcome Center
Centerville, Indiana

Des. No.: 2000500

GRAPHIC LOG	Latitude: 39.8613° Longitude: -85.0268°	DEPTH (in.)
DEPTH		
15.0	PCCP , 1.0 in. max. aggregate size, horizontally fractured near and not recovered below 13 in.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
18.0	Granular Subbase , crushed stone, not recovered	16 17 18
	Coring Terminated at 18 Inches	

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. PAVEMENT_CORE_NO_COORDINATES_PAVEMENT_CORES-7-10-23.GPJ INDOT_PAVEMENT_TEMPLATE.GDT 8/16/23



 7770 W New York St Indianapolis, IN	Coring Started: 6/23/2023	Coring Completed: 6/23/2023
	Drill Rig: B-29	Driller: M.M.
	Project No.: CJ225394	

PAVEMENT CORE LOG NO. BR-2

PROJECT: I-70 Centerville Welcome Center

CLIENT: Janssen & Spaans Engineering, Inc

SITE: Centerville Welcome Center
Centerville, Indiana

Des. No.: 2000500

GRAPHIC LOG	Latitude: 39.8613° Longitude: -85.0256°	DEPTH (in.)
DEPTH		
0.0	PCCP , 1.0 in. max. aggregate size, horizontally fractured near and not recovered below 13 in.	5
15.0	Granular Subbase , sand and gravel, not recovered	10
23.0	Coring Terminated at 23 Inches	15
		20

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. PAVEMENT_CORE_NO_COORDINATES_PAVEMENT_CORES - 7-10-23.GPJ INDOT_PAVEMENT_TEMPLATE.GDT 8/16/23



Downhole photo not available



7770 W New York St
Indianapolis, IN

Coring Started: 6/26/2023

Coring Completed: 6/26/2023

Drill Rig: B-29

Driller: M.M.

Project No.: CJ225394

PAVEMENT CORE LOG NO. MB-1

PROJECT: I-70 Centerville Welcome Center

CLIENT: Janssen & Spaans Engineering, Inc


SITE: Centerville Welcome Center
Centerville, Indiana

Des. No.: 2000500

GRAPHIC LOG	Latitude: 39.8611° Longitude: -85.0276°	DEPTH (in.)
DEPTH		
15.6	PCCP , 1.0 in. max. aggregate size, horizontally fractured near 14 in.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
20.6	Granular Subbase , crushed stone	16 17 18 19 20
	Coring Terminated at 20.6 Inches	

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. PAVEMENT_CORE_NO_COORDINATES_PAVEMENT_CORES - 7-10-23.GPJ INDOT_PAVEMENT_TEMPLATE.GDT 8/16/23



 7770 W New York St Indianapolis, IN	Coring Started: 6/23/2023 Drill Rig: B-29 Project No.: CJ225394	Coring Completed: 6/23/2023 Driller: M.M.
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PAVEMENT CORE LOG NO. PC-1

PROJECT: I-70 Centerville Welcome Center

CLIENT: Janssen & Spaans Engineering, Inc

SITE: Centerville Welcome Center
Centerville, Indiana

Des. No.: 2000500

GRAPHIC LOG Latitude: 39.8618° Longitude: -85.0272°

DEPTH (in.)

DEPTH

PCCP, 1.0 in. max. aggregate size

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

14.2

Granular Subbase, crushed stone
Coring Terminated at 14.2 Inches

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. PAVEMENT_CORE_NO_COORDINATES_PAVEMENT_CORES-7-10-23.GPJ INDOT_PAVEMENT_TEMPLATE.GDT 8/16/23



7770 W New York St
Indianapolis, IN

Coring Started: 6/23/2023

Coring Completed: 6/23/2023

Drill Rig: B-29

Driller: M.M.

Project No.: CJ225394


PAVEMENT CORE LOG NO. PC-2

PROJECT: I-70 Centerville Welcome Center

CLIENT: Janssen & Spaans Engineering, Inc

SITE: Centerville Welcome Center
Centerville, Indiana

Des. No.: 2000500

GRAPHIC LOG	Latitude: 39.8619° Longitude: -85.0239°	DEPTH (in.)
DEPTH		
	<p>PCCP, 1.0 in. max. aggregate size, horizontally fractured near 14 in.</p>	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
16.2	<p>Granular Subbase, crushed stone <i>Coring Terminated at 16.2 Inches</i></p>	

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. PAVEMENT_CORE_NO_COORDINATES_PAVEMENT_CORES-7-10-23.GPJ INDOT_PAVEMENT_TEMPLATE.GDT 8/16/23



 7770 W New York St Indianapolis, IN	Coring Started: 6/23/2023	Coring Completed: 6/23/2023
	Drill Rig: B-29	Driller: M.M.
	Project No.: CJ225394	

PAVEMENT CORE LOG NO. PC-3

PROJECT: I-70 Centerville Welcome Center

CLIENT: Janssen & Spaans Engineering, Inc


SITE: Centerville Welcome Center
Centerville, Indiana

Des. No.: 2000500

GRAPHIC LOG	Latitude: 39.8602° Longitude: -85.0251°	DEPTH (in.)
DEPTH		
10.4	<p>PCCP, 1.0 in. max. aggregate size</p>	1 2 3 4 5 6 7 8 9 10
	<p>Granular Subbase, crushed stone <i>Coring Terminated at 10.4 Inches</i></p>	

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. PAVEMENT_CORE_NO_COORDINATES_PAVEMENT_CORES-7-10-23.GPJ INDOT_PAVEMENT_TEMPLATE.GDT 8/16/23



	 7770 W New York St Indianapolis, IN	Coring Started: 6/23/2023	Coring Completed: 6/23/2023
		Drill Rig: B-29	Driller: M.M.
		Project No.: CJ225394	


PAVEMENT CORE LOG NO. PC-4

PROJECT: I-70 Centerville Welcome Center

CLIENT: Janssen & Spaans Engineering, Inc

SITE: Centerville Welcome Center
Centerville, Indiana

Des. No.: 2000500

GRAPHIC LOG	Latitude: 39.8607° Longitude: -85.0252°	DEPTH (in.)
DEPTH		
	<p>PCCP, 1.0 in. max. aggregate size, horizontal fractured at steel reinforcement near 8 in.</p>	1 2 3 4 5 6 7 8 9 10 11 12 13 14
14.8	<p>Granular Subbase, crushed stone <i>Coring Terminated at 14.8 Inches</i></p>	

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. PAVEMENT_CORE_NO_COORDINATES_PAVEMENT_CORES-7-10-23.GPJ INDOT_PAVEMENT_TEMPLATE.GDT 8/16/23



 7770 W New York St Indianapolis, IN	Coring Started: 6/23/2023	Coring Completed: 6/23/2023
	Drill Rig: B-29	Driller: M.M.
	Project No.: CJ225394	

PAVEMENT CORE LOG NO. PG-2

PROJECT: I-70 Centerville Welcome Center

CLIENT: Janssen & Spaans Engineering, Inc


SITE: Centerville Welcome Center
Centerville, Indiana

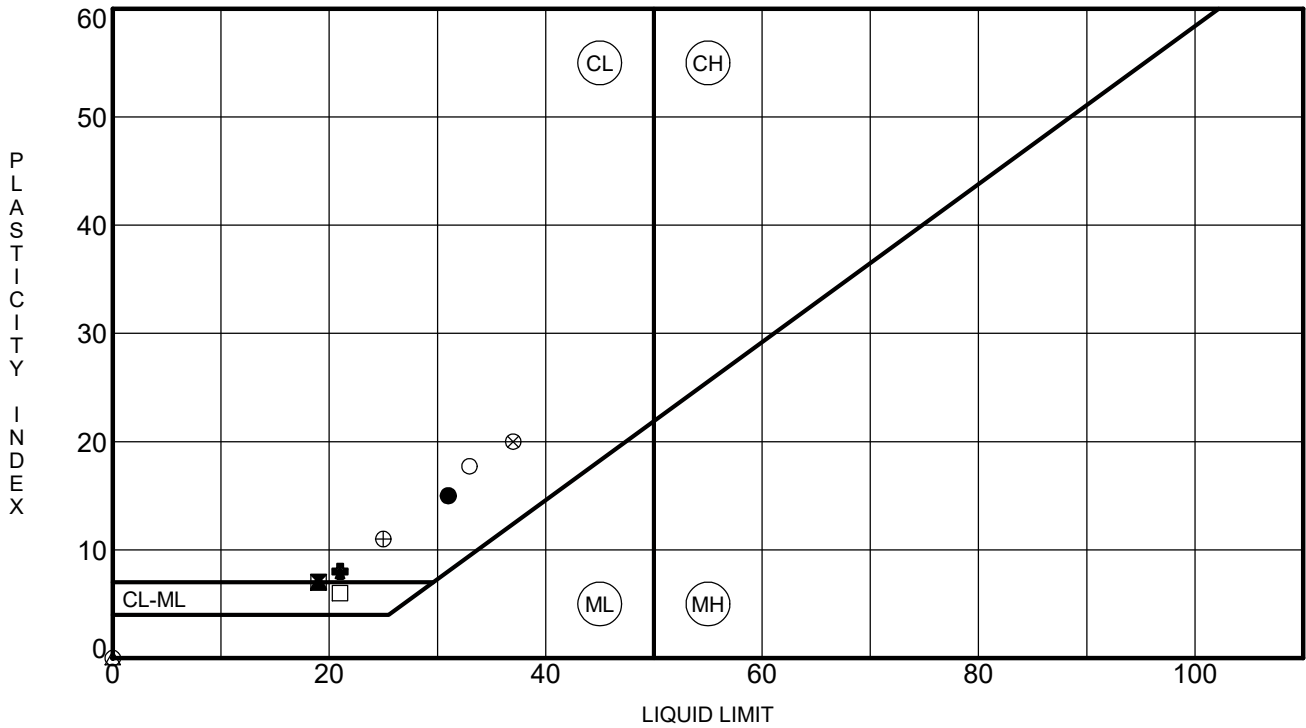
Des. No.: 2000500

GRAPHIC LOG	Latitude: 39.8614° Longitude: -85.0238°	DEPTH (in.)
DEPTH		
15.4	PCCP , 1.0 in. max. aggregate size, horizontally fractured near 13 in.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
18.4	Granular Subbase , crushed stone	16 17 18
	Coring Terminated at 18.4 Inches	

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. PAVEMENT_CORE_NO_COORDINATES_PAVEMENT_CORES-7-10-23.GPJ INDOT_PAVEMENT_TEMPLATE.GDT 8/16/23



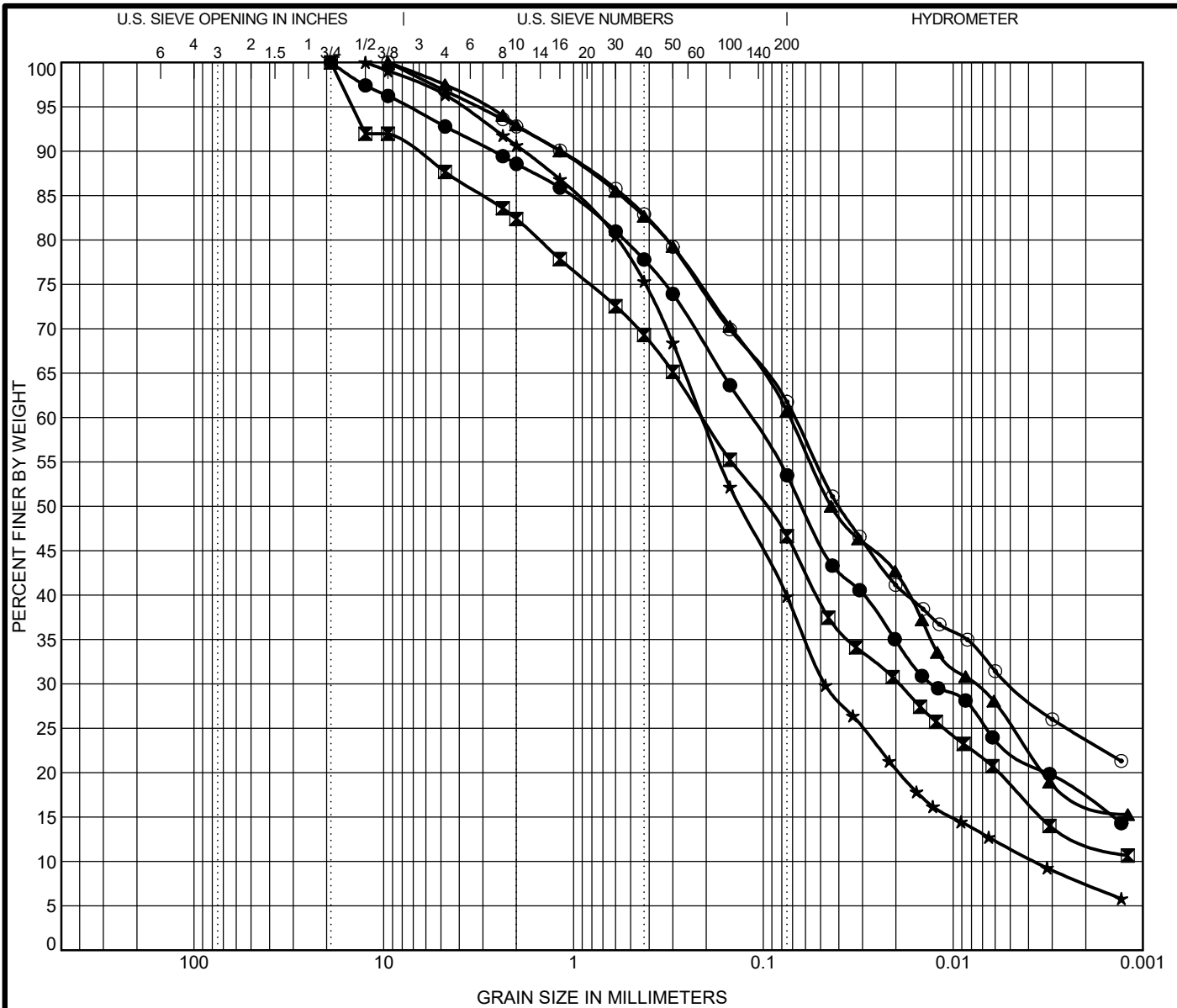
 7770 W New York St Indianapolis, IN	Coring Started: 6/23/2023	Coring Completed: 6/23/2023
	Drill Rig: B-29	Driller: M.M.
	Project No.: CJ225394	



Specimen Identification	LL	PL	PI	Fines	Classification
● BR-1ST	2.00	31.0	16.0	15.0	53 A-6 (5) LOAM
⊠ CB-1	3.50	19.0	12.0	7.0	47 A-4 (0) SANDY LOAM
▲ CB-6	8.50	19.0	12.0	7.0	61 A-4 (1) LOAM
★ P-01	3.50	21.0	13.0	8.0	
⊙ P-02	11.00	NP	NP	NP	40 A-4 (0) SANDY LOAM
⊕ P-06	1.00	21.0	13.0	8.0	
○ P-08BS	1.00	33.0	15.2	17.8	62 A-6 (8) CLAY LOAM
△ P-09	1.00	NP	NP	NP	6 A-1-b (0) SAND and GRAVEL
⊗ P-11BS	1.00	37.0	17.0	20.0	78 A-6 (14) CLAY LOAM
⊕ P-13BS	1.00	25.0	14.0	11.0	61 A-6 (4) LOAM
□ PG-2	6.00	21.0	15.0	6.0	66 A-4 (1) LOAM

<p>Terracon Consultants, Inc. 7770 West New York Street Indianapolis, IN 46214 Telephone: 317-273-1690 Fax: 317-273-2250</p>	ATTERBERG LIMITS' RESULTS	
	DES #: 2000500	Structure #:
	Project #: CJ225394	
	County: Wayne	
	Location: I-70 Centerville Welcome Center	

ATTERBERG LIMITS_CJ225394.INDOT.GPJ_IN_DOT1.GDT_8/17/23



COBBLES	GRAVEL	SAND		SILT	Clay
		coarse	fine		

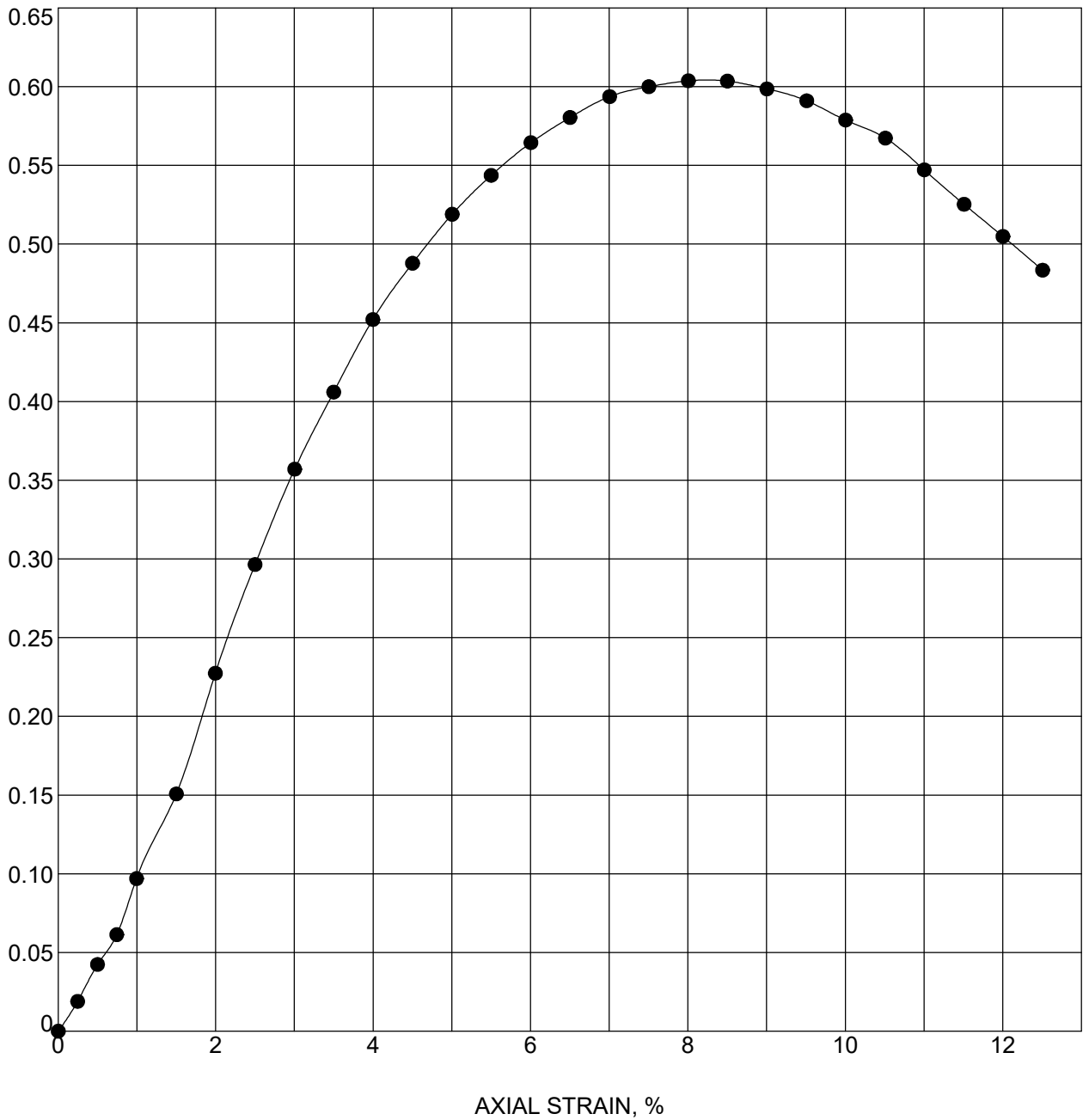
Specimen Identification			Lab #	Textural Classification					LL	PL	PI	Cc	Cu	
●	BR-1ST	ST-1	2.0	M00065	A-6 (5) LOAM					31.0	16.0	15.0		
☒	CB-1	SS-2	3.5	M00058	A-4 (0) SANDY LOAM					19.0	12.0	7.0		
▲	CB-6	SS-4	8.5	M00059	A-4 (1) LOAM					19.0	12.0	7.0		
★	P-02	SS-5	11.0	M00060	A-4 (0) SANDY LOAM					NP	NP	NP	2.89	56.32
◎	P-08BS	BS-1	1.0	M00061	A-6 (8) CLAY LOAM					33.0	15.2	17.8		
Specimen Identification			D60	D30	D10	LOI	pH	%Gravel	%Sand	%Silt	%Clay	SG		
●	BR-1ST	ST-1	2.0	0.117	0.013		7	11.4	35.1	36.4	17.1	2.66		
☒	CB-1	SS-2	3.5	0.209	0.019		7.8	17.6	35.7	34.2	12.5	2.73		
▲	CB-6	SS-4	8.5	0.072	0.008		8.1	7.0	32.2	43.5	17.2	2.72		
★	P-02	SS-5	11.0	0.209	0.047	0.004	8.1	9.3	50.8	32.4	7.5	2.72		
◎	P-08BS	BS-1	1.0	0.068	0.005		8.1	7.2	31.0	38.0	23.7	2.76		

INDOT GRAIN SIZE (EEL LOGO) CJ225394.INDOT.GPJ IN DOT1.GDT 8/3/23

Terracon Consultants, Inc.
 7770 West New York Street
 Indianapolis, IN 46214
 Telephone: (317) 273-1690
 Fax:

GRAIN SIZE DISTRIBUTION TEST REPORT
 DES #: 2000500 Structure #:
 Project #: CJ225394
 County: Wayne
 Location: I-70 Centerville Welcome Center

COMPRESSION STRESS, tsf



Boring	Sample	Depth	Classification
BR-1ST	ST-1	2 - 4	LOAM A-6 (5)

Moisture Content (%)	Moist Density (pcf)	Dry Density (pcf)	Unconfined Strength (tsf)	Strain Rate (%)	Failure Strain (%)
20.4	127.2	105.6	0.60	1.0	8.0
Shear Strength (tsf)	Saturation (%)	Void Ratio	Specimen Diameter (mm)	Specimen Height (mm)	Height/Diameter Ratio
0.30	95	0.571	72.82	148.64	2.0

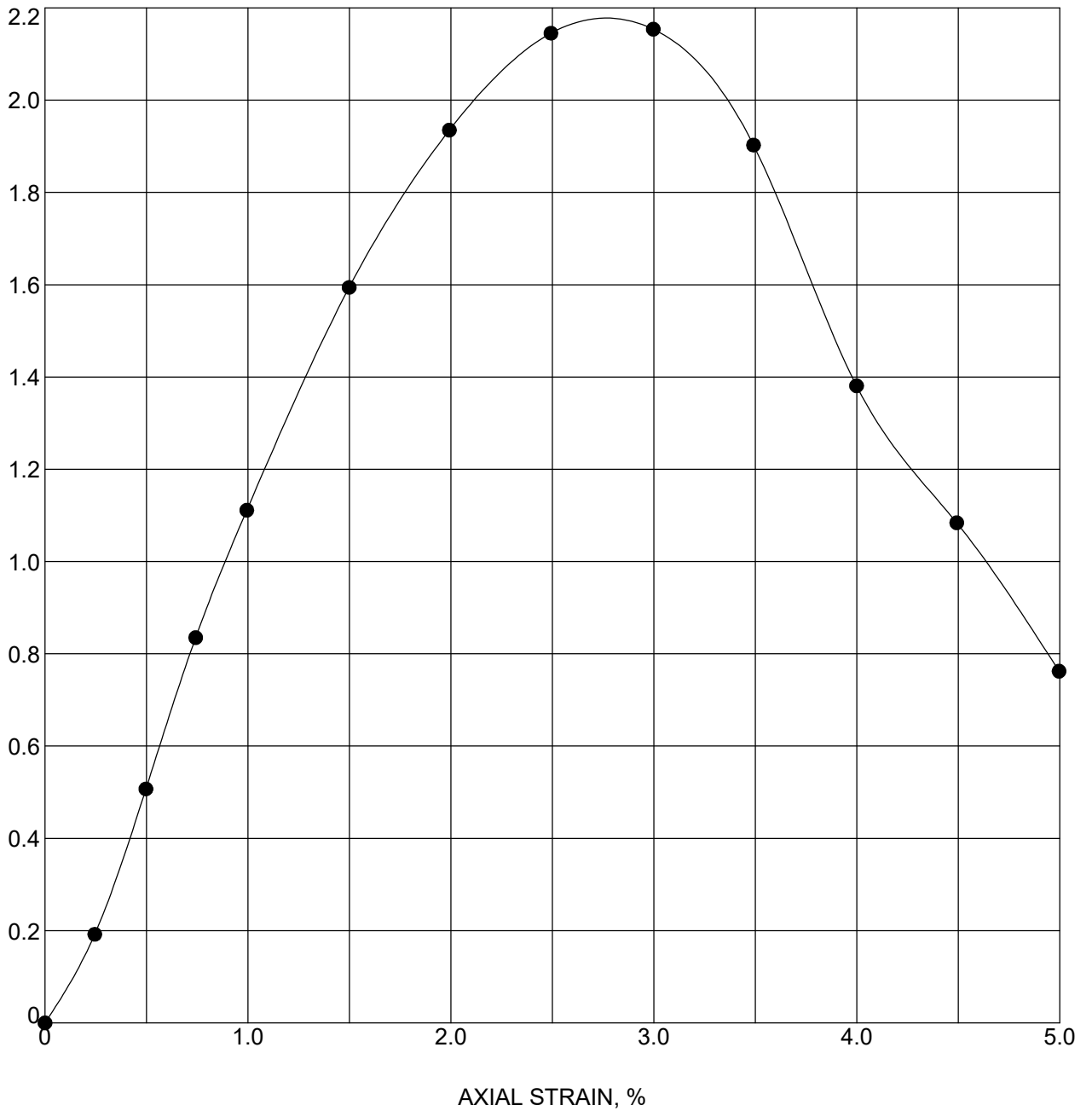
Terracon Consultants, Inc.
 7770 West New York Street
 Indianapolis, IN 46214
 Telephone: (317) 273-1690
 Fax:



UNCONFINED COMPRESSION TEST

DES #: 2000500 Structure #:
 Project #: CJ225394
 County: Wayne
 Location: I-70 Centerville Welcome Center

COMPRESSION STRESS, tsf



Boring	Sample	Depth	Classification
CB-1	SS-2	3.5 - 5	SANDY LOAM A-4 (0)

Moisture Content (%)	Moist Density (pcf)	Dry Density (pcf)	Unconfined Strength (tsf)	Strain Rate (%)	Failure Strain (%)
8.7	142.4	131.0	2.15	1.0	3.0
Shear Strength (tsf)	Saturation (%)	Void Ratio	Specimen Diameter (mm)	Specimen Height (mm)	Height/Diameter Ratio
1.08	72	0.301	34.8742	72.5424	2.1

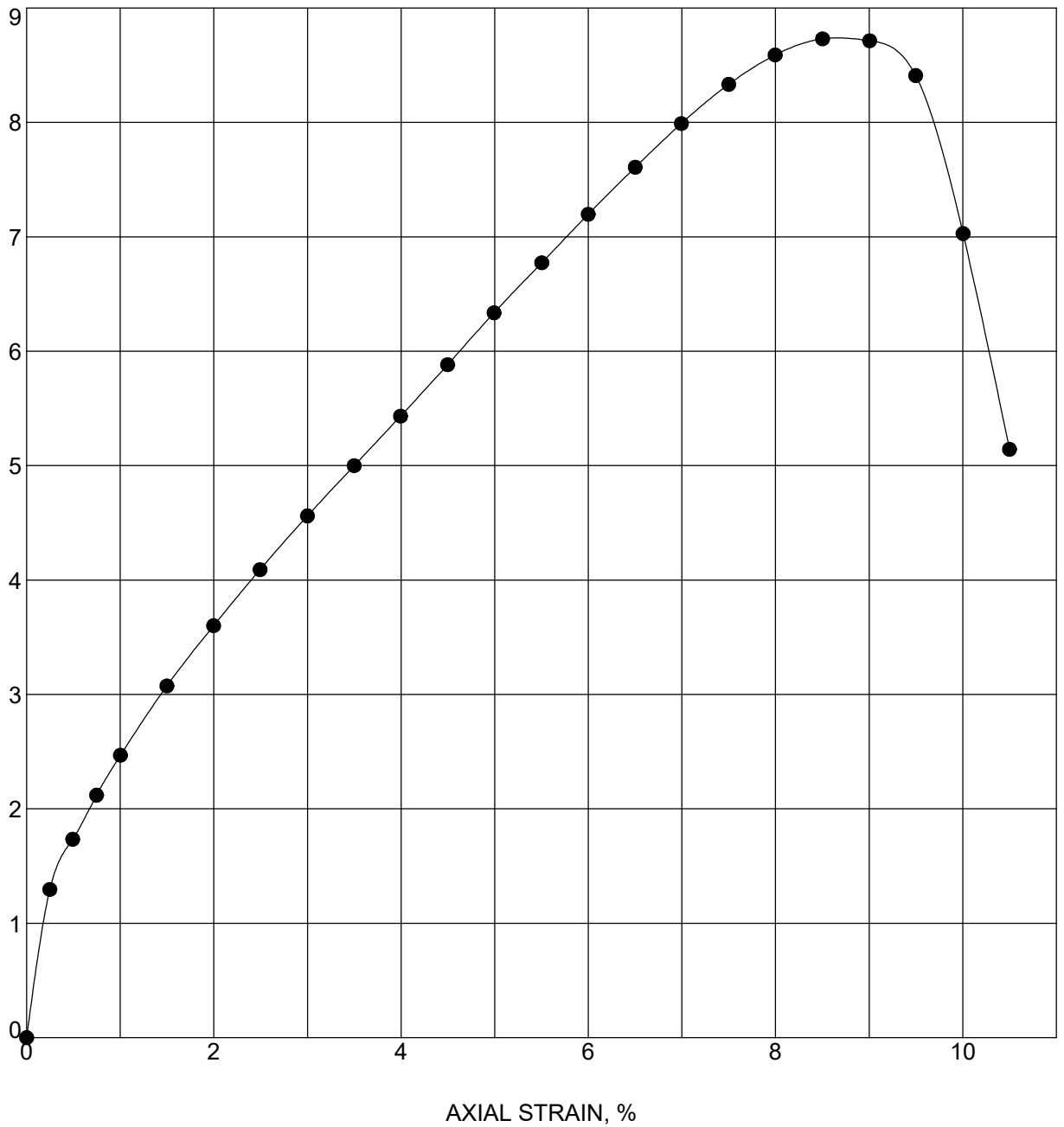


Terracon Consultants, Inc.
 7770 West New York Street
 Indianapolis, IN 46214
 Telephone: (317) 273-1690
 Fax:

UNCONFINED COMPRESSION TEST

DES #: 2000500 Structure #:
 Project #: CJ225394
 County: Wayne
 Location: I-70 Centerville Welcome Center

COMPRESSION STRESS, tsf



Boring	Sample	Depth	Classification
CB-6	SS-4	8.5 - 10	LOAM A-4 (1)

Moisture Content (%)	Moist Density (pcf)	Dry Density (pcf)	Unconfined Strength (tsf)	Strain Rate (%)	Failure Strain (%)
8.4	145.5	134.2	8.73	1.0	8.5
Shear Strength (tsf)	Saturation (%)	Void Ratio	Specimen Diameter (mm)	Specimen Height (mm)	Height/Diameter Ratio
4.37	76	0.264	34.925	72.7456	2.1

INDOT UNCONFINED TEST (EEL LOGO) CJ225394.INDOT.GPJ IN DOT1.GDT 8/3/23

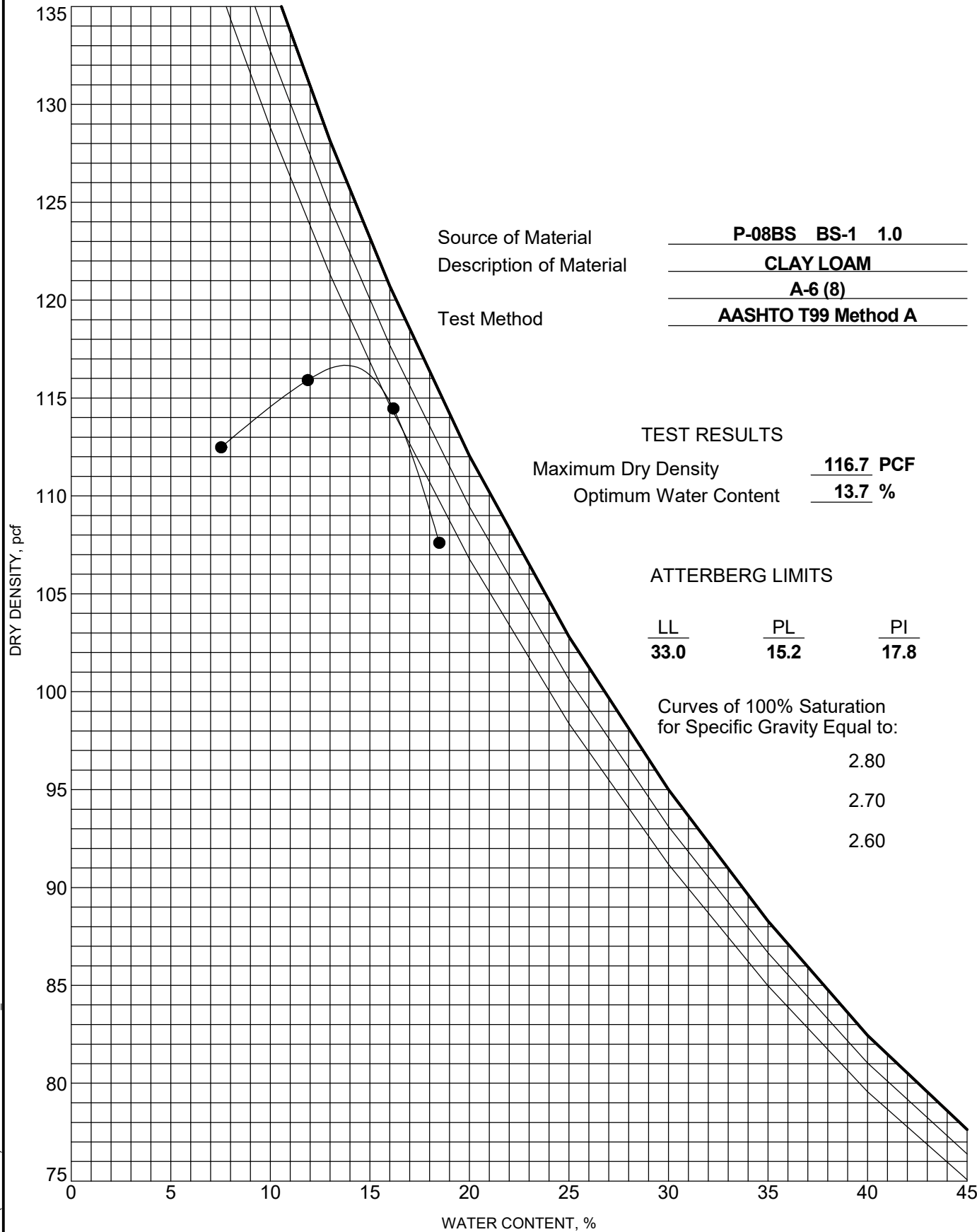


Terracon Consultants, Inc.
 7770 West New York Street
 Indianapolis, IN 46214
 Telephone: (317) 273-1690
 Fax:

UNCONFINED COMPRESSION TEST

DES #: 2000500 Structure #:
 Project #: CJ225394
 County: Wayne
 Location: I-70 Centerville Welcome Center

INDOT_MOISTURE_DENSITY (EEL LOGO) C:\225394\INDOT.GPJ IN_DOT1.GDT 8/16/23

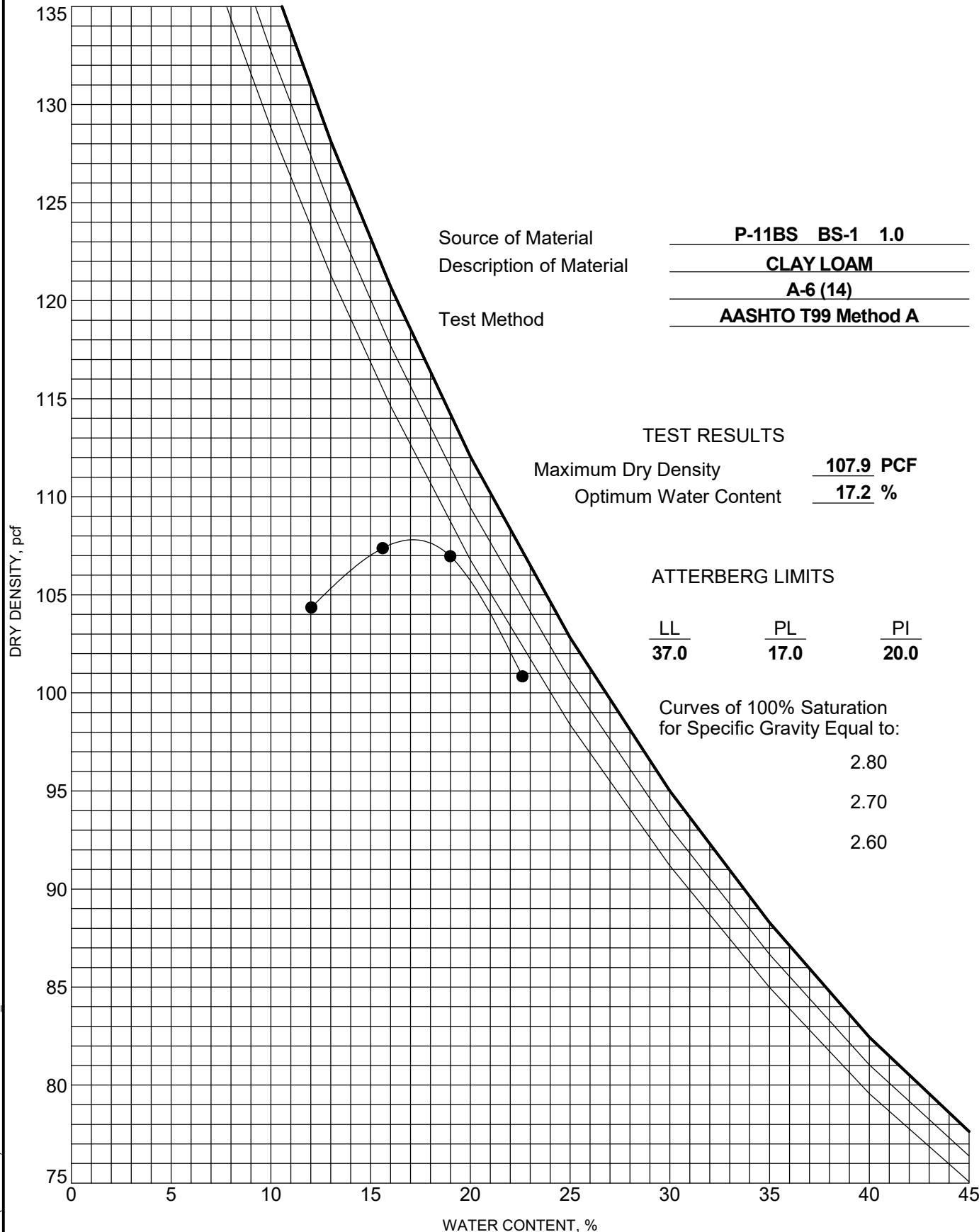


Terracon Consultants, Inc.
 7770 West New York Street
 Indianapolis, IN 46214
 Telephone: (317) 273-1690
 Fax:

MOISTURE-DENSITY RELATIONSHIP

DES #: 2000500	Structure #:
Project #: CJ225394	Contract #:
County: Wayne	
Location: I-70 Centerville Welcome Center	

INDOT_MOISTURE_DENSITY (EEL LOGO) C:\225394\INDOT.GPJ IN_DOT1.GDT 8/16/23

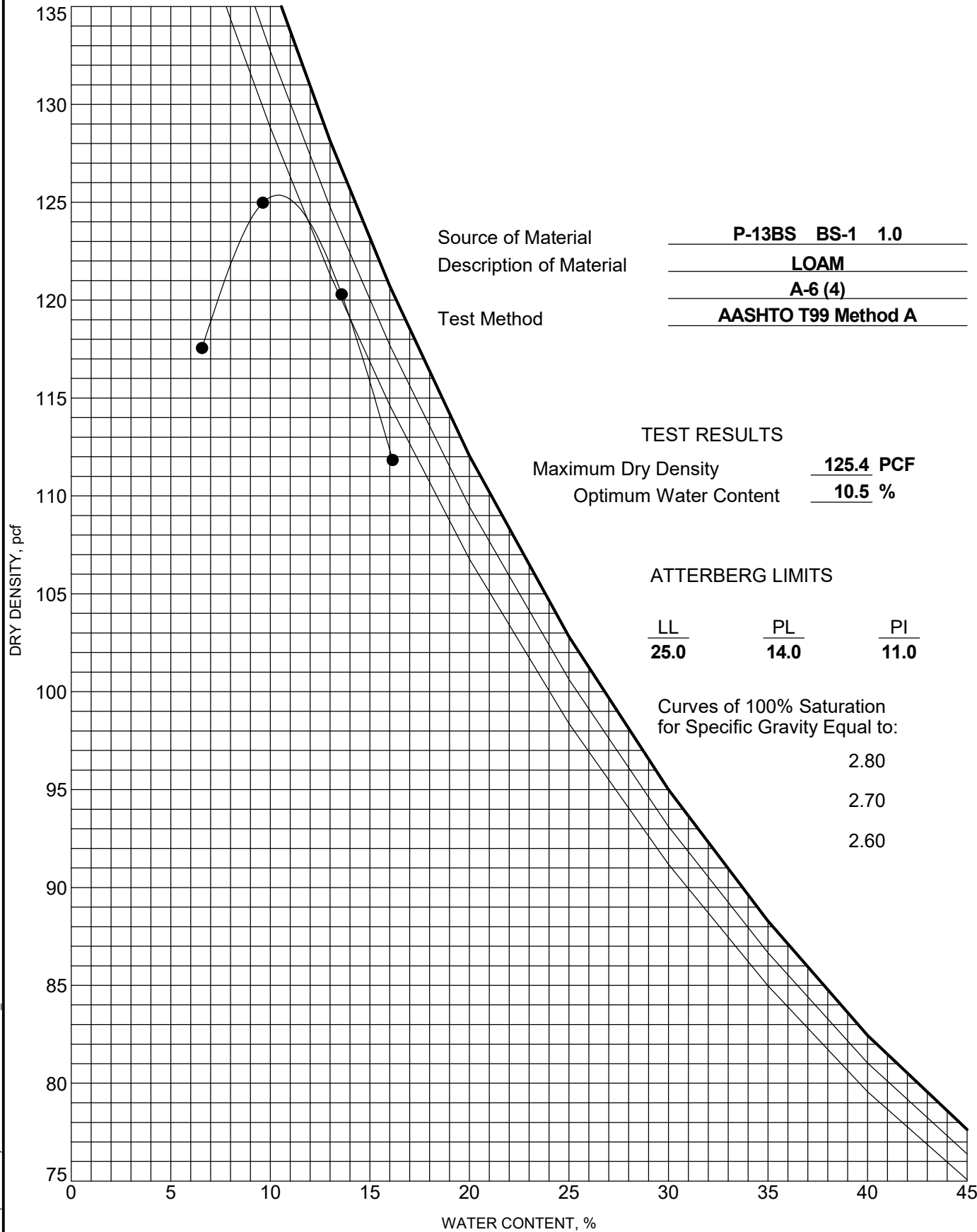


Terracon Consultants, Inc.
 7770 West New York Street
 Indianapolis, IN 46214
 Telephone: (317) 273-1690
 Fax:

MOISTURE-DENSITY RELATIONSHIP

DES #: 2000500	Structure #:
Project #: CJ225394	Contract #:
County: Wayne	
Location: I-70 Centerville Welcome Center	

INDOT_MOISTURE_DENSITY (EEL LOGO) C:\225394\INDOT.GPJ IN_DOT1.GDT 8/16/23



Terracon Consultants, Inc.
 7770 West New York Street
 Indianapolis, IN 46214
 Telephone: (317) 273-1690
 Fax:

MOISTURE-DENSITY RELATIONSHIP

DES #: 2000500	Structure #:
Project #: CJ225394	Contract #:
County: Wayne	
Location: I-70 Centerville Welcome Center	

Geotechnical Engineering Report

I-70 Centerville Welcome Center | Centerville, Indiana

January 17, 2024 | Terracon Project No. CJ235394.1



Supporting Information

Contents:

Log of Test Boring – General Notes

Note: All attachments are one page unless noted above.

LOG OF TEST BORING – GENERAL NOTES

DESCRIPTIVE CLASSIFICATION

GRAIN SIZE TERMINOLOGY

Soil Fraction	Particle Size	US Standard Sieve Size
Boulders	Larger than 75 mm	Larger than 3"
Gravel	4.76 mm to 75 mm	#10 to 75 mm
Sand:	Coarse	#40 to #10
	Fine	#200 to #40
Silt	0.075 to 0.42 mm	Smaller than #200
Clay	0.002 to 0.075 mm	Smaller than #200

GENERAL TERMINOLOGY

Physical Characteristics
 - Color, moisture, grain shape fineness, etc.
 Major Constituents
 - Clay silt, sand, gravel
 Structure
 - Laminated, varved, fibrous, stratified, cemented, fissured, etc.
 Geologic Origin
 - Glacial, alluvial, eolian, residual, etc.

RELATIVE DENSITY

Term	"N" Value
Very loose	0 – 5
Loose	6 – 10
Medium dense	11 – 30
Dense	31 – 50
Very Dense	51+

CONSISTENCY

Term	"N Value"
Very soft	0 - 3
Soft	4 - 5
Medium	6 - 10
Stiff	11 - 15
Very Stiff	16 - 30
Hard	31+

RELATIVE PROPORTIONS OF COHESIONLESS SOILS

Term	Defining Range by % of Weight
Trace	1 – 10%
Little	11 – 20%
Some	21 – 35%
And	36 – 50%

PLASTICITY

Term	Plastic Index
None to slight	0 – 4
Slight	5 – 7
Medium	8 – 22
High/Very High	Over 22

ORGANIC CONTENT BY COMBUSTION METHOD

Soil Description	LOI
w/ organic matter	4 – 15 %
Organic Soil (A-8)	16 – 30%
Peat (A-8)	More than 30%

The penetration resistance, N, is the summation of the number of blows required to effect two successive 6-in. penetrations of the 2-in. split-barrel sampler. The sampler is driven with a 140-lb weight falling 30 in. and is seated to a depth of 6 in. before commencing the standard penetration test.

SYMBOLS

DRILLING AND SAMPLING

AS	– Auger Sample
BS	– Bag Sample
C	– Casing Size 2½", NW, 4", HW
COA	– Clean-Out Auger
CS	– Continuous Sampling
CW	– Clear Water
DC	– Driven Casing
DM	– Drilling Mud
FA	– Flight Auger
FT	– Fish Tail
HA	– Hand Auger
HSA	– Hollow Stem Auger
NR	– No Recovery
PMT	– Borehole Pressuremeter Test
PT	– 3" O.D. Piston Tube Sample
PTS	– Peat Sample
RB	– Rock Bit
RC	– Rock Coring
REC	– Recovery
RQD	– Rock Quality Designation
RS	– Rock Sounding
S	– Soil Sounding
SS	– 2" O.D. Split-Barrel Sample
2ST	– 2" O.D. Thin-Walled Tube Sample
3ST	– 3" O.D. Thin-Walled Tube Sample
VS	– Vane Shear Test
WPT	– Water Pressure Test

LABORATORY TESTS

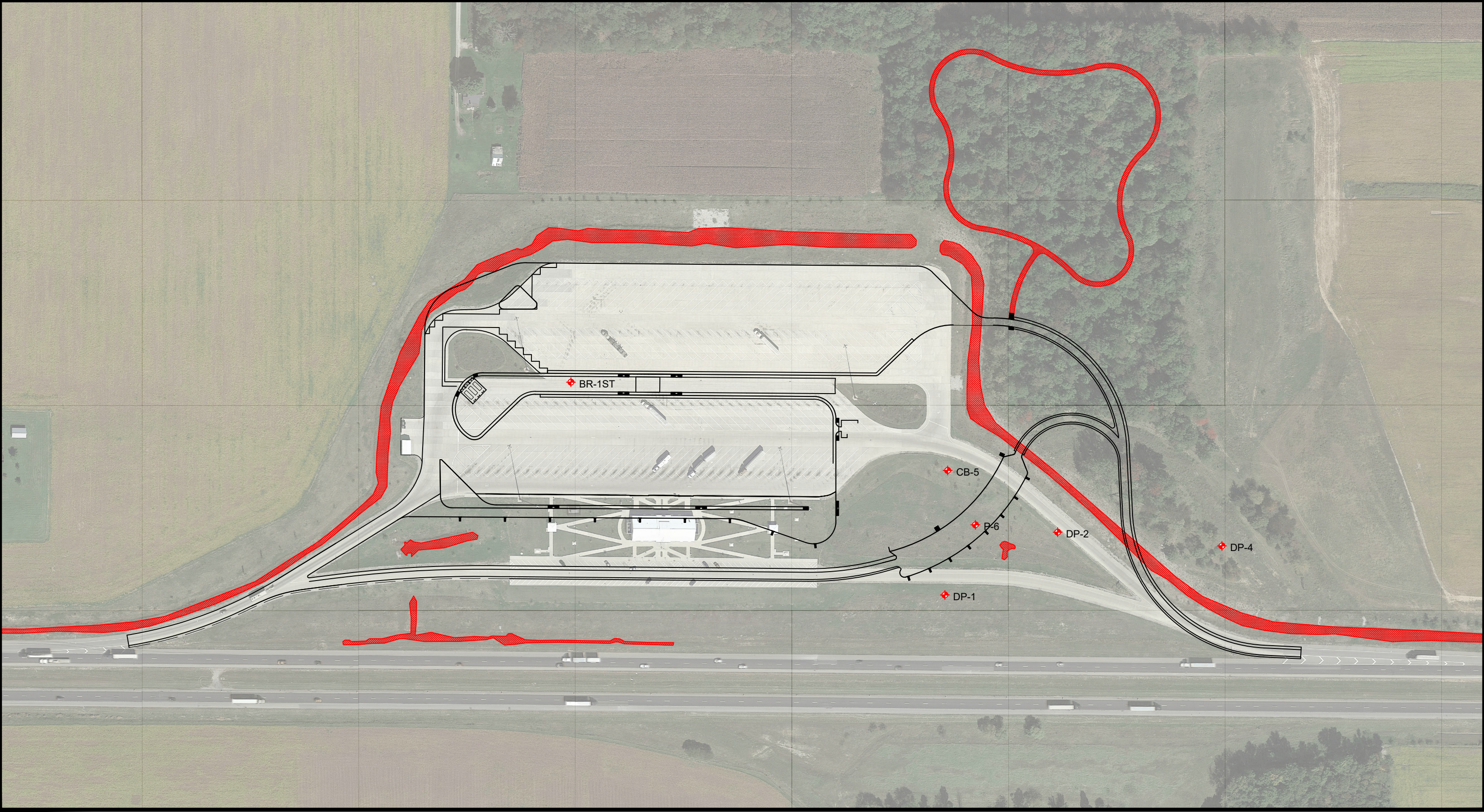
q _p	– Penetrometer Reading, tsf
q _u	– Unconfined Strength, tsf
W	– Moisture Content, %
LL	– Liquid Limit, %
PL	– Plastic Limit, %
PI	– Plasticity Index
SL	– Shrinkage Limit, %
LOI	– Loss on Ignition, %
γ _d	– Dry Unit Weight, pcf
pH	– Measure of Soil Alkalinity/Acidity

WATER LEVEL MEASUREMENT

BF	– Backfilled upon Completion
NW	– No Water Encountered

Note: Water level measurements shown on the boring logs represent conditions at the time indicated and may not reflect static levels, especially in cohesive soils.

FILEPATH: \\hpcw602\data\projects\2024\CJ225394\Drawings-Files\Diagrams-Drawings-Files\CAD\2024\CJ225394.dwg PLOT DATE: 2/20/2024 SAVE BY: BCM\MINNER



LEGEND



Indicates potential locations of softer soils in need of removal or remediation

NOTES

1. Base map developed using plans provided by Janssen & Spaans Engineering, Inc.
2. The locations indicated are based on the results of our subsurface exploration (including soil borings and hand auger soundings) and subsequent laboratory testing; as well as our understanding of the existing site conditions. As such, unsuitable or soft soils may be encountered elsewhere on site and should be addressed as outlined in the geotechnical report.
3. This document is intended to assist in summarizing locations and areas where removal or remediation of lower strength soils may be encountered. Please refer to the geotechnical report for additional information regarding soft or otherwise unsuitable soils onsite

SITE PLAN

PROJECT: I-70 Centerville Welcome Center
 LOCATION: Wayne County, Indiana
 CLIENT: Janssen & Spaans Engineering, Inc.
 DES NO.: 2000500
 TERRACON PROJ. NO.: CJ225394
 SCALE: 1" = 200'



7770 WEST NEW YORK ST PH. (317) 273-1690
 INDIANAPOLIS, IN 46214 FAX. (513) 321-4540

PROJECT ENG:	MJM
DRAWN BY:	BCM
APPVD. BY:	KPH
SCALE:	AS SHOWN
DATE:	2/20/2024
JOB NO.	CJ225394
SHEET NO.:	CJ225394.B1



January 4, 2024

Mr. Bob Gray
Vice President
Janssen & Spaans Engineering, Inc.
9120 Harrison Park Court
Indianapolis, IN 46216

**RE: ASBESTOS INSPECTION REPORT
CENTERVILLE WELCOME CENTER REST AREA
I-70 & MILE MARKER 143 – WESTBOUND
GREENS FORK, WAYNE COUNTY, INDIANA 47345
METRIC PROJECT NO: 22-0075
JSE PN#: 89006007-23-034-D1**

Dear Mr. Gray:

Metric Environmental, LLC. (Metric) performed an asbestos inspection at the above referenced Facility. The enclosed report summarizes the activities and findings of this investigation.

Should you have any questions or comments regarding our findings, please do not hesitate to contact us.

Sincerely,

METRIC ENVIRONMENTAL, LLC

A handwritten signature in black ink that reads "Josh Bitner".

Josh Bitner
Asst. Project Manager

A handwritten signature in black ink that reads "Karla K. McDonald".

Karla McDonald
Director, Assessment-Remediation & EHS

Enclosures

ASBESTOS INSPECTION REPORT

CENTERVILLE WELCOME CENTER REST AREA
I-70 & MILE MARKER 143 – WESTBOUND
GREENS FORK, WAYNE COUNTY, INDIANA
DES No. 2000500

JSE PN: 89006007-23-034-D1

PREPARED FOR:

JANSSEN & SPAANS ENGINEERING, INC.



Prepared by:

Metric Environmental, LLC

Complex Environment. Creative Solutions.

6958 Hillside Court
Indianapolis, IN 46256
Telephone: 317.400.1633
www.metricenv.com

SIGNATURES OF ENVIRONMENTAL PROFESSIONALS
ASBESTOS INSPECTION REPORT
CENTERVILLE WELCOME CENTER REST AREA
I-70 & MILE MARKER 143 – WESTBOUND
GREENS FORK, WAYNE COUNTY, INDIANA

This Asbestos Inspection Report was prepared by Metric Environmental, LLC. (Metric) for Janssen & Spaans Engineering, Inc.



Josh Bitner
Asst. Project Manger

January 4, 2024

Date



Karla McDonald, CHMM
Director, Assessment-Remediation & EHS

January 4, 2024

Date

TABLE OF CONTENTS

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3.0	ASBESTOS INSPECTION FINDINGS	3
3.1	ASSUMED ASBESTOS CONTAINING MATERIALS.....	4
4.0	CONCLUSIONS AND RECOMMENDATIONS	5
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Exhibits

- Exhibit 1 – Site Vicinity Map
- Exhibit 2 – Property Layout Map
- Exhibit 3A-3D– Asbestos Sample Photographs

Appendices

- Appendix A – Definitions and Acronyms
- Appendix B – Copies of Personnel Certifications
- Appendix C – EMSL Laboratory Analytical and Chain of Custody
- Appendix D – EMSL Laboratory Asbestos Accreditation Certificates
- Appendix E – IDEM Notification of Demolition and Renovation Operations Guidance for Asbestos & Form #44593

1.0 INTRODUCTION

Metric Environmental, Inc. (Metric) performed an asbestos inspection and survey of the Centerville Welcome Center Rest Area located at I-70 & mile marker 143 – Westbound, in Greens Fork, Wayne County, Indiana (the Site). A review of the Wayne County, Indiana Beacon GIS database identified the facility as state parcel #: 89-09-01-000-410.000-008. A Site Vicinity Map is included in **Exhibit 1** and a Property Layout Map is included in **Exhibit 2**.

The Site consists of one (1) main rest area facility, one (1) attached vending area, one (1) detached storage building. Several steel picnic shelters and bench seating are also located on the property.

The purpose of the asbestos inspection was to investigate accessible areas which may contain suspected asbestos containing materials (SACMs) or materials which may become regulated if disturbed and to outline appropriate handling, removal, and disposal if such materials do exist. The purpose of this report is to convey the findings, conclusions, and recommendations of this inspection.

A list of Definitions and Acronyms used throughout this report is included in **Appendix A**.

2.0 ASBESTOS SAMPLING METHODOLOGY AND LIMITATIONS

On December 11, 2023, Kennita Jones, a certified licensed asbestos building inspector in the State of Indiana, conducted the onsite inspection and bulk sampling of suspected asbestos containing materials (SACMs). The Metric inspector was accompanied by the facilities manager during the inspection. A copy of the inspector's license is included in **Appendix B**.

A survey of the facility was conducted to identify the various SACM types. SACMs were then grouped based on material description, location, and usage. The SACMs were visually inspected for friability. All SACMs were then collected from random locations for sampling. Each sample was assigned a unique identification number and a brief description describing the location and material sampled.

All samples were collected according to 40 CFR Subpart E. Specific care was taken not to disturb unnecessary areas of the SACM and to prevent the creation of airborne fibers. Visibly friable SACMs were gently sprayed with water prior to sample collection. Hand tools used for sample collection were decontaminated after the collection of each sample in order to minimize the potential for cross contamination. Each sample was placed into an airtight container, labeled, and then submitted to the laboratory for analysis. Each sample was identified with a unique identification number, to match the sample ID on the chain of custody. In addition to the sample ID, the specific location and description of the sample material was also included on the chain of custody. Sample locations were then labeled with a unique sample identification number and sorted according to homogenous area.

Site photographs showing the Site buildings and the locations and materials sampled are included in **Exhibit 3A-3D**. Please note, the photograph for sample CRA-20 was digitally corrupted and was unable to be retrieved for inclusion in this report. The collected samples were submitted to EMSL Laboratories, Inc. in Indianapolis, Indiana, for analysis using polarized light microscopy (PLM). Once samples were released to the laboratory, the laboratory's quality control program was followed.

3.0 ASBESTOS INSPECTION FINDINGS

In order to maintain conservative costs for sampling, Metric requested EMSL to stop analytical procedures at first positive of all homogenous samples collected. Results of the sample analysis are listed below in **Table 3-1**. The EMSL laboratory analytical report and chain of custody are included in **Appendix C**. A copy of the EMSL laboratory accreditation is included in **Appendix D**.

Table 3-1: Summary of Asbestos Sample Results

HA#	Sample ID	Material Description	Location	Asbestos Content
1	CRA-01	Duct cloth – gray	Men’s side maintenance room	None Detected
2	CRA-02	Flooring caulk – gray	Men’s side maintenance room	None Detected
3	CRA-03	Duct work – brown	Men’s side maintenance room	None Detected
4	CRA-04	Flooring caulk – gray tile print	Men’s side maintenance room; brochure room; floor seam	None Detected
5	CRA-05	Pipe caulk – yellow	Men’s side maintenance room	None Detected
6	CRA-06	Blown insulation – gray	Men’s side maintenance room	None Detected
7	CRA-07	Window caulk – gray	Men’s auto side restroom	None Detected
8	CRA-08	Flooring caulk – clear	Welcome center – main hall	None Detected
2	CRA-09	Flooring caulk – gray	Welcome center – main hall	None Detected
9	CRA-10	Thin set – white	Men’s side family restroom	None Detected
1	CRA-11	Duct caulk – gray	Women’s side maintenance room	None Detected
2	CRA-12	Flooring caulk – gray	Women’s side maintenance room	None Detected
3	CRA-13	Duct work insulation – brown	Women’s side maintenance room	None Detected
5	CRA-14	Pipe caulk – yellow	Women’s side maintenance room	None Detected
6	CRA-15	Blown insulation – brown	Women’s side maintenance room	None Detected
7	CRA-16	Window caulk – gray	Women’s closed restroom	None Detected
9	CRA-17	Thinset – white	Women’s closed restroom	None Detected
9	CRA-18	Thinset – white	Welcome center main lobby, women’s side family restroom	None Detected
10	CRA-19	Thinset – white	Detached storage shed	None Detected
5	CRA-20	Blown insulation – brown	Detached storage shed attic	None Detected

Bold – Indicates asbestos content greater than 1%.

3.1 Assumed Asbestos Containing Materials

During the on-site inspection, assumed ACMs were observed.

A total of twenty-two (22) fire doors were observed during the inspection. Nine (9) fire doors were observed in the men’s maintenance room, four (4) fire doors were noted in the welcome center main lobby, and nine (9) fire doors were noted in the women’s side maintenance room. Additionally, a safe was noted in the women’s side maintenance room. The fire doors and safe were covered in metal jacketing and/or other materials that would require the use of a torch or plasma cutter in order to access the insulation material beneath the metal jacketing. The doors should either be assumed asbestos containing and disposed of as special waste or arrangements should be made for sampling as a part of the proposed demolition activities.

A quantitative tabulation of assumed asbestos containing materials (ACMs) can be found in **Table 3-2** below.

Table 3-2: Assumed Asbestos Containing Materials

Material Description	Location	Approximately Quantity
Fire Doors	Men’s maintenance room	9 doors
	Welcome center main lobby	4 doors
	Women’s side maintenance room	9 door
Safe	Women’s side maintenance room	1 safe

SF: Square feet

*Quantity identified represents approximate amount which may be encountered and does not represent observed conditions as the roof was not accessed.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Metric Environmental (Metric) performed an asbestos inspection and survey of the Centerville Welcome Center Rest Area located at I-70 & mile marker 143 – Westbound, in Greens Fork, Wayne County, Indiana. The purpose of this report is to convey the findings, conclusions, and recommendations of the asbestos inspection.

Assumed Asbestos-Containing Material Requiring Abatement and/or Sampling Prior to Renovation

The following materials were observed but not sampled during this inspection and will need to be sampled or handled as asbestos waste if being disturbed or removed:

- Nine (9) fire doors located in the men’s maintenance room.
- Four (4) fire doors located in the welcome center main lobby.
- Nine (9) fire doors located in the women’s maintenance room.
- One (1) safe located in the women’s maintenance room.

EMSL defines samples containing less than 1% asbestos as “None Detected”. Therefore, analytical results have demonstrated that the materials identified in **Table 3-1** do not contain asbestos fibers at concentrations above 1%.

Since regulated asbestos containing materials (RACM) were not encountered during this inspection, no further action is warranted at this time.

Metric made a good faith effort to identify asbestos containing materials throughout the building. The asbestos inspection did not include identification of materials which may be concealed, such as between walls or buried. If suspect RACM not identified in this report are encountered during renovation/demolition activities, Metric should be contacted for inspection and possible sampling for laboratory analysis.

According to the National Emission Standard for a Hazardous Air Pollutant (NESHAP) 40 CFR 61.145 (Standard for demolition and renovation) a written notification of intention to demolish (State Form 44593) must be provided to the Indiana Department of Environmental Management, Office of Air Quality (OAQ) 10 working days prior to renovation/demolition activities. A copy of the guidance and State Form #44593 is included in **Appendix E**. Such asbestos abatement projects implemented in the State of Indiana must be conducted by an asbestos contractor licensed and accredited by the IDEM OAQ.

5.0 REFERENCES

Indiana Geological Survey (IGS); IndianaMap GIS website:

(http://129.79.145.7/arcims/statewide_mxd/index.html).

Occupational Safety Health Administration (OSHA); 29 CFR 1926.1101 - Construction industry asbestos standard

State of Indiana; Indiana Administrative Code, 329 IAC 3.1-16 – Universal waste

State of Indiana; Indiana Administrative Code, 329 IAC 4.1 – Regulation of wastes containing PCBs

State of Indiana; Indiana Administrative Code, 329 IAC 16-9-1 – Electric waste management

State of Indiana; Indiana Administrative Code, 329 IAC 10-2-37 – Solid waste land disposal facilities

State of Indiana; Indiana Code, IC 13-20.5 – Electronic waste

U.S. Department of Energy, Nuclear Regulatory Commission; 10 CFR 32.27

U.S. Environmental Protection Agency; 40 CFR 61 Subpart M - National emission standard for asbestos (NESHAP)

U.S. Environmental Protection Agency; 40 CFR 82 – Protection of stratospheric ozone

U.S. Environmental Protection Agency; 40 CFR 273 – Standards for universal waste management

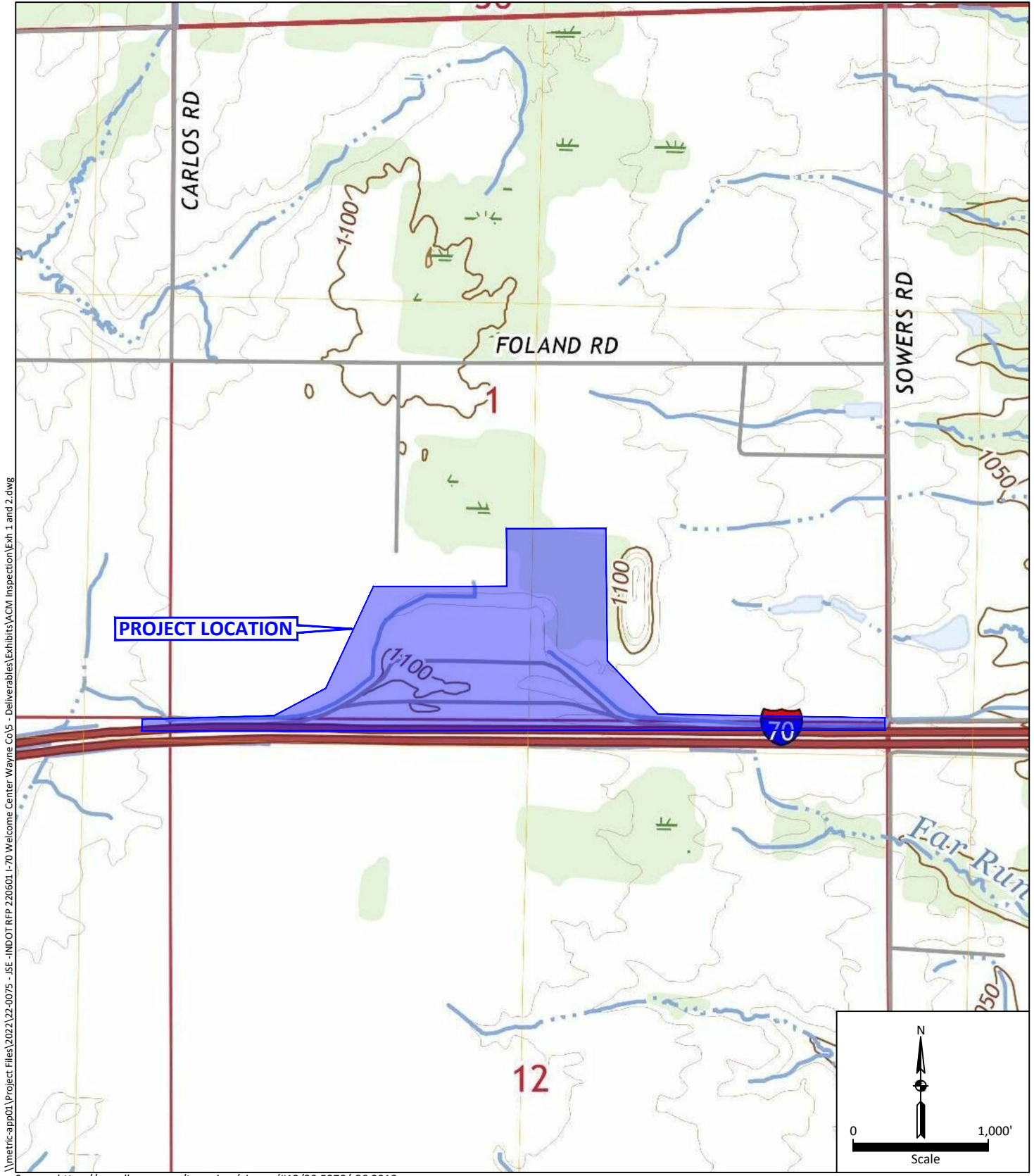
U.S. Environmental Protection Agency; 40 CFR 761 Subpart D – Polychlorinated biphenyls (PCBs) manufacturing processing, distribution in commerce, and use prohibitions, Storage and Disposal.

U.S. Environmental Protection Agency; 40 CFR 763 Subpart E - Asbestos hazard emergency response act (AHERA)

U.S. Environmental Protection Agency; Clean Air Act (CAA) Section 608 – National recycling and emission reduction program

EXHIBITS

- Exhibit 1 – Site Vicinity Map
- Exhibit 2 – Property Layout Map
- Exhibit 3A-3D – Asbestos Sample Photographs



\\metric-app01\Project Files\2022\22-0075 - JSE -INDOT RFP 220601 I-70 Welcome Center Wayne Co\5 - Deliverables\Exhibits\ACM Inspection\Exh 1 and 2.dwg

Source: <https://ngmdb.usgs.gov/topoview/viewer/#12/39.5378/-86.2918>

Exhibit 1 - Project Vicinity Map
 Asbestos Inspection Report
 I-70 & Mile Marker 143 - Westbound
 Greens Fork, Wayne County, Indiana
 Metric Project #22-0075

All locations approximate
 Base map:
 2022 Jacksonburg, IN
 7.5 Minute Quadrangle



Drawn by: ILJ
 Checked by: KJ
 Approved by: KM
 Date: December, 2023

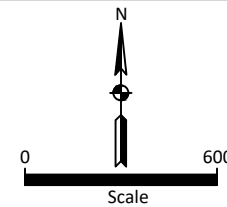
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Source: <https://beacon.schneidercorp.com/Application.aspx?AppID=402&LayerID=6170&PageTypeID=1&PageID=3300>

Exhibit 2 - Aerial Photograph
Asbestos Inspection Report
I-70 & Mile Marker 143 - Westbound
Greens Fork, Wayne County, Indiana
Metric Project #22-0075

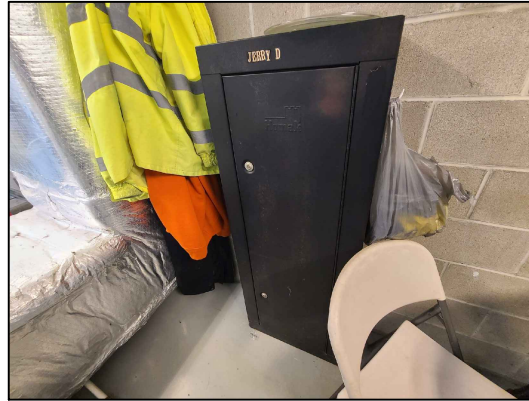
Note: All locations are approximate



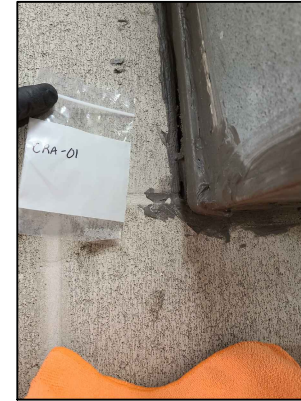
Drawn by: ILJ
Checked by: KJ
Approved by: KM
Date: December, 2023



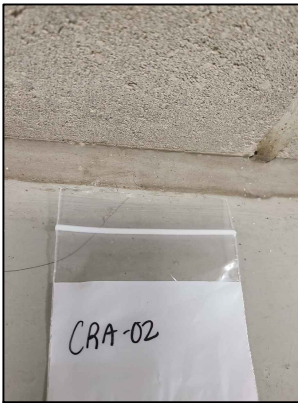
1. View of Centerville westbound rest area south exterior facing north.



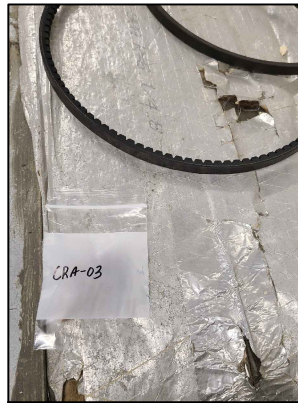
2. View of onsite safe located in men's side maintenance room.



3. View of non-ACM containing duct caulk sample CRA-01 located in the men's side maintenance room.



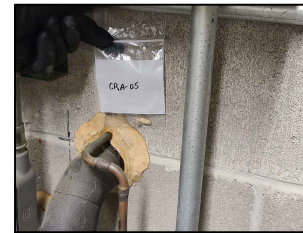
4. View of non-ACM containing flooring caulk sample CRA-02 located in the men's side maintenance room.



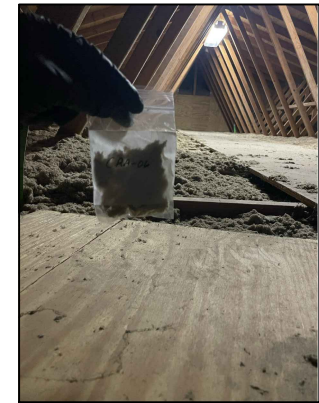
5. View of non-ACM containing duct insulation sample CRA-03 located in the men's side maintenance room.



6. View of non-ACM containing flooring seam caulk sample CRA-04 located in the men's side maintenance room; brochure room.



7. View of non-ACM containing pipe caulk sample CRA-05 located in the men's side maintenance room.

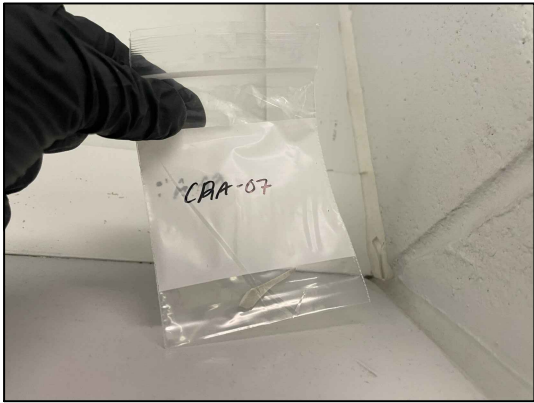


8. View of non-ACM containing blown insulation sample CRA-06 located in the men's side maintenance room attic.

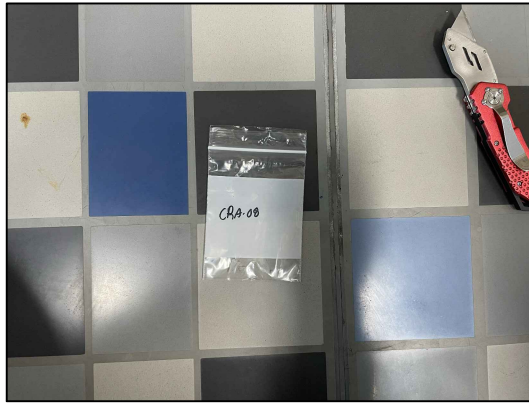
Exhibit 3A - Site Photographs
Asbestos Inspection Report
I-70 & Mile Marker 143 - Westbound
Greens Fork, Wayne County, Indiana
Metric Project #22-0075



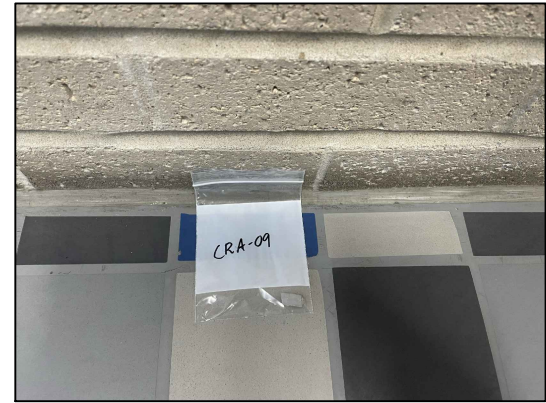
Drawn by: ILJ
Checked by: KJ
Approved by: KM
Date: December, 2023



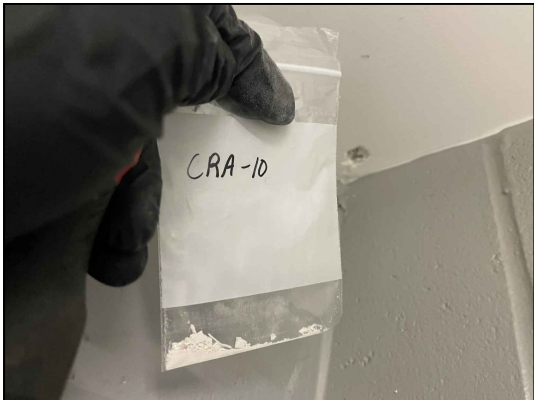
9. CRA-07 - View of non-ACM containing window caulk sample CRA-07 located in the men's auto side restroom.



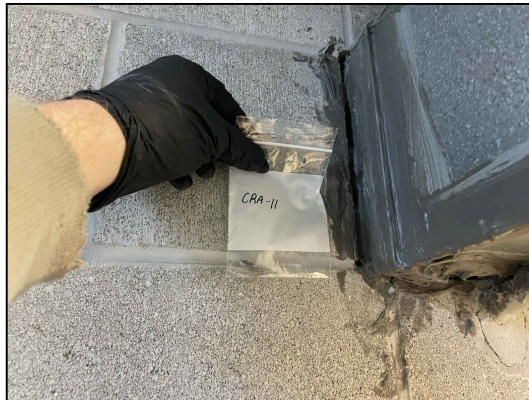
10. View of non-ACM containing flooring seam caulk sample CRA-08 located in the welcome center main hall.



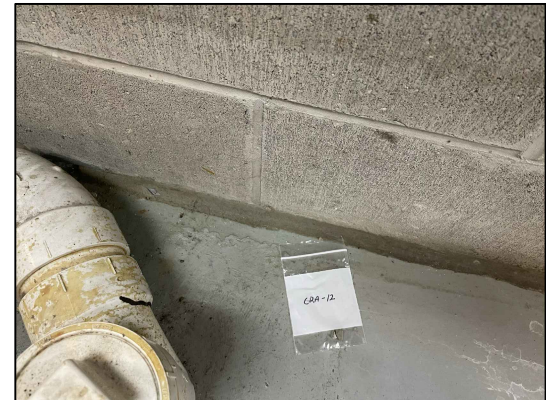
11. View of non-ACM containing flooring caulk sample CRA-09 located in the welcome center main hall.



12. View of non-ACM containing thin set sample CRA-10 located in the welcome center main hall mens side family restroom.



13. View of non-ACM containing duct caulk sample CRA-11 located in the women's side maintenance room.



14. View of non-ACM containing flooring caulk sample CRA-12 located in the women's side maintenance room.

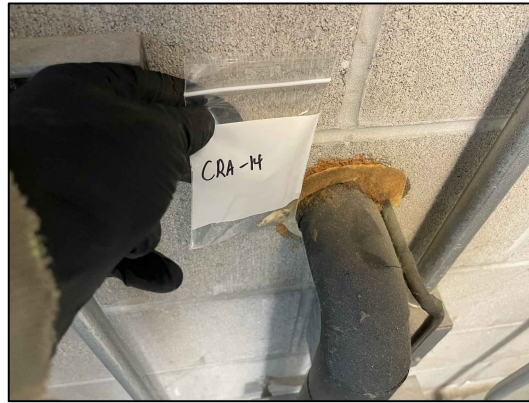
Exhibit 3B - Site Photographs
Asbestos Inspection Report
I-70 & Mile Marker 143 - Westbound
Greens Fork, Wayne County, Indiana
Metric Project #22-0075



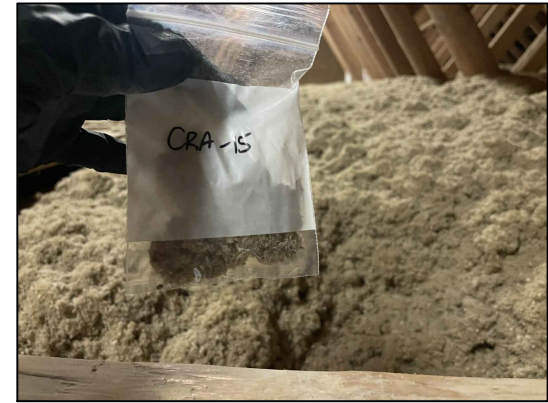
Drawn by: ILJ
Checked by: KJ
Approved by: KM
Date: December, 2023



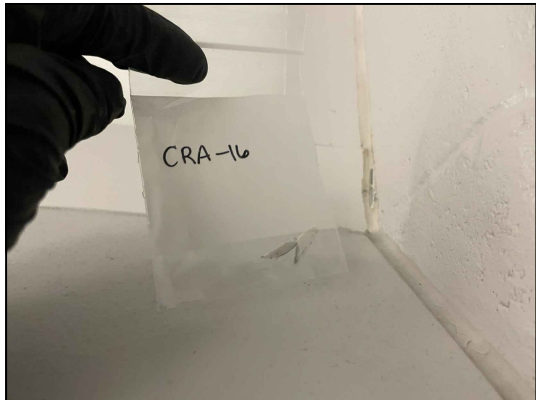
15. View of non-ACM containing duct insulation sample CRA-13 located in the women's side maintenance room.



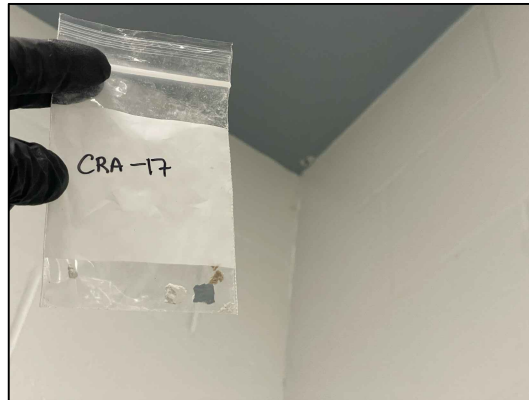
16. View of non-ACM containing pipe caulk sample CRA-14 located in the women's side maintenance room.



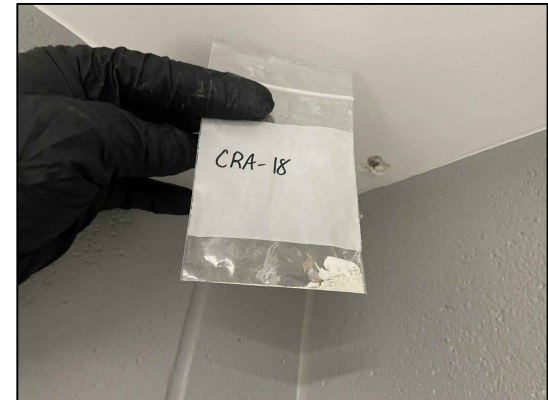
17. View of non-ACM containing blown insulation sample CRA-15 located in the women's side maintenance room attic.



18. View of non-ACM containing window caulk sample CRA-16 located in the closed women's restroom.



19. View of non-ACM containing thin set sample CRA-17 located in the women's closed restroom.

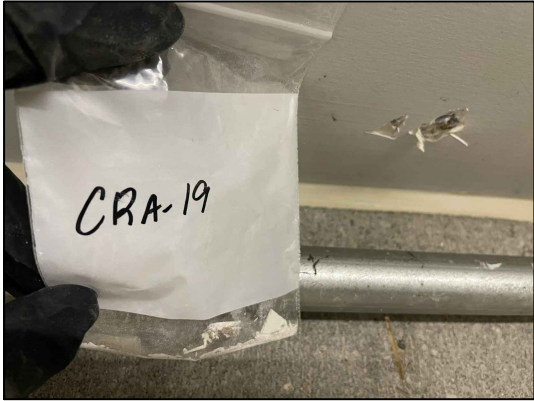


20. View of non-ACM containing thin set sample CRA-18 located in the women's closed restroom.

Exhibit 3C - Site Photographs
Asbestos Inspection Report
I-70 & Mile Marker 143 - Westbound
Greens Fork, Wayne County, Indiana
Metric Project #22-0075



Drawn by: ILJ
Checked by: KJ
Approved by: KM
Date: December, 2023



21. View of non-ACM containing thin set sample CRA-19 located in the detached storage shed.

Exhibit 3D - Site Photographs
Asbestos Inspection Report
I-70 & Mile Marker 143 - Westbound
Greens Fork, Wayne County, Indiana
Metric Project #22-0075



Drawn by: ILJ
Checked by: KJ
Approved by: KM
Date: December, 2023

APPENDICES

Appendix A – Definitions and Acronyms

Appendix B – Copies of Personnel Certifications

Appendix C – ACM Laboratory Analytical and Chain of Custody

Appendix D – Laboratory Asbestos Accreditation Certificates

Appendix E – IDEM Notification of Demolition and Renovation Operations Guidance for
Asbestos & Form #44593

APPENDIX A
DEFINITIONS AND ACRONYMS

DEFINITIONS

Actual Knowledge – the knowledge actually possessed by an individual who is a real person, rather than an entity.

Asbestos – The asbestos form varieties of chrysotile, crocidolite, and amosite.

Asbestos Containing Material (ACM) – Material containing more than 1% asbestos.

Category I non-friable asbestos-containing material – Asbestos containing packing, gaskets, resilient floor covering, and asphalt roofing products containing more than one percent asbestos.

Category II non-friable asbestos-containing material – Any material, excluding Category I non-friable ACM, containing more than one percent asbestos.

Friable asbestos material – Any asbestos containing material that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

Grinding – To reduce to powder or small fragments and includes mechanical chipping or drilling.

Hazardous substance: a substance defined as a hazardous substance pursuant to CERCLA 42 U.S.C. §9601(13), as interpreted by EPA regulations and the courts: “A) any substance designated pursuant to section 1231(B)(2)(A) of Title 33, B) any element, compounds, mixture, solution, or substance designated pursuant to section 9602 of this title, C) any *hazardous waste* having the characteristics identified under or listed pursuant to section 3001 of RCRA (1972) as amended, D) any toxic pollutant listed under section 1317(a) of Title 33, E) any hazardous air pollutant listed under section 112 of the Clean Air Act, and F), any imminently hazardous chemical substance or mixture with respect to which the EPA has taken action pursuant to section 2606 of

Title 15. The term does not include petroleum products, natural gas, etc.

Leak-tight – Solids or liquids cannot escape or spill out.

Obvious – that which is plain or evident; a condition or fact that could not be ignored or overlooked by a reasonable observer while visually or physically observing the property.

Owner – generally the fee owner of record of the property.

Petroleum: petroleum asphalt and crude oil or any part of petroleum asphalt or crude oil that is liquid at standard conditions of temperature and pressure [sixty (60) degrees Fahrenheit] and fourteen and seven-tenths (14.7) pounds per square inch absolute.

Property – the real property that is the subject of the environmental site assessment. Real property includes buildings and other fixtures and improvements located on the property and affixed to the land.

Regulated Asbestos-Containing Material (RACM) – (a) Friable asbestos material, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

Resilient floor covering – Asbestos-containing floor tile, including asphalt, vinyl floor tile, and sheet vinyl floor covering containing more than one percent asbestos.

Suspect Asbestos Containing Material (SACM) – Material which has the potential to contain more than one percent asbestos based on material type.

ACRONYMS

		ERIS	Environmental Risk Inventory System
ACM	Asbestos Containing Material	ERNS	Emergency Response Notification System
AHERA	Asbestos Hazard Emergency Response Act of 1986, 40 CFR 763	ERO	Extended Range Organics
AST	Aboveground Storage Tank	ESA	Phase I Environmental Site Assessment
ASTM	American Society for Testing and Materials	FINDS	Facility Index System
ATSDR	Agency for Toxic Substances and Disease Registry	FOIA	Freedom of Information Act (5 USC §552 as amended)
AUL	Activity Use Limitation	FR	Federal Register
BTEX	Benzene, Toluene, Ethylbenzene, and Total Xylenes	GRO	Gasoline Range Organics
CAA	Clean Air Act (42 USC §7412)	HCS	(OSHA) Hazard Communication Standard
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980 (as amended, 42 USC §9601)	HRS	Hazard Ranking System, 29 CFR 300 App. A
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System	ICs	Institutional Controls
CFR	Code of Federal Regulations	IDEM	Indiana Department of Environmental Management
CWA	Clean Water Act	LLPs	Landowner Liability Protections under the Brownfields Amendment
DNR	(Indiana) Department of Natural Resources	LUST	Leaking Underground Storage Tank
DOT	Department of Transportation	LQG	Large Quantity Generator
DPW	(Indianapolis) Department of Public Works	MCL	Maximum Contaminant Levels (as defined by EPA under the SDWA)
DRO	Diesel Range Organics	MSDSs	Material Safety Data Sheets
EC	Environmental Covenant	MTBE	Methyl tert-butyl ether
EPA	(Federal) Environmental Protection Agency	NFA	No Further Action
EPCRA	(Federal) Emergency Planning and Community Right-to-Know Act of 1986, (aka Title III of SARA), 42 USC §11001-11050	NFRAP	No Further Remedial Action Planned
		NEPA	National Environmental Policy Act
		NESHAPS	National Emissions Standards for Hazardous Air Pollutants
		NPL	National Priorities List

O & M:	Operations and Maintenance	TSD	Treatment, Storage and Disposal (facilities)
OSHA	Occupational Health & Safety Administration	USC	United States Code
PACM	Presumed Asbestos Containing Material	USGS	United States Geological Survey
PCBs	Polychlorinated Biphenyls	UST	Underground Storage Tank
PCE	Perchloroethylene (Tetrachloroethylene)		
PPM	Parts Per Million		
PRP	Potentially Responsible Party		
QA/QC	Quality Assurance/Quality Control		
RACM	Regulated Asbestos Containing Material		
RCRA	Resource Conservation and Recovery Act (42 USC §6901)		
RI/FS	Remedial Investigation & Feasibility Study		
RPTA	(Indiana) Responsible Property Transfer Act (1990)		
RQ	Reportable Quantity		
SACM	Suspect Asbestos Containing Material		
SARA	(Federal) Superfund Amendment and Reauthorization Act		
SBOH	(Indiana) State Board of Health		
SDWA	Safe Drinking Water Act		
SIC	Standard Industrial Classification		
SPCC	Spill Prevention Control and Countermeasure		
SQG	Small Quantity Generator		
SWMU	Solid Waste Management Unit		
TPH	Total Petroleum Hydrocarbons		
TSCA	(Federal) Toxic Substance Control Act		

APPENDIX B
COPIES OF PERSONNEL CERTIFICATIONS

Indiana Department of Environmental Management
100 N. Senate Avenue
Mail Code 61-52 IGCN 1003
Indianapolis, IN 46204-2251



June 26, 2023

000007

Kennita J. Jones
Metric Environmental
6958 Hillside Ct
Indianapolis IN 46250

Re: Asbestos Inspector # 19A003602

Based upon the review of your license application, the Office of Air Quality has determined that you have fulfilled the requirements of 326 IAC 18 and are eligible for licensing in the following discipline:

Asbestos Inspector

Your Asbestos Inspector license is attached below. The license is waterproof and tear resistant. Please sign your license and do not laminate or alter your license in anyway. Your license must be available for review at all times while implementing an asbestos project. This license may be revoked, pursuant to 326 IAC 18-2.1-5, if you:

- (1) Violate any requirements of these rules (326 IAC 18), 326 IAC 14-10, or any requirement of the Asbestos-Containing Materials in Schools Rule or any other federal, state, or local regulation pertaining to asbestos in buildings or to asbestos projects.
- (2) Falsify information on your application for licensing.
- (3) Fail to meet any qualifications specified in 326 IAC 18-2.1-2.
- (4) Conduct asbestos project, or related asbestos handling activity, in a manner which is hazardous to the public health.

Your license is valid effective 07/02/2023, and will expire on 07/02/2024, as indicated on your card. NOTE: 326 IAC 18-2.1-2 and 326 IAC 18-2.1-4(e) require that any individual who has a twenty-four (24) month lapse between any two training courses of the same discipline to attend an initial training course for the discipline in which they are seeking a license. In order to avoid re-taking the initial training course you must have attended a refresher in the discipline you are seeking a license within twenty-four (24) months from the date of issuance of your last training course certificate.

Office of Air Quality, Asbestos Licensing Section (317) 233-3861



Indiana Dept. of Environmental Management

Kennita J. Jones

Asbestos Inspector License #: 19A003602

Effective: 07/02/2023	Expiration: 07/02/2024
Birth Date: 01/23/1986	Gender: F
Height: 5-04	Eye Color: Brown
Weight: 170	Hair Color: Black

PLAUG0601-48124_Cashe-0000001-000001-1-Page

APPENDIX C
EMSL LABORATORY ANALYTICAL AND CHAIN OF CUSTODY



EMSL Analytical, Inc.

6340 CastlePlace Dr. Indianapolis, IN 46250
Tel/Fax: (317) 803-2997 / (317) 803-3047
<http://www.EMSL.com/indianapolislab@emsl.com>

EMSL Order: 162328848
Customer ID: MTRC42
Customer PO:
Project ID:

Attention: Kenneth Beache, P.E., Env SP, R.A
Metric Environmental
6958 Hillside Court
Indianapolis, IN 46250
Phone: (317) 679-5228
Fax:
Received Date: 12/11/2023 1:50 PM
Analysis Date: 12/14/2023
Collected Date:
Project: Centerville Welcome Center Rest Area 22-0075

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
CRA-01 162328848-0001	Mens Side Maintenc Maintenance Room - Duct, Caulk-Gray	Gray Non-Fibrous Homogeneous	HA: 1	100% Non-fibrous (Other)	None Detected
CRA-02 162328848-0002	Mens Side Maintenc Maintenance Room - Flooring Caulk-Gray	Gray Non-Fibrous Homogeneous	HA: 2	100% Non-fibrous (Other)	None Detected
CRA-03 162328848-0003	Mens Side Maintenc Maintenance Room - Duct Work Insulation-Brown	Brown Fibrous Homogeneous	HA: 3	98% Min. Wool 2% Non-fibrous (Other)	None Detected
CRA-04 162328848-0004	Mens Side Maintenc Maintenance Room Brochure Room Floor Seam - Flooring Caulk-Gray Tile Print	Clear Non-Fibrous Homogeneous	HA: 4	100% Non-fibrous (Other)	None Detected
CRA-05 162328848-0005	Mens Side Maintenc Maintenance Room - Pipe Caulk-Yellow	Tan Non-Fibrous Homogeneous	HA: 5	100% Non-fibrous (Other)	None Detected
CRA-06 162328848-0006	Mens Side Maintenc Maintenance Room - Blown Insulation-Gray	Brown Fibrous Homogeneous	HA: 6	98% Cellulose 2% Non-fibrous (Other)	None Detected
CRA-07 162328848-0007	Mens Auto Side Restroom - Window Caulk-Gray	White Non-Fibrous Homogeneous	HA: 7	100% Non-fibrous (Other)	None Detected
CRA-08 162328848-0008	Welcome Center-Main Hall - Flooring Caulk; in between floor seam	Clear Non-Fibrous Homogeneous	HA: 8	100% Non-fibrous (Other)	None Detected
CRA-09 162328848-0009	Welcome Center-Main Hall - Flooring Caulk	Gray Non-Fibrous Homogeneous	HA: 2	100% Non-fibrous (Other)	None Detected
CRA-10 162328848-0010	Family Restroom - Thin Set White, Ceiling	White Non-Fibrous Homogeneous	HA: 9	5% Glass 95% Non-fibrous (Other)	None Detected
CRA-11 162328848-0011	Womens Side Maintenance Room - Duct Caulk-Gray	Gray Non-Fibrous Homogeneous	HA: 1	100% Non-fibrous (Other)	None Detected

Initial report from: 12/14/2023 14:14:16



EMSL Analytical, Inc.

6340 CastlePlace Dr. Indianapolis, IN 46250

Tel/Fax: (317) 803-2997 / (317) 803-3047

<http://www.EMSL.com> / indianapolislab@emsl.com

EMSL Order: 162328848
Customer ID: MTRC42
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
CRA-12 162328848-0012	Womens Side Maintenance Room - Flooring Caulk-Gray	Gray Non-Fibrous Homogeneous	HA: 2	100% Non-fibrous (Other)	None Detected
CRA-13 162328848-0013	Womens Side Maintenance Room - Duct Work Insulation	Brown/Gray Fibrous Homogeneous	HA: 3	25% Cellulose 70% Min. Wool	5% Non-fibrous (Other) None Detected
CRA-14 162328848-0014	Womens Side Maintenance Room - Pipe Caulk-Yellow	Tan/White Non-Fibrous Homogeneous	HA: 5	100% Non-fibrous (Other)	None Detected
CRA-15 162328848-0015	Womens Side Maintenance Room - Blown Insulation-Brown	Tan Fibrous Homogeneous	HA: 6	98% Cellulose	2% Non-fibrous (Other) None Detected
CRA-16 162328848-0016	Womens Closed Restroom - Window Caulk Gray	White Non-Fibrous Homogeneous	HA: 7	100% Non-fibrous (Other)	None Detected
CRA-17 162328848-0017	Womens Closed Restroom - Thin Set, White	White Non-Fibrous Homogeneous	HA: 9	100% Non-fibrous (Other)	None Detected
CRA-18 162328848-0018	Welcome Center Main Lobby/Womens Side Family - Thin Set, White	White Non-Fibrous Homogeneous	HA: 9	5% Glass	95% Non-fibrous (Other) None Detected
CRA-19 162328848-0019	Storage Shed - Thin Set, White	White Non-Fibrous Homogeneous	HA: 10	5% Glass	95% Non-fibrous (Other) None Detected
CRA-20 162328848-0019A	Storage Shed - Thin Set, White	Brown Fibrous Homogeneous	HA: 10	98% Cellulose	2% Non-fibrous (Other) None Detected

Analyst(s)

Alison Pacey (13)

Ross Matlock (7)

Asbestos Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Indianapolis, IN NVLAP Lab Code 200188-0, AZ0939, CA 2575, CO AL-15132, TX 300262, A2LA Accredited - Certificate #2845.25

Initial report from: 12/14/2023 14:14:16



162328848

Suspect Asbestos Containing Materials
Bulk Sampling Form/ Chain of Custody
 6958 Hillsdale Court, Indianapolis, IN 46250
 Phone: (317)608-5017 FAX: (855)808-8227

Page 1 of 2

Project Name: Centerville Welcome Center Rest Area
Project No: 22-0075

Date:
Inspector(s): Kennita Jones

Turn Around Time: 3 Day
Stop at First Positive: Y N

Address: I-70 & Mile Marker 143

Report to: Kennita Jones
 Kennitaj@metricenv.com

Special Instructions: Samples are to be analyzed by PLM EPA/600R/R93/116

HA#	Sample #	F	NF1	NF2	Type/Description	Location	Quantity
1	CRA-01		X		Duct, caulk - gray	Mens side maintenance room	~ 100 SF
2	CRA-02		X		Flooring caulk - gray	↓	~ 300 SF
3	CRA-03	X		X	Duct work insulation - brown	↓	~ 1,000 SF
4	CRA-04		X		Flooring caulk - gray tile Print	Mens side maintenance room; Brochure Room; Floor seam	~ 50 SF
5	CRA-05		X		Pipe caulk - yellow	Mens side, maintenance room	~ 10 SF
6	CRA-06	X			Blown insulation - gray	↓	~
7	CRA-07		X		Window caulk - gray	Mens auto side restroom -	~ 50
8	CRA-08		X		Flooring caulk; in between floor seams	Welcome center - main Hall	~ 500 SF
2	CRA-09		X		Flooring caulk	↓	~ 500 SF
9	CRA-10			X	Thin set wall - white; ceiling	Family - restroom	~ 100 SF

Key:
 F = Friable
 NF1 = Non-Friable Category 1 (packings, gaskets, resilient floor tile covering, asphalt roofing, mastic, vinyl floor tile, floor tile mastic, vinyl base molding mastic)
 NF2 = Non-Friable Category 2 (hard siding shingles, duct cloth at joints, drywall, corrugated pipe insulation, plaster walls, transite, vinyl base molding)

Relinquished by: Kennita Jones Time/Date 13:50 12/11/23
 Received by: Bingham Time/Date 12/11/23 1:50 PM
 WZ

Order ID: 162328848



Suspect Asbestos Containing Materials
 Bulk Sampling Form/ Chain of Custody
 6958 Hillsdale Court, Indianapolis, IN 46250
 Phone: (317)608-5017 FAX: (855)808-8227

28848

Page 2 of 2

HA#	Sample #	F	NF1	NF2	Type/Description	Location	Quantity
1	CRA-11		X		Duct caulk - gray	Womens side maintenance room	~100 SF
2	CRA-12		X		Flooring caulk - gray	↓	~300 SF
3	CRA-13	X			Duct work insulation	↓	~1,000 SF
5	CRA-14		X		pipe caulk - yellow	↓	~10 SF
6	CRA-15	X			Blown insulation - brown	↓	~
7	CRA-16		X		window caulk - gray	women's restroom closed	~250 SF
9	CRA-17			X	Thin set, white	women's closed restroom	~300 SF
9	CRA-18				↓	welcome center main lobby / Womens side Family Rm	~100 SF
10	CRA-19				↓	Storage shed	~300 SF

Key:
 F = Friable
 NF1 = Non-Friable Category 1 (packings, gaskets, resilient floor tile covering, asphalt roofing, mastic, vinyl floor tile, floor tile mastic, vinyl base molding mastic)
 NF2 = Non-Friable Category 2 (hard siding shingles, duct cloth at joints, drywall, corrugated pipe insulation, plaster walls, transite, vinyl base molding)

Relinquished by: Kerita Jones Time/Date 18:50 12/11/23

Received by: _____ Time/Date _____

OrderID: 162328848

Page 2 of 2

APPENDIX D
EMSL LABORATORY ASBESTOS ACCREDITATION CERTIFICATES

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 200188-0

EMSL Analytical, Inc.
Indianapolis, IN

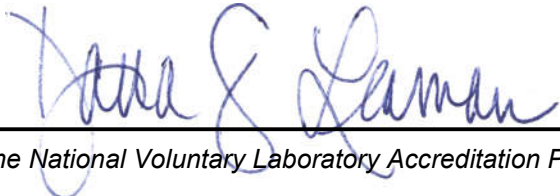
*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

Asbestos Fiber Analysis

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2023-04-01 through 2024-03-31

Effective Dates



For the National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

EMSL Analytical, Inc.
6340 Castleplace Dr.
Indianapolis, IN 46250
Mr. Richard Harding
Phone: 317-803-2997 Fax: 317-803-3047
Email: rharding@emsl.com
<http://www.emsl.com>

ASBESTOS FIBER ANALYSIS

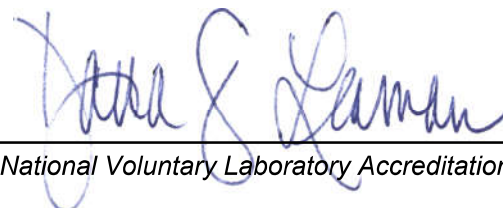
NVLAP LAB CODE 200188-0

Bulk Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.



For the National Voluntary Laboratory Accreditation Program

APPENDIX E
IDEM NOTIFICATION OF DEMOLITION AND RENOVATION OPERATIONS GUIDANCE FOR
ASBESTOS & FORM #44593

**Indiana Department of Environmental Management
GUIDANCE FOR PREPARING ASBESTOS
DEMOLITION/RENOVATION NOTIFICATIONS**

**Per Indiana Rule 326 IAC 14-10-3(1), all notifications to the IDEM must be submitted on State Form Number 44593.

Per 326 IAC 14-10-5, demolition/renovation fees will be assessed quarterly to owners/Operators submitting notifications during the previous quarter.

I. Type of Notification -326 IAC 14-10-3(4).

- A. If this is the original notice, please check the appropriate space on the notification form.
- B. If this is a revised notice, please check the appropriate space on the notification form. The revised notice must be postmarked and sent by certified mail, return receipt requested, at least 5 working days or delivered at least 2 working days before the start date of asbestos stripping or removal specified in: (1) the notice being revised **and** (2) the new revised notice. Facsimiles **will** be accepted by the IDEM.
- C. All revisions must include a copy of the notice being revised.
- D. If this is a canceled notice, please check the appropriate space on the notification form.
- E. Courtesy Notification

II. Facility Information - 326 IAC 14-10-3(3)(B) and (R)

- A. Either the owner or operator must submit the notice.
- B. The owner means the individual(s) who own the property or lease the property.
- C. The operator means the asbestos removal contractor or demolition contractor.
- D. Specify the name, address, telephone number, Indiana license number and license expiration date, of the:
 - 1. asbestos removal contractor,
 - 2. inspector who conducted the assessment prior to demolition or renovation and
 - 3. project designer required or asbestos projects at schools K-12, or if project designer is used for non-school projects must be licensed.

III. Type of Operation - 326-IAC 14-10-3(3)(C), (O) and (S)

- A. Refer to the definitions of demolition, renovation, and emergency renovation Operation in 326-IAC 14-10-2.
- B. Ordered demolitions and emergency renovation operations have additional

Notification requirements. Owner/operator must also complete Section XV or XVI of notification form.

C. Demolition by intentional burning must comply with an approved Variance from Opening Burning Regulation 326IAC 4-1.

IV. Is Asbestos Present? - Required by Federal 40 CFR Part 61, Subpart M

- A. If asbestos is present, indicate “yes” in the space provided.
- B. If asbestos is not present, indicate “no”.

V. Procedures, Including Analytical Methods, if appropriate, Used to Detect the Presence and Amount of Asbestos Material - 326 IAC 14-10-3(3)(E).

Describe how the asbestos was detected and, if samples were analyzed, specify the amount of friable asbestos visually during a walk-through inspections using a tape measure, blueprints, or pacing. Analytical methods could include the collection of samples and sample analyses by a polarized light microscope with dispersion staining.

For samples that test under 10% asbestos content: An owner or operator may (1) elect to assume material to be greater than 1% asbestos, or, (2) require verification by point counting in which the point counting result will supercede the visual estimation. Either choice and result should be stated on the notice when a sample is under 10% asbestos.

VI. Approximate Amount of Asbestos to be Removed - 326 IAC 14-10-3(3)(F)

- A. Specify the amount of regulated (friable) asbestos-containing material to be removed as follows:
 - 1. linear feet on pipes,
 - 2. square feet (surface area) on the facility components, **and**
 - 3. total cubic feet (volume) on or off all facility components. (All reported regulated amounts must be converted to cubic feet).
- B. Estimate the approximate amount of Category I and Category II non-friable asbestos-containing material in the affected part of the facility that will be removed before demolition.
- C. Estimate the approximate amount of Category I and Category II non-friable asbestos-containing material in the affected part of the facility that will not be removed before demolition.

VII. Scheduled Dates of Asbestos Stripping/Removal - 326 IAC 14-10-3(3)(H)

This means the actual start and end dates of the asbestos stripping or removal.

VIII. Scheduled Dates of Asbestos Stripping/Removal - 326 IAC 14-10-3(3)(H)

This means the starting and ending dates of the total demolition or renovation operation. For example: A renovation project may be scheduled from February 1 through March 15, 1995, however, the actual asbestos removal will occur from February 15, through 20, 1995. Demolition **must** start on date given in most recent notification.

IX. Facility Description - 326 IAC 14-10-3(3)(D) and (G)

Include the building name, floor and number of the room(s) where the asbestos stripping or removal will take place. Provide enough detail that an unfamiliar inspector can find the asbestos project without asking anyone.

X. Description of planned Demolition or Renovation Work, Methods/Techniques to be Used, and Affected Facility Components - 326 IAC 14-10-3(3)(K)

Briefly describe the methods to be used to conduct the demolition or renovation. For renovations, these methods may include gross removal, glove bag removal, hand stripping or scraping. For demolitions, methods may include a wrecking Ball, bulldozer, dynamite, or unbolting panels or sections and carefully lowering to the ground. Affected facility components may include pipe wrap, floor tile, sprayed-on insulation, transite, etc.

XI. Description of Work Practices and Engineering Controls To Be Used To Prevent Emissions of Asbestos At the Site, Including Asbestos Stripping, Removal, and Waste Handling Procedures and the Procedures to Prevent Non-Friable Asbestos Material from Becoming Friable in the Course of the Project 326 IAC 14-10-3(3)(L)

A. Examples of work practices and engineering controls to prevent asbestos emissions at the site would include: the use of water or wetting agents, containments, and negative air units during removal; placing into leak-tight containers or wrapping with six (6) mil thick polyethylene plastic sheeting which is properly labeled prior to disposal, etc.

B. Examples of removal and waste handling procedures to prevent non-friable material from becoming friable would include: removing by sections or units taking care not to crumble, pulverize, or reduce to powder, using water to prevent any emissions, placing into leak-tight containers or wrapping with six (6) mil thick plastic which is properly labeled prior to disposal (including name or waste generator and location at which the waste was generated), etc.

XII.** Description of Procedures to be Followed in the Event that Unexpected Asbestos is Found or Previously Non-Friable Asbestos Material Becomes Crumbled, Pulverized or Reduced to Powder - 326 IAC 18-3 and 326 IAC 14-10-3(3)(M).

A. If the amount of unexpected asbestos or previously non-friable asbestos material is > 3 LnFt on pipes, 3 SqFt on other facility components, or a total of 0.75 CuFt on or off all facility components, then an accredited contractor (unless in-house accredited

personnel) with accredited personnel must implement the asbestos removal project in accordance with the requirements of 326 IAC 14-10.

- B. Pursuant to 326 IAC 14-10, a revised demolition/renovation notification must be submitted to the IDEM, which reflects the change in the amount of affected asbestos-containing material. The revised notice must also reflect the new asbestos removal start date, if applicable.

** Required by 40 CFR Part 61, Subpart M

XIII. Waste Transporter - 326 IAC 14-10-3(3)(T)

Provide the name, address and telephone number of only the asbestos waste transporter. This should include the waste transporter's name, street address, city, state, zip code, contact person, and telephone number.

XIV. Waste Disposal site - 326 IAC 14-10-3(3)(N)

Provide the name and location of the sanitary landfill where the asbestos-containing waste material will be deposited. This should include the name, street address, city, state, zip code, waste disposal site contact person, and telephone number.

XV. If Demolition Ordered by a Governmental Agency, Identify the Agency and Attach a Copy of the Order - 326 IAC 14-10-3(3)(O)

- A. Provide the name, title and authority of the of the state or local governmental representative who has ordered the demolition .
- B. The authority is the applicable state or local regulation under which the demolition order has been issued.
- C. Attach a copy of the demolition order to the notice.

XVI. Emergency Renovations - 326 IAC 14-10-3(3)(S)

- A. Specify
 1. the date and hour that the emergency occurred,
 2. a description of the sudden unexpected event, and
 3. an explanation of how the event has caused emergency conditions
- B. An "emergency renovation operation" is a renovation operation that was not planned but results from a sudden, unexpected event. This term includes operations necessitated by non-routine failures of equipment.

XVII. Certification Statement and Signature by Owner/Operator - 326 IAC 14-10-3(3)(O) and (P)

Self-explanatory.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

NOTIFICATION OF DEMOLITION AND RENOVATION OPERATIONS

State Form 44593 (R2 / 8-99)

I. TYPE OF NOTIFICATION (check one):		Original _____	Revised * _____	Canceled _____	Courtesy _____
* Must include copy of notification which is being revised					
II. FACILITY INFORMATION (identify owner, removal contractor, demolition contractor, inspector, and project designer)					
Owner: _____					
Address: _____					
City: _____		State: _____		Zip: _____	
Contact: _____			Telephone #: _____		
Removal Contractor: _____			Demolition Contractor: _____		
Address: _____			Address: _____		
City: _____		State: _____		Zip: _____	
Contact: _____			Phone: _____		
IN License #: _____			Expiration: _____		
Inspector: _____			(Required for asbestos projects at schools K – 12)		
Address: _____			Project Designer: _____		
City: _____		State: _____		Zip: _____	
IN License #: _____			Expiration: _____		
Phone: _____			Phone: _____		
III. TYPE OF OPERATION (check one)		Renovation: _____	Emergency Renovation: _____		
Intentional Burning: _____		Demolition: _____	Ordered Demolition: _____		
IV. IS ASBESTOS PRESENT? (check one)		YES: _____		NO: _____	
V. PROCEDURES, INCLUDING ANALYTICAL METHODS, IF APPROPRIATE. USED TO DETECT THE PRESENCE AND AMOUNT OF ASBESTOS MATERIAL					

VI. APPROXIMATE AMOUNT OF ASBESTOS (Including Regulated ACM, Category I non-friable Category II non-friable ACM)					
	Regulated ACM to be removed	Non-friable Asbestos Material To be removed		Non-friable Asbestos Material Not to be removed before demolition	
		Category I	Category II	Category I	Category II
Pipes (LnFt)					
Surface Area (SqFt)					
Total Volume (CuFt) on/off Components					
VII. SCHEDULED DATES OF ASBESTOS STRIPPING/REMOVAL: Start: _____ End: _____					
VIII. SCHEDULED DATES OF RENOVATION: Start: _____ End: _____ DEMOLITION: Start: _____ End: _____					
IX. FACILITY DESCRIPTION (Including building name, floor, and room number)					
Building Name: _____					
Street Address: _____					
City: _____		State: _____		County: _____	
Location of removal within building: _____					
Building Size (SqFt): _____			# of Floors: _____		Age: _____
Present Use: _____			Prior use: _____		

X. DESCRIPTION OF PLANNED DEMOLITION OR RENOVATION WORK, METHODS/TECHNIQUES TO BE USED, AFFECTED FACILITY COMPONENTS AND TYPE OF MATERIALS REMOVED

XI. DESCRIPTION OF WORK PRACTICES AND ENGINEERING CONTROLS TO BE USED TO PREVENT EMISSIONS OF ASBESTOS AT THE SITE; INCLUDING ASBESTOS STRIPPING, REMOVAL AND WASTE HANDLING PROCEDURES TO PREVENT NON-FRIABLE ASBESTOS MATERIAL FROM BECOMING FRIABLE IN THE COURSE OF THE PROJECT:

XII. DESCRIPTION OF PROCEDURES TO BE FOLLOWED IN THE EVENT THAT UNEXPECTED ASBESTOS IS FOUND OR PREVIOUSLY NON-FRIABLE ASBESTOS MATERIAL BECOMES CRUMBLLED, PULVERIZED, OR REDUCED POWDER:

XIII. WASTE TRANSPORTER

Name: _____
Address: _____
City: _____ State: _____ Zip: _____
Contact: _____ Phone: _____

XIV. WASTE DISPOSAL SITE

Name: _____
Address: _____
City: _____ State: _____ Zip: _____
Contact: _____ Phone: _____

XV. IF DEMOLITION ORDERED BY A GOVERNMENT AGENCY, IDENTIFY THE AGENCY BELOW AND ATTACH A COPY OF THE ORDER TO THIS FORM. IF THE FACILITY IS NOT INSPECTED PRIOR TO DEMOLITION, THE DEBRIS MUST BE KEPT ADEQUATELY WET. THE DEBRIS MUST THEN BE INSPECTED AFTER DEMOLITION OR ASSUME ALL DEBRIS TO BE CONTAMINATED WITH RACM AND DISPOSED OF APPROPRIATELY TO COMPLY WITH 326 IAC 14-10-1(b).

Name: _____ Title: _____ Date ordered to begin: _____
Authority: _____ Date of Order: _____

XVI. FOR EMERGENCY RENOVATIONS:

Date and time of emergency: _____

Description of sudden, unexpected event: _____

Explanation of how the event caused unsafe conditions or would cause equipment damage: _____

XVII. I HEREBY CERTIFY THAT THE INFORMATION IN THIS NOTIFICATION IS CORRECT AND THAT I WILL ONLY USE INDIANA LICENSED WORKERS AND PROJECT SUPERVISORS, TO IMPLEMENT THIS ASBESTOS PROJECT, WHICH HAVE BEEN TRAINED IN 326IAC 14-10; 40 CFR PART 61, SUBPART M; AND, IF APPLICABLE, INDIANAPOLIS AIR POLLUTION CONTROL BOARD REGULATION 14. THE TRAINED INDIVIDUAL(S) ALONG WITH EVIDENCE THAT THE REQUIRED TRAINING WAS ACCOMPLISHED SHALL BE AVAILABLE AT THE JOB SITE DURING ACTUAL WORKING HOURS.

Owner/operator (signature) date

Owner/operator (printed) affiliation

***** OFFICE USE ONLY *****

POSTMARK: RECEIVED: REVIEWED BY: DEFICIENCIES:

Indiana Department of Transportation

County Wayne

Route I-70 WB

Des. No. 2000500

List the permits likely required for the project and summarize why the permits are needed, including permits designated as "Other."

The project will require a Construction Stormwater General Permit (CSGP) permit, formally known as a Rule 5 permit, due to the disturbance of more than 1.0 acre of land. The permanent wetland impacts will likely require an IDEM Section 401 Isolated Wetland Permit in addition to a USACE Section 404 Regional General Permit (RGP) / IDEM Section 401 RGP. Any required mitigation for the permanent wetland impacts will be determined via the ongoing permit development process.

Applicable recommendations provided by resource agencies are included in the Environmental Commitments section of this document. If permits are found to be necessary, the conditions of the permit will be the requirements of the project and will supersede these recommendations. It is the responsibility of the project sponsor to identify and obtain all required permits.

ENVIRONMENTAL COMMITMENTS

List all commitments and include the name of agency/organization requesting/requiring the commitment(s). Listed commitments should be numbered.

Firm:

1. If the scope of work or permanent or temporary right-of-way amounts change, the INDOT Environmental Services Division (ESD) and the INDOT District Environmental Section will be contacted immediately. (INDOT ESD and INDOT Greenfield District)
2. It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access. (INDOT ESD)
3. Any work in a wetland area within INDOT's right of way or in borrow/waste areas is prohibited unless specifically allowed in the US Army Corps of Engineers or IDEM permit. (INDOT EWPO)
4. General AMM 1: Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs. (USFWS)
5. Lighting AMM 1: Direct temporary lighting away from suitable habitat during the active season. (USFWS)
6. Lighting AMM 2: When installing new or replacing existing permanent lights, use downward-facing, full cutoff2 lens lights (with same intensity or less for replacement lighting); or for those transportation the goal is to be as close to 0 for all three ratings with a priority of "uplight" of 0 and "backlight" as low as practicable. (USFWS)
7. Tree Removal AMM 1: Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to the extent practicable to avoid tree removal in excess of what is required to implement the project safely. (USFWS)
8. Tree Removal AMM 2: Apply time of year restrictions (October 1 - March 31) for tree removal when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/ rail surface and outside of documented roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed. (USFWS and IDNR/DFW)
9. Tree Removal AMM 3: Ensure tree removal is limited to that specified in project plans. Install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits. Ensure that contractors understand clearing limits and how they are marked in the field. (USFWS)
10. Tree Removal AMM 4: Do not remove documented Indiana bat or NLEB roosts (that are still suitable for roosting) or trees within 0.25 mile of roosts or documented foraging habitat at any time of year. (USFWS)
11. A "Reinitiation Notice" is required if: more than 3.60 acres of trees are to be cleared; the amount or extent of incidental take of Indiana bat is exceeded; new information about listed species is encountered; new species is listed or critical habitat designated that the project may affect; the project is modified in a manner that causes an effect to the listed species; or, new information reveals that the project may affect listed species or critical habitat in a manner not considered in the project information. (USFWS)

Indiana Department of Transportation

County Wayne

Route I -70 WB

Des. No. 2000500

12. The Contractor shall not handle dead or injured bats, regardless of species, and any other federally listed species that are found at the project site to preserve biological material in the best possible condition and to protect personnel from exposure to diseases, such as rabies. Project personnel shall ensure that any evidence about determining the cause of death or injury is not unnecessarily disturbed. Reporting the discovery of dead or injured listed species shall be required in all cases to enable the Service to determine whether the level of incidental take exempted by the biological opinion, BO, is exceeded, and to ensure that the terms and conditions are appropriate and effective. Parties finding a dead, injured, or sick specimen of any bat, regardless of species, or other endangered or threatened species, shall promptly notify the USFWS Bloomington Field Office at (812) 334-4261. (USFWS)
13. Wetlands B and D will be partially permanently impacted by the proposed improvements and Wetland E will be entirely permanently impacted. Wetlands A, C, F and G will not be impacted permanently or temporarily. Wetlands A, C, F and G will be marked on the plans as "Do Not Disturb". The portions of Wetlands B and D not to be impacted by the project will also be marked on the plans as "Do Not Disturb". (INDOT ESD)
14. The "Blue Star Memorial Highway" marker will be identified on the project's demolition plans with the following text: "Existing Historical Marker to be Removed and Relocated." Prior to construction, the marker will be removed by INDOT staff and placed in storage at the INDOT Greenfield District Office's location in Greenfield, Indiana. The marker will be reinstalled on the grounds of the new Welcome Center by INDOT staff before its re-opening. (SHPO)
15. USFWS Bridge/Structure Assessments are only valid for two years. If construction or demolition of the buildings begins after May 22, 2025, an inspection of the structures and/or small drainage structures by a qualified individual must be performed. Inspection of the structures should check for presence of bats/bat indicators and/or presence of birds. The results of the inspections must indicate no signs of bats or birds. If signs of bats or birds are documented during this inspection, the INDOT Greenfield District Environmental Manager must be contacted immediately. (INDOT, Greenfield District)

For Further Consideration

16. Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids. (IDNR)
17. Impacts to non-wetland forest of one (1) acre or more in a rural or urban area should be mitigated at a minimum 2:1 ratio based on area of impact. Impacts to non-wetland forest under one (1) acre but at least 0.10 acre in a rural or urban area should be mitigated at a minimum 1:1 ratio based on area of impact. Impacts under 0.10 acre in a rural area typically do not require mitigation or additional plantings beyond seeding and stabilizing disturbed areas, though there are exceptions for high quality habitat sites. Impacts under 0.10 acre in an urban area should be mitigated by replacing trees that are 10" diameter-at-breast height (dbh) or greater by planting five trees, 1 inch to 2 inches in dbh, for each tree which is removed that is 10 inches dbh or greater. Seeding and stabilizing disturbed areas is required regardless of the impact amount and location. If floodway impacts to forested wetland and non-wetland habitat areas combine to be 0.10 acres or more, mitigation should be done and coordinated with the biologist, as needed. (IDNR)

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

- 1. Project information.
- 2. Work covered by Contract Documents.
- 3. Contractor's use of site and premises.
- 4. Work restrictions.
- 5. Specification and Drawing conventions.
- 6. Miscellaneous Provisions.

B. Related Requirements:

- 1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.
- 2. Section 017300 "Execution" for coordination of Owner-installed products.

1.3 PROJECT INFORMATION

A. Project Identification: PWP# 89006007-23-034-C1 I-70 WB Centerville Welcome Center

- 1. Project Location: WB I-70, Centerville, Wayne County, Indiana.

B. Owner: The Department of Administration, Public Works Division, State of Indiana.

- 1. Owner's Representative: John Grimes, Project Manager

C. Using Agency: Indiana Department of Transportation, State of Indiana.

- 1. User's Representative: Steve McAvoy, Statewide Facilities Director

D. Owner Consultants: Owner has retained the following design professionals who have prepared designated portions of the Contract Documents:

- 1. Drawing Sets # 1, # 2 and # 3: Have been prepared by the following:
 - a. Architectural: KrM Architecture
 - 1) 1515 N. Pennsylvania Street, Indianapolis, IN 46202
 - 2) Phone: 317-968-9868

- b. Plumbing, Mechanical and Electrical Engineering: Applied Engineering Services
 - 1) 5975 Castle Creek Pkwy. N. Dr., Suite 300, Indianapolis, IN 46250
 - 2) Phone: 317-840-4141
 - c. Structural Engineering: Lynch, Harrison & Brumleve, Inc.
 - 1) 550 Virginia Avenue, Indianapolis, IN 46203
 - 2) Phone: 317-423-1550
2. Drawing Set # 4: Has been prepared by the following:
- a. Landscape Architectural: RATIO, Landscape Architecture
 - 1) 30 W Monroe Street, Chicago, IL 60603
 - 2) Phone: 312-465-2359
3. Drawing Set # 5: Has been prepared by the following:
- a. Civil and Engineering: JSE, Janssen & Spaans Engineering.
 - 1) 9120 Harrison Park Court, Indianapolis, Indiana 46216
 - 2) Phone: 317-254-9686

1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and includes, but is not limited to, the following:

- 1. Drawing Set # 1: Welcome Center Building:
 - 1) All work within the building perimeter and the associated exterior perimeter of the building required for footing installation.
 - 2) Work defined in the architectural and structural drawings, including but not limited to cast-in-Place concrete, masonry, structural steel, decking, cold formed framing, metal fabrications, specialty metals, sheathing, waterproofing, roof systems, insulation systems, metal and composite material wall panels, specialty glazing systems, doors, door hardware, interior finishes, specialties and furnishings.
 - 3) Work defined in the mechanical, electrical and plumbing drawings within the building perimeter and extensions to connections to site utility services.
- 2. Drawing Set # 2: Trucker Restroom Building:
 - 1) All work within the building perimeter and the associated exterior perimeter of the building required for footing installation.
 - 2) Work defined in the architectural and structural drawings, including but not limited to cast-in-Place concrete, masonry, structural steel, cold formed framing, metal fabrications, specialty metals, sheathing, waterproofing, roof systems, insulation systems, metal and composite material wall panels, doors, door hardware, interior finishes, specialties and furnishings.
 - 3) Work defined in the mechanical, electrical and plumbing drawings within the building perimeter and extensions to connections to site utility services.
- 3. Drawing Set # 3: Maintenance Building and Dumpster Enclosures:
 - 1) All work within the building perimeter and the associated exterior perimeter of the building required for footing installation.
 - 2) Work within the Dumpster Enclosure's perimeter and the associated exterior perimeter required for footing installation.
 - 3) Work defined in the architectural and structural drawings, including but not limited to cast-in-Place concrete, masonry, structural steel, cold formed framing, metal fabrications, specialty metals, sheathing, waterproofing, roof systems, insulation

systems, metal and composite material wall panels, doors, door hardware, interior finishes, specialties and furnishings.

- 4) Work defined in the mechanical, electrical and plumbing drawings within the building perimeter and extensions to connections to site utility services.
4. Drawing Set # 4: Landscape:
- 1) All work listed on the L series sheet and associated specifications and other Work indicated in the Contract Documents include the following site improvements for the eastbound welcome center site.
 - 2) Pedestrian pavement finishes: This work includes finishes to pedestrian pavement as noted on the drawings.
 - 3) Planting: Including but not limited to, all trees, shrubs, sod, seeded lawn, native seeding, and perennials. Includes installation, maintenance and warranties listed.
 - 4) Site amenities: Including but not limited to picnic shelters, playground equipment, playground surfacing, workout equipment, benches, trash receptacles, fences, and signage.
5. Drawing Set # 5: Site:
- 1) Traffic Maintenance: Install closure signs on all Rest Area signs along I-65. Coordinate with INDOT TMC to show the truck spots as unavailable. Post advanced warning signs of the closure two weeks prior.
 - 2) Removals: Install appropriate erosion control before beginning work. All existing infrastructure is to be removed. Remove all buildings, ancillary structures, pavement, drainage structures, pipes and culverts as noted on plans. Existing pavement in the truck parking lot and along the exit ramp from car parking lot shall not be disturbed. Remove existing light poles and high masts including foundations. Remove existing cameras and poles including foundations. Remove the existing traffic monitoring equipment. Store the cameras, poles and traffic monitoring equipment for reuse. Remove existing force main in accordance with IDEM standards. Trees outside the construction limits shall not be disturbed or removed.
 - 3) Grading: Strip topsoil from site and store for future use. Rough grade site to new grading plan. Excavate detention pond and place liner per Geotech report.
 - 4) Inground Work: Install all drainage features and utilities including power, telecommunications, sanitary sewer and water lines
 - 5) Paving: Install concrete paving in the truck and car parking lots and new ramps. Construct walking path, sidewalks, curb ramps and curbs.
 - 6) Lighting and ITS: Install new light poles and luminaires. Standard INDOT poles are to be used in the truck parking lot and along ramps. Decorative poles and Fixtures are to be installed in the car parking lot, welcome center building and walking path. Reinstall the cameras and traffic monitoring equipment on new foundations.
 - 7) Utilities: Install new 8 inch sanitary gravity lines and variable size water lines as well as electrical and telecommunication lines with conduits in coordination with utility companies.
 - 8) Finish grading and seeding: Finish grade the site and place the topsoil in the planting areas. Seed all other bare areas not indicated in Drawing Set # 4 and #5.
 - 9) Commissioning Check all mechanical and electrical features for proper operations.

B. Type of Contract:

1. Project will be constructed under a single prime contract.

1.5 CONTRACTOR'S USE OF SITE AND PREMISES

- A. Unrestricted Use of Site: Contractor shall have full use of Project site for construction operations during construction period. Contractor's use of Project site is limited only by Owner's right to perform work or to retain other contractors on portions of Project.
- B. Limits on Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1.6 WORK RESTRICTIONS

- A. Comply with restrictions on construction operations.
 - 1. Comply with limitations on use of public streets, work on public streets, rights of way, and other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work to between 6:00 a.m. to 6:00 p.m., Monday through Friday, unless otherwise indicated. Work hours may be modified to meet Project requirements if approved by Owner and authorities having jurisdiction.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging for temporary utility services according to requirements indicated:
 - 1. Notify Owner not less than two days in advance of proposed utility interruptions.
- D. Smoking and Controlled Substance Restrictions: Use of tobacco products, alcoholic beverages, and other controlled substances on Project site is not permitted.

1.7 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 - 2. Text Color: Text used in the Specifications, including units of measure, manufacturer and product names, and other text may appear in multiple colors or underlined as part of a hyperlink; no emphasis is implied by text with these characteristics.
 - 3. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Contracting Requirements: General provisions of the Contract, including General and Supplementary Conditions, apply to all Sections of the Specifications.
- C. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- D. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:

1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings and published as part of the U.S. National CAD Standard.
3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.

- B. Types of allowances include the following:

- 1. Base Bid Lump Sum Allowances
 - a. Art Exhibits
 - b. Metal Exhibits BoMar
 - c. Remediation of Unforeseen Constraints
 - d. Unsatisfactory soils, excavation, Disposal and Replacement
 - e. Commissioning Agent
 - f. Storm Water Control Monitoring Agents
 - g. Town of Centerville – Water and Sanitary Sewer Utilities
 - h. Whitewater Valley REMC – Electric
 - i. Frontier – Phone and WIFI Utility
 - j. Interior Furniture
 - k. Ceramic Tile Art
 - l. Professional Photography
 - m. Access Control System
 - n. Utility Vehicle
 - o. Independent Quality Control Monitoring Agent
 - p. Wetlands Mitigation

- C. Related Requirements:

- 1. See section DAPW 26 General Conditions of the Contract.

1.3 DEFINITIONS

- A. Allowance: A quantity of work or dollar amount included in the Contract, established in lieu of additional requirements, used to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

1.4 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection, or purchase and delivery, of each product or system described by an allowance must be completed by the Owner to avoid delaying the Work.

- B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Architect from the designated supplier.

1.5 ACTION SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances in the form specified for Proposal Requests.

1.6 INFORMATIONAL SUBMITTALS

- A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.7 LUMP-SUM ALLOWANCES

- A. Art Exhibits:
 - 1. Contractor shall include an allowance of \$500,000.00 in Base Bid for furnishing and installing art exhibits. Owner will determine provider, and provider will be compensated out of the allowance.
- B. Metal Art Exhibits:
 - 1. Contractor shall include an allowance of \$300,000.00 in Base Bid for furnishing and installing metal art exhibits. Owner will determine provider, and provider will be compensated out of the allowance.
- C. Remediation Allowance:
 - 1. Contractor shall include an allowance of 1,000,000.00 in the Base Bid for Owner-directed remediation of unforeseen constraints.
 - 2. 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; obstructions or delays to reasonable work sequences by the Institution, the using Agency, or the Owner; uncommon adverse weather or site conditions; and conflicts within or omissions from the Contract Documents.
 - 3. All remediation work shall be proposed to and authorized by Director of Public Works division prior to execution, and jointly documented by Contractor and Designer, and recorded in Contractor's as-built's and Designer's project record Documents.
 - 4. At Project closeout, credit unused amounts remaining in the remediation allowance to Owner by Change Order.
- D. Unsatisfactory Soil Excavation, Disposal and Replacement Allowance:
 - 1. Contractor shall include an allowance of \$500,000.00 for unsatisfactory soil excavation and disposal off-site and replacement with satisfactory soil material from off-site, as specified in Section 312200 "Earth Moving."
- E. Commissioning Agent Allowance:

1. Contractor shall include an allowance of \$50,000.00 in Base Bid for Commissioning. Owner will determine Commissioning Agent and Agent will be compensated out of the allowance. The Agent will perform Commissioning services as indicated on the drawings and as directed by the Owner. If additional Commissioning services are required due to test failures the Contractor will compensate the Commissioning Agent for those additional services.
- F. Storm Water Control Monitoring Agent Allowance:
1. Contractor shall include an allowance of \$60,000.00 in Base Bid for Storm Water Control Monitoring Agent. Owner will determine Storm Water Control Monitoring Agent and Agent will be compensated out of the allowance. The Agent will perform required weekly site inspections and prepare required reports and post "major rain event" reports for the project, and submit those reports to Owner, Contractor and IDEM on the General Contractor's behalf. The Contractor is responsible for notifying the Agent of any onsite rainfall that qualifies as a "major rain event". The Agent will notify the contractor of any required field changes "noted" but is not liable for the changes. The contractor remains responsible for all Storm Water Control Measures. The Agent shall not control or have charge of, and shall not be responsible for, construction means, methods, techniques, recommendations, sequences, procedures of construction, health or safety programs, or precautions connected with the work of the above referenced project or its beneficiaries or its other contractors, and shall not manage, supervise, control or have charge of construction.
- G. Town of Centerville – Water and Sanitary Sewer Utilities:
1. Contractor shall include an allowance of \$500,000.00 in Base Bid for upgrades to existing facility by the utility company outside of the INDOT right-of-way. Utility company will be compensated out of the allowance.
- H. Whitewater Valley REMC – Electric:
1. Contractor shall include an allowance of \$200,000.00 in Base Bid for utility charges for electrical hook ups. Utility company will be compensated out of the allowance.
- I. Frontier – Phone and WIFI Utility Connection:
1. Contractor shall include an allowance of \$230,530.00 in Base Bid for utility charges for phone and WiFi hook ups. Utility company will be compensated out of the allowance.
- J. Interior Furniture:
1. Contractor shall include an allowance of \$50,000.00 in Base Bid for the purchase, delivery and installation of loose furnishings. Owner will determine vendors, and vendors will be compensated out of the allowance.
- K. Ceramic Tile Art:
1. Contractor shall include an allowance of \$40,000.00 in Base Bid for ceramic tile art on interior walls in the building. This ceramic tile wall art allowance is to include the purchase of the tile material and the installation of the ceramic tile. The cement backer wall/board and wall that the tile will be installed on is to be provided as a part of the contractors base bid work. Owner will determine provider, and provider will be compensated out of the allowance.
- L. Professional Photography:
1. Contractor shall include an allowance of \$20,000.00 in Base Bid for providing progress and post construction photography of finished project. Owner will determine provider, and provider will be compensated out of the allowance.
- M. Access Control System:
1. Contractor shall include an allowance of \$25,000.00 in Base Bid for the installation of an access control system. This allowance is to include the installation of the electronics, activator buttons and items related to the operation of the access controls. The wiring, conduit, door pedestals,

power, door hardware and other specified items are to be part of the base bid. Owner will determine provider, and provider will be compensated out of the allowance.

N. Utility Vehicle Allowance:

1. Contractor shall include an allowance of \$30,000.00 in Base Bid for utility vehicle. Owner will determine vendor, and provider will be compensated out of the allowance.

O. Independent Quality Control Monitoring Agent:

1. Contractor shall include an allowance of \$60,000.00 in Base Bid for an independent quality control monitoring agent. Owner will determine independent quality control monitoring agent and Agent will be compensated out of the allowance.

P. Wetlands Mitigation:

1. Contractor shall include an allowance of \$250,000.00 in Base Bid for providing offsite wetland mitigation credit. Owner will determine provider, and provider will be compensated out of the allowance.

1.8 NOT USED

1.9 ADJUSTMENT TO REMEDIATION ALLOWANCE

- A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, required maintenance materials, and similar margins.

1. Include installation costs in purchase amount only where indicated as part of the allowance.
2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other markups.
3. Submit substantiation of a change in scope of Work, if any, claimed in Change Orders related to unit-cost allowances.
4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.
5. All general contractor overhead costs, bonds and other markups shall be in the base bid and not the allowance unless the allowance amount is exceeded.

1.10 ADJUSTMENT TO ALL OTHER ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, Architect will prepare a Proposal Request based on the difference between unit price/purchase amount from vendor and the allowance.

1. Allowance amount is for the cost of the purchase order. All general contractor overhead costs, bonds and other markups shall be in the base bid and not the allowances unless the allowance amount is exceeded.
2. Submit substantiation of a change in Scope of Work, if any, claimed in Change Orders related to unit-cost allowances.
3. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.

- B. Submit claims for increased costs due to a change in the scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.

1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of Work has changed from what could have been foreseen from information in the Contract Documents.
 2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.
- C. Unused allowance amounts will be credited back to the Remediation Allowance by Proposal Request and Architects Proposal Request Approval Letter.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

END OF SECTION 012100

SECTION 012200 - UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.
- B. Related Requirements:
 - 1. Section 012100 "Remediation Allowance" for procedures for using unit prices to adjust quantity allowances.
 - 2. Section 014000 "Quality Requirements" for general testing and inspecting requirements
 - 3. Section 312200 "Earthwork" for procedures for measurement and payment for rock excavation and excavation/fill of unsuitable soils.

1.3 DEFINITIONS

- A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

- A. Unit Price 1: Removal of unsatisfactory soil and replacement with engineered fill material.
 - 1. Description: Unsatisfactory soil excavation and disposal off site and replacement with engineered fill from off site, as required, according to Section 312200 "Earthwork." Include testing of replaced material.
 - 2. Unit of Measurement: One (1) Cubic yards of soil excavated, based on survey of volume removed.
 - 3. Quantity Allowance: Coordinate unit price with allowance adjustment requirements in Section 012100 "Remediation Allowance."

- B. Unit Price 2: Earth moving excavation for preparing for using Controlled Low Strength Material.
 - 1. Description: Earth moving excavation and preparing subgrade for Controlled Low Strength Material, as required, according to Section 312200 "Earthwork."
 - 2. Unit of Measurement: One (1) Cubic yards of soil excavated, based on survey of volume removed.
 - 3. Quantity Allowance: Coordinate unit price with allowance adjustment requirements in Section 012100 "Remediation Allowance."

- C. Unit Price 3: Controlled Low Strength Material.
 - 1. Description: Furnish and install Controlled Low Strength Material, as required, according to Section 312200 "Earthwork."
 - 2. Unit of Measurement: One (1) Cubic yards of Controlled Low Strength Material, based on delivery ticket.
 - 3. Quantity Allowance: Coordinate unit price with allowance adjustment requirements in Section 012100 "Remediation Allowance."

END OF SECTION 012200

SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

- A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Execute accepted alternates under the same conditions as other work of the Contract.
- C. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Alternate No. 1.

1. Base Bid: Reference Drawing Set # 1 and Specification Section 096623 for all terrazzo work.
2. Alternate # 1: Provide price to use preferred provider Midwest Terrazzo of Evansville, Indiana for all terrazzo work.

END OF SECTION 012300

SECTION 01 2500
SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.
- B. SUBMITTALS
- C. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified material or product cannot be provided.
 - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - h. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
 - i. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
 - j. Cost information, including a proposal of change, if any, in the Contract Sum.
 - k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
 - l. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

PART 2 - PRODUCTS

2.01 PRODUCT SUBSTITUTIONS

- A. Conditions: Architect will not consider requests for substitution except under the following circumstances and in the Architect's sole judgment.
 - 1. The Architect/Engineer will consider a request for substitution where the specified product or method cannot be provided within the Contract Time. However, the request will not be considered if the product or method cannot be provided as a result of the Contractor's failure to pursue the work promptly or to coordinate the various activities properly.
 - a. The Architect/Engineer will consider a request for substitution where the specified product or method cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
 - 1) The Architect/Engineer will consider a request for substitution when the specified product or method cannot be provided in a manner which is compatible with

other materials of the work, and where the Contractor certifies that the substitution will overcome the incompatibility.

- 2) The Architect/Engineer will consider a request for substitution when the specified product or method cannot be properly coordinated with other materials in the work, and where the Contractor certifies that the proposed substitution can be properly coordinated.

PART 3 - EXECUTION (NOT USED)

END OF SECTION

**SECTION 01 2973
SCHEDULE OF VALUES**

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Value of Closeout Documents including record drawings, instructions, start up, warranties and related activities is to be 2% of the value of the Contract and is to be listed on the G702 and G703 as that value.
- C. SUBMITTALS
 - 1. SCHEDULE OF VALUES:
 - a. Submit a Schedule of Values within seven (7) days after the date of the “Notice to Proceed” or the contract date, whichever is the earlier.
 - b. Submit an electronic copy to the Construction Manager for review.
 - c. Each Schedule of Values shall have the Contractor’s name, Bid Category name and number, project name and number and shall be dated, signed and notarized.
 - d. APPLICATION FOR PAYMENT
 - e. Information regarding submission requirements for applications for payment will be provided in the pre-construction meeting

PART 2 – PRODUCTS

2.01 SCHEDULE FORMAT

- A. FORM:
 - 1. A Schedule of Values shall be submitted in the format as detailed on AIA Document G732-2009 / G703-1992 Continuation Sheet.
 - a. Use the project manual Table of Contents as a guide to establish the format for the Schedule of Values. A line item shall be given for each labor and material item.
 - b. “General Conditions” items such as superintendence, bond/insurance cost, mobilization, demobilization, safety, submittals, clean up and close-out, may be listed as separate line items. A final list of additional line items will be provided at the pre-construction meeting.

PART 3 – EXECUTION

3.01 SCHEDULE CONTENT

- A. VALUES:
 - 1. Each item shall be the assigned separate labor and materials values for that portion of the Work.
 - a. CONTRACT BREAKDOWN/REVIEW/PURPOSE:
 - 1) Breakdown of Contract, once accepted by the Owner, Construction Manager and the Architect/Engineer, will be used in evaluating monthly applications for payment.

END OF SECTION

SECTION 01 3000
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. General administrative requirements.
- B. Web-based project software service.
- C. Electronic document submittal service.
- D. Submittals for review, information, and project closeout.
- E. Submittal procedures.

1.02 RELATED REQUIREMENTS

- A. Section 00 7200 - General Conditions: Dates for applications for payment.
- B. See section 01 33 00 For submittal requirements
- C. See section 01 78 00 For closeout procedures
- D. See section 025 00 For substitution requirements

1.03 GENERAL ADMINISTRATIVE REQUIREMENTS

- A. Make the following types of submittals to Architect:
 - 1. Requests for Interpretation (RFI).
 - 2. Requests for substitution.
 - 3. Shop drawings, product data, and samples.
 - 4. Test and inspection reports.
 - 5. Design data.
 - 6. Manufacturer's instructions and field reports.
 - 7. Applications for payment and change order requests.
 - 8. Progress schedules.
 - 9. Coordination drawings.
 - 10. Correction Punch List and Final Correction Punch List for Substantial Completion.
 - 11. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 WEB-BASED PROJECT SOFTWARE SERVICE

- A. Web-Based Project Software Service: Provide, administer, and use web-based project software to host and manage project communication and documentation.
 - 1. Include, at minimum, the following features:
 - a. Project directory, including Owner, Contractor, subcontractors, Architect, Architect's consultants, and other entities involved in the project. Include names of contact persons and contact information for each entity.
 - b. Access control for each entity and for each workflow process to determine each entity's digital rights to create, modify, view, and print documents.
 - c. Workflow planning, allowing customization of workflow for each project entity.
 - d. Creation, logging, tracking, and notification for project communications.
 - e. Tracking of project communication statuses in real time, including timestamped response log.
 - f. Procedures for viewing PDFs or similar file formats, allowing markups by each entity. Provide security features to lock markups against changes once submitted.
 - g. Processing and tracking of payment applications.
 - h. Processing and tracking of contract modifications.
 - i. Creation and distribution of meeting minutes.

- j. Document management for drawings, specifications, and coordination drawings, including revision control.
 - k. Management of construction progress photographs.
 - l. Mobile device compatibility.
 - m. Creation of data analytics reports.
 - n. Creation and export of editable logs for software functions. Provide Owner, Architect, and Architect's consultants with rights and ability to download logs when requested.
 - o. _____.
2. Cost: Pay cost of service. Include the cost of the service in the contract sum.
 3. Provide up to 20 user licenses for use by Owner, Architect, Architect's consultants, and other entities involved in the project.
 4. Comply with the software service's current published licensing agreements.
 5. Training: Provide one-hour, web-based training session for users of software service. Further training is the responsibility of the user.
 - a. Representatives of Owner are scheduled and included in this training.
 6. Project Closeout: Architect determines when to terminate the software service for the project and is responsible for obtaining archive copies of files for Owner.
 7. Web-Based Project Software Services: The selected service is:
 - a. Pr-Core_____.
 - b. Autodesk Construction Cloud

3.02 ELECTRONIC DOCUMENT SUBMITTAL SERVICE

- A. All documents transmitted for purposes of administration of the contract are to be in electronic (PDF, MS Word, or MS Excel) format, as appropriate to the document, and transmitted via an Internet-based submittal service that receives, logs and stores documents, provides electronic stamping and signatures, and notifies addressees via email.
 1. Besides submittals for review, information, and closeout, this procedure applies to Requests for Interpretation (RFIs), progress documentation, contract modification documents (e.g. supplementary instructions, change proposals, change orders), applications for payment, field reports and meeting minutes, Contractor's correction punchlist, and any other document any participant wishes to make part of the project record.
 2. Contractor and Architect are required to use this service.
 3. It is Contractor's responsibility to submit documents in allowable format.
 4. Subcontractors, suppliers, and Architect's consultants are to be permitted to use the service at no extra charge.
 5. Users of the service need an email address, internet access, and PDF review software that includes ability to mark up and apply electronic stamps (such as Adobe Acrobat, www.adobe.com, or Bluebeam PDF Revu, www.bluebeam.com), unless such software capability is provided by the service provider.
 6. Paper document transmittals will not be reviewed; emailed electronic documents will not be reviewed.
 7. All other specified submittal and document transmission procedures apply, except that electronic document requirements do not apply to samples or color selection charts.
- B. Submittal Service: The selected service is:
- C. Training: One, one-hour, web-based training session will be arranged for all participants, with representatives of Architect and Contractor participating; further training is the responsibility of the user of the service.
- D. Project Closeout: Architect will determine when to terminate the service for the project and is responsible for obtaining archive copies of files for Owner.

END OF SECTION

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. General coordination procedures.
 - 2. Requests for Information (RFIs).
 - 3. Project meetings.
- B. Related Requirements:
 - 1. Section 013200 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
 - 2. Section 017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 - 3. Section 017700 "Closeout Procedures" for general closeout procedures.

1.3 DEFINITIONS

- A. RFI: Request from Owner, Construction Manager, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
 - 1. Name, address, and telephone number of entity performing subcontract or supplying products.
 - 2. Number and title of related Specification Section(s) covered by subcontract.
 - 3. Drawing number and detail references, as appropriate, covered by subcontract.
- B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.
 - 1. Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.5 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of Contractor's construction schedule.
 - 2. Preparation of the schedule of values.
 - 3. Installation and removal of temporary facilities and controls.
 - 4. Delivery and processing of submittals.
 - 5. Progress meetings.
 - 6. Preinstallation conferences.
 - 7. Project closeout activities.
 - 8. Startup and adjustment of systems.
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
 - 1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

1.6 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 - 1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
 - 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.
 2. Project number.
 3. Date.
 4. Name of Contractor.
 5. Name of Architect.
 6. RFI number, numbered sequentially.
 7. RFI subject.
 8. Specification Section number and title and related paragraphs, as appropriate.
 9. Drawing number and detail references, as appropriate.
 10. Field dimensions and conditions, as appropriate.
 11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 12. Contractor's signature.
 13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
 - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. RFI Forms: AIA Document G716 or Software-generated form with substantially the same content as indicated above, acceptable to Architect.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
1. The following Contractor-generated RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for approval of Contractor's means and methods.
 - d. Requests for coordination information already indicated in the Contract Documents.
 - e. Requests for adjustments in the Contract Time or the Contract Sum.
 - f. Requests for interpretation of Architect's actions on submittals.
 - g. Incomplete RFIs or inaccurately prepared RFIs.
 2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log monthly. Use CSI Log Form 13.2B or Software log with not less than the following:
1. Project name.
 2. Name and address of Contractor.
 3. Name and address of Architect.
 4. RFI number including RFIs that were returned without action or withdrawn.
 5. RFI description.
 6. Date the RFI was submitted.

7. Date Architect's response was received.

F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.

1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
2. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

1.7 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.

B. Preconstruction Conference: Architect will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.

1. Conduct the conference to review responsibilities and personnel assignments.
2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Lines of communications.
 - f. Procedures for processing field decisions and Change Orders.
 - g. Procedures for RFIs.
 - h. Procedures for testing and inspecting.
 - i. Procedures for processing Applications for Payment.
 - j. Distribution of the Contract Documents.
 - k. Submittal procedures.
 - l. Preparation of record documents.
 - m. Use of the premises.
 - n. Work restrictions.
 - o. Working hours.
 - p. Owner's occupancy requirements.
 - q. Responsibility for temporary facilities and controls.
 - r. Procedures for moisture and mold control.
 - s. Procedures for disruptions and shutdowns.
 - t. Parking availability.

- u. Office, work, and storage areas.
 - v. Equipment deliveries and priorities.
 - w. First aid.
 - x. Security.
 - y. Progress cleaning.
4. Minutes: Architect will record and distribute meeting minutes.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.
- 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
 - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related RFIs.
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Review of mockups.
 - i. Possible conflicts.
 - j. Compatibility requirements.
 - k. Time schedules.
 - l. Weather limitations.
 - m. Manufacturer's written instructions.
 - n. Warranty requirements.
 - o. Compatibility of materials.
 - p. Acceptability of substrates.
 - q. Temporary facilities and controls.
 - r. Space and access limitations.
 - s. Regulations of authorities having jurisdiction.
 - t. Testing and inspecting requirements.
 - u. Installation procedures.
 - v. Coordination with other work.
 - w. Required performance results.
 - x. Protection of adjacent work.
 - y. Protection of construction and personnel.
 - 3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 - 4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
 - 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
 - 6. Minutes: Contractor will record and distribute meeting minutes.
- D. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than 90 days prior to the scheduled date of Substantial Completion.

1. Conduct the conference to review requirements and responsibilities related to Project closeout.
 2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
 - a. Preparation of record documents.
 - b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
 - c. Submittal of written warranties.
 - d. Requirements for preparing operations and maintenance data.
 - e. Requirements for delivery of material samples, attic stock, and spare parts.
 - f. Requirements for demonstration and training.
 - g. Preparation of Contractor's punch list.
 - h. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
 - i. Submittal procedures.
 - j. Coordination of separate contracts.
 - k. Owner's partial occupancy requirements.
 - l. Installation of Owner's furniture, fixtures, and equipment.
 - m. Responsibility for removing temporary facilities and controls.
 4. Minutes: Contractor will record and distribute meeting minutes.
- E. Progress Meetings: Conduct progress meetings at monthly intervals.
1. Coordinate dates of meetings with preparation of payment requests.
 2. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.

- 9) Progress cleaning.
 - 10) Quality and work standards.
 - 11) Status of correction of deficient items.
 - 12) Field observations.
 - 13) Status of RFIs.
 - 14) Status of proposal requests.
 - 15) Pending changes.
 - 16) Status of Change Orders.
 - 17) Pending claims and disputes.
 - 18) Documentation of information for payment requests.
4. Contractor shall provide Architect a list of construction activities of progress to date and a list of construction activities expected in next period prior to start of meeting.
 5. Minutes: Contractor will conduct the meeting and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

**SECTION 01 3119
PROJECT MEETINGS**

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to the work of this Section.

1.02 PRE-AWARD CONFERENCE

- A. The Architect will schedule a meeting with the apparent low bidder(s) prior to recommending award of each contract to the Owner.
- B. AGENDA
 1. Bid proposal clarification.
 2. Bid proposal alternates.
 3. Review of bonds and insurance certificates.
 4. Review of Owner-Contractor agreement.
 5. Shop drawing preparation time, manufacturing time, man-hours to install and approximate crew size.
 6. Designation of personnel representing the parties in the contract and the Architect/Engineer.
 7. Procedures and processing of field decisions, submittals, request, change orders and contract closeout procedures.
 8. Review Contractor's field representative experience.
 9. Scheduling procedures.
 - a. Contractor availability to start per schedule.
 - 1) Contractor ability to complete per schedule.
 - 2) Scheduling activities of geotechnical Engineer.
 - 3) Identify long lead items.
 - 4) Use of premises of Owner and Contractor.
 - 5) Liquidated damage clause (if any).
 - 6) Owners requirements.
 - 7) Construction facilities and controls provided by Owner.
 - 8) Temporary utilities.
 - 9) Survey and layout.
 - 10) Security and housekeeping procedures.
 - 11) Procedures for maintaining record documents.
 - 12) Requirements for start-up of equipment.
 - 13) Inspection and acceptance of equipment put into service during construction period.
 - 14) Safety
 - 15) Contractor questions.

1.03 PRE-CONSTRUCTION CONFERENCE

- A. Notice of this meeting shall originate in the office of the Architect.
- B. The contractor's principal subcontractors shall be required to attend.
- C. Each Contractor and Subcontractor shall be represented by persons familiar with and authorized to conduct matters relating to the Work.
- D. Minimum agenda shall be:
 1. Discussion of construction schedule.
 2. Critical work sequencing
 3. Designation of responsible personnel
 4. Procedures for processing field decisions and change orders.
 5. Distribution of contract documents.
 6. Submittal of shop drawings, product data and samples.

7. Procedures for maintaining record documents.
8. Use of premises:
 - a. Office and storage areas.
 - b. Owner's requirements.
 - 1) Major equipment deliveries and priorities.
 - c. Safety and first-aid procedures.
 - d. Security procedures.
 - e. Housekeeping procedures.
 - f. Working hours.
 - g. Temporary facilities and controls

1.04 PROGRESS MEETINGS

- A. Contractor shall attend progress meetings with the Owner, and Architect every two weeks, or at more frequent intervals if conditions require same, during the entire life of the project for the purpose of expediting the work and considering other matters pertaining thereto.
 1. Contractor shall require his principal subcontractors to attend.
 2. Contractor shall provide a detailed work progress report of previous two weeks and a two week look ahead schedule a minimum of 24 hours in advance of the progress meeting. Contractors consistently ignoring this requirement will have their applications for payment rejected.
 3. Attendance at Progress Meetings will be a requirement for the processing of Contractor's Application for Payment.
 4. All Contractors shall attend progress meetings until such time as all of their submittals have been received by the Construction Manager. Certain exceptions may be made for special circumstances.
 - a. Minimum agenda shall be:
 - 1) Review minutes of previous meeting.
 - 2) Housekeeping and Safety
 - 3) Review work progress since last meeting
 - 4) Planned progress for the next period.
 - 5) Status of Critical Materials / Submittals
 - 6) Status of Schedule
 - 7) Proposal Request / Change Order Status
 - 8) Requests for Information, Clarification and Decisions.
 - 9) Field Observations
 - 10) General Discussion

1.05 PRE-INSTALLATION CONFERENCE

- A. When required in individual specification section, the Contractor will convene a pre-installation conference at the work site prior to commencing work of the section.
- B. Require attendance of parties directly affecting, or affected by work of the specific section.
- C. The Contractor will notify the Architect 5 working days in advance of meeting date.
- D. The Contractor will prepare agenda and preside at conference.
- E. The Contractor will review conditions of installation, preparation and installation procedures and coordination with related work.
- F. Review the progress of other construction activities and preparations for the particular activity under consideration at each pre-installation conference, including requirements for:
 1. Contract documents.
 2. Options.
 3. Related Change Orders.
 4. Purchases.
 5. Deliveries.
 6. Shop drawings, product data and quality control samples.
 7. Possible conflicts.

8. Compatibility problems.
9. Weather limitations.
 - a. Manufacturer's recommendations.
 - 1) Compatibility of materials.
 - 2) Acceptability of substrates.
 - 3) Temporary facilities.
 - 4) Space and access limitations.
 - 5) Governing regulations.
 - 6) Safety.
 - 7) Inspection and testing requirements.
 - 8) Required performance results.
 - 9) Recording requirements.
 - 10) Protection.

END OF SECTION

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Contractor's Construction Schedule.
2. Construction schedule updating reports.
3. Daily construction reports.
4. Site condition reports.
5. Unusual event reports.

- B. Related Requirements:

1. Section 013300 "Submittal Procedures" for submitting schedules and reports.
2. Section 014000 "Quality Requirements" for schedule of tests and inspections.

1.3 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction Project. Activities included in a construction schedule consume time and resources.

1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
2. Predecessor Activity: An activity that precedes another activity in the network.
3. Successor Activity: An activity that follows another activity in the network.

- B. Cost Loading: The allocation of the schedule of values for completing an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum.

- C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine the critical path of Project and when activities can be performed.

- D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

- E. Event: The starting or ending point of an activity.

- F. Float: The measure of leeway in starting and completing an activity.

1. Float time belongs to Owner.
2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

G. Resource Loading: The allocation of manpower and equipment necessary for completing an activity as scheduled.

1.4 INFORMATIONAL SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:

1. PDF electronic file or two paper copies.

B. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.

C. Construction Schedule Updating Reports: Submit with Applications for Payment.

D. Daily Construction Reports: Keep on file in job trailer.

E. Site Condition Reports: Submit at time of discovery of differing conditions.

F. Unusual Event Reports: Submit at time of unusual event.

1.5 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Time Frame: Extend schedule from date established for Final Completion.

1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

B. Activities: Treat each floor or separate area as a separate numbered activity for each main element of the Work. Comply with the following:

1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
2. Procurement Activities: Include procurement process activities for the following long lead-time items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
3. Submittal Review Time: Include review and resubmittal times indicated in Section 013300 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with submittal schedule.
4. Startup and Testing Time: Include no fewer than 15 days for startup and testing.
5. Commissioning Time: Include no fewer than 7 days for commissioning.
6. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
7. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and Final Completion.

- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
1. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Uninterruptible services.
 - b. Use-of-premises restrictions.
 - c. Seasonal variations.
 - d. Environmental control.
 2. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
 - a. Subcontract awards.
 - b. Submittals.
 - c. Purchases.
 - d. Mockups.
 - e. Fabrication.
 - f. Sample testing.
 - g. Deliveries.
 - h. Installation.
 - i. Tests and inspections.
 - j. Adjusting.
 - k. Curing.
 - l. Building flush-out.
 - m. Startup and placement into final use and operation.
 - n. Commissioning.
 3. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
 - a. Structural completion.
 - b. Temporary enclosure and space conditioning.
 - c. Permanent space enclosure.
 - d. Completion of mechanical installation.
 - e. Completion of electrical installation.
 - f. Substantial Completion.
- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion.
- E. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
1. Unresolved issues.
 2. Unanswered Requests for Information.
 3. Rejected or unreturned submittals.
 4. Notations on returned submittals.
 5. Pending modifications affecting the Work and the Contract Time.
- F. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule at each regularly scheduled progress meeting.

- G. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, equipment required to achieve compliance, and date by which recovery will be accomplished.
- H. Distribution: Distribute copies of approved schedule to Architect, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1.6 CPM SCHEDULE REQUIREMENTS

- A. CPM Schedule: Prepare Contractor's Construction Schedule using a time-scaled CPM network analysis diagram for the Work.
 - 1. Develop network diagram in sufficient time to submit CPM schedule, so it can be accepted for use no later than 60 days after date established for the Notice of Award.
 - a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates, regardless of Architect's approval of the schedule.
 - 2. Conduct educational workshops to train and inform key Project personnel, including subcontractors' personnel, in proper methods of providing data and using CPM schedule information.
 - 3. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
 - 4. Use "one workday" as the unit of time for individual activities. Indicate nonworking days and holidays incorporated into the schedule to coordinate with the Contract Time.
- B. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the startup network diagram, prepare a skeleton network to identify probable critical paths.
 - 1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
 - a. Preparation and processing of submittals.
 - b. Mobilization and demobilization.
 - c. Purchase of materials.
 - d. Delivery.
 - e. Fabrication.
 - f. Utility interruptions.
 - g. Installation.
 - h. Work by Owner that may affect or be affected by Contractor's activities.
 - i. Testing and inspection.
 - j. Commissioning.
 - k. Punch list and Final Completion.
 - l. Activities occurring following Final Completion.
 - 2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
 - 3. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.

4. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.
 - a. Subnetworks on separate sheets are permissible for activities clearly off the critical path.
- C. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using a network fragment to demonstrate the effect of the proposed change on the overall Project schedule.
- D. Initial Issue of Schedule: Prepare initial network diagram from a sorted activity list indicating straight "early start-total float." Identify critical activities. Prepare tabulated reports showing the following:
 1. Contractor or subcontractor and the Work or activity.
 2. Description of activity.
 3. Main events of activity.
 4. Immediate preceding and succeeding activities.
 5. Early and late start dates.
 6. Early and late finish dates.
 7. Activity duration in workdays.
 8. Total float or slack time.
 9. Average size of workforce.
- E. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:
 1. Identification of activities that have changed.
 2. Changes in early and late start dates.
 3. Changes in early and late finish dates.
 4. Changes in activity durations in workdays.
 5. Changes in the critical path.
 6. Changes in total float or slack time.
 7. Changes in the Contract Time.

1.7 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
 1. List of subcontractors at Project site.
 2. List of separate contractors at Project site.
 3. Approximate count of personnel at Project site.
 4. Equipment at Project site.
 5. Material deliveries.
 6. High and low temperatures and general weather conditions, including presence of rain or snow.
 7. Testing and inspection.
 8. Accidents.
 9. Meetings and significant decisions.
 10. Unusual events.
 11. Stoppages, delays, shortages, and losses.
 12. Meter readings and similar recordings.
 13. Emergency procedures.
 14. Orders and requests of authorities having jurisdiction.
 15. Change Orders received and implemented.
 16. Construction Change Directives received and implemented.

17. Services connected and disconnected.
18. Equipment or system tests and startups.
19. Partial completions and occupancies.
20. Substantial Completions authorized.

- B. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.
- C. Unusual Event Reports: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, responses by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.
1. Submit unusual event reports directly to Owner within one day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule at each regularly scheduled progress meeting.
1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 3. As the Work progresses, indicate final completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Architect Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
1. Post copies in Project meeting rooms and temporary field offices.
 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

**SECTION 01 3216
CONSTRUCTION SCHEDULE**

PART 1 - GENERAL

1.01 WORK DESCRIPTION

A. SCOPE OF WORK;

1. Furnish a complete work schedule for purpose of coordinating all construction activities and the subsequent interface with the work of other Contractors.
2. **SPECIAL SCHEDULE REQUIREMENTS FOR INTERIOR RENOVATIONS**
 - a. Hamilton Heights School Corporation (HHSC) will be moving most of the High School operations out of the current building to the Old Middle School building in order to allow renovations to be completed in an uninterrupted manner. Due to this extensive reorganization HHSC must occupy the facility on December 14, 2020. The December 1, 2020 date of substantial completion has been established to allow HHSC time to move furniture and equipment and set up for the second semester of the 2020-2021 school year.
 - b. Limited areas of the building will be occupied during the renovation process; for example, North Vestibule, Mosaics and the Kitchen. All occupied areas will be identified when the renovations begins.
 - c. This schedule is aggressive. In order to complete this project on schedule the Prime Bidders and Subcontract Bidders must agree:
 - 1) To provide sufficient manpower and equipment to complete multiple areas of the building simultaneously.
 - 2) To plan on working overtime, shiftwork and/or weekends.
 - 3) To expedite submittals in order to allow time for material and equipment to be delivered at the scheduled time.
 - 4) To provide weekly updates on material and equipment deliveries.
 - 5) To cooperate and coordinate with the Construction Manager and other Contractors and subcontractors, understanding that changes in the flow of work will change due to unforeseen circumstances, requiring redirecting of manpower and resources to achieve the completion goal.
 - d. Bidders who cannot agree to the forgoing statements should not bid on the project.
 - e. **WORK INCLUDED:**
 - f. Diagrammatic work schedule showing all work activities including activity time required to complete.
 - g. Coordination with other trades and Contractors.
 - h. List of all equipment and material dates affecting work schedule.
3. **RELATED WORK SPECIFIED ELSEWHERE:**
 - a. Construction Agreement
 - b. General Conditions

B. SUBMITTALS

1. **SCHEDULES:**
 - a. Project Milestone dates are included below (Paragraph 3.03). Prior to bidding the project, each contractor shall review the milestone schedule and prepare his bid accordingly. This guideline schedule is to be used for bidding purposes only, however, the project completion date must be accomplished by all Contractors.
 - b. Each Contractor shall, within 15 days after award of the contract, submit a detailed schedule for his work, noting specific dates and duration times for submittals,
 - 1) manufacture/fabrication and installation for all major activities, major equipment and materials. The activities making up the Contractor's schedule shall be of sufficient detail to assure that adequate planning has been done for proper execution of the work and, in the judgment of the Construction Manager, it provides an appropriate basis for monitoring and evaluating the progress of the work.

- c. The Construction Manager will incorporate each of the Contractor's schedules into a Preliminary Project Construction Schedule.
- d. Each Contractor shall review the completed Preliminary Project Construction Schedule and advise the Construction Manager, within 10 days, of any concerns regarding the sequence and duration of his work as it relates to the activities of all other Contractors.
- e. After any necessary revisions have been made, the Construction Manager will prepare the Project Construction Schedule. Each contractor shall bind himself and his subcontractors to maintain the Project Construction Schedule.
 - 1) The Contractor shall work overtime, nights and weekends, at no additional cost to the Owner, to maintain his portion of the schedule.
 - 2) Failure to maintain his portion of the schedule may jeopardize his right to reduction in retainage.
 - 3) If the Contractor does not maintain his portion of the schedule the Owner, through the Construction Manager, will have the right to supplement the Contractor's forces. All costs associated with the hiring of additional forces shall be deducted from the Contractor's contract amount.

PART 2 - PRODUCTS

2.01 CONSTRUCTION SCHEDULE

A. DIAGRAM:

- 1. Graphically show the order and interdependence of all activities necessary to complete the Work, and the sequence in which each such activity is planned to be accomplished, as planned by the Contractor and his project field superintendent in coordination with all other contractors and/or subcontractors whose work is shown on the diagram.
- 2. Activities shown on the diagram shall include, but are not necessarily limited to:
 - a. Project mobilization
 - b. Submittal and acceptance of Shop Drawings
 - c. Procurement of equipment and critical materials
 - d. Fabrication of special equipment and material, and their installation and testing
 - e. Final cleanup
 - f. Final inspecting and testing
 - g. All activities of the Owner and the Architect/Engineer which affect progress and/or affect required dates for completion of all or part of the Work.
 - h. The detail of information shall be such that duration times of activities will normally range from one to 15 days. The selection and number of activities shall be subject to the acceptance of the Construction Manager.
 - i. Show on the diagram, as a minimum for each activity, description of each activity, activity duration in calendar days, early and late start dates, and early and late finish dates to maintain proper construction progress.
 - j. Submit diagram (electronically) on sheet size 30" high by the width required.

PART 3 - EXECUTION

3.01 SCHEDULES

- A. It is important that each Contractor review the Milestone schedule at the end of this section.
- B. Each Contractor is responsible for expediting approvals and deliveries of materials so as not to delay job progress.
- C. Each Contractor shall begin each phase of his work as quickly as physically possible, but not to impede or jeopardize the work of other Contractors.
- D. Each Contractor shall cooperate fully with the other Contractors and the Construction Manager in the coordination of the work.
- E. Certain phases of the work may be started prior to the scheduled start dates if coordinated with the other contractors and if approved by the Construction Manager.
- F. UPDATE

1. Each Contractor shall participate in the updating of the schedule on a monthly basis (more often if required by the Construction Manager) during the entire life of his contract.
2. Each Contractor shall bind himself and his subcontractors to maintain the revised/updated Project Construction Schedule in accordance with the requirements of the original Project Construction Schedule.

G. SEQUENCE OF WORK / PROJECT MILESTONES

1. Issue Notice-To-Proceed: December 19, 2019.
2. Material/Equipment deliveries are critical to beginning work as scheduled. Each Contractor shall provide scheduled equipment and material delivery dates to the Construction Manager within 20 days following the notice to proceed.
3. Renovations: Begin work on March 30, 2020. Substantial Completion December 1, 2020. Renovation work consists of 6 phases as shown on the Schedule/Phasing plan in the Drawings.
4. New Athletic Buildings:
 - a. Tennis Shelter: Begin work April 6, 2020. Substantial Completion August 14, 2020.
 - b. Ticket/Concession: Begin work April 20, 2020. Substantial Completion August 14, 2020.

END OF SECTION

SECTION 01 3300
SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
 3. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal.
 - a. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 - b. The Contractor shall be responsible for determining the proper time for submission based on the lead time required for delivery of the subject material or equipment. The Architect, Engineer will not be held responsible for expediting the review process because the Contractor failed to properly coordinate.
 - 1) No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.
- B. Identification: Place a label or title block on each submittal for identification.
1. Each submittal must include the referenced specification section. Submission without the referenced specification section will be returned without review.
 2. Indicate name of firm or entity that prepared each submittal on label or title block.
 3. Provide space beside title block to record Contractor's review and approval stamp and action taken by Architect.
 4. Include the following information on label for processing and recording action taken:
 - a. Project name and date.
 - b. Name and address of Architect, Contractor, subcontractor and supplier.
 - c. Name of manufacturer.
 - d. Number and title of appropriate Specification Section.
 - e. Drawing number and detail references, as appropriate.
 - f. Other necessary identification, such as Owner's Project No.
 5. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals.
 6. Submittal Cover Sheet: Transmit each submittal from the Contractor to the Construction Manager by use of a Submittal Cover Sheet. Submittals transmitted without proper identification, or received from sources other than the Contractor, will be returned to the sender "without action".
 - a. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements of the Contract Documents, including minor variations and limitations.
 - b. Include Contractor's certification stating that information submitted complies with requirements of the Contract Documents.

- C. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
 - 1. Use for Construction: Use only final submittals with mark indicating action taken by Architect in connection with construction.

PART 2 - PRODUCTS

2.01 ACTION SUBMITTALS

- A. General: Prepare Requests For Information (RFI's) and similar submittals requiring Architect's action.
 - 1. Number of Copies: Submit one electronic copy of each submittal, unless otherwise indicated. Architect will return one copy with reply. Retain one returned copy as a Project Record Document.
 - a. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 - 1) Mark each copy of each submittal to show which products and options are applicable.
 - 2) Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
 - (a) Number of Copies: Submit one electronic copy unless otherwise directed.
 - 2. Samples: Submit Samples for selection and for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between final submittal and actual component as delivered and installed.
 - a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets for Architect and Owner; one will be returned. Mark up and retain
 - b. returned Sample set as a Project Record Sample.
 - c. Closeout Submittals: Refer to Division 1 Section "Closeout Procedures." PART 3 - EXECUTION
- B. CONTRACTOR'S REVIEW
 - 1. Review each submittal and check for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect. Submittals will NOT be processed without the Contractor's approval stamp.
- C. ARCHITECT'S ACTION
 - 1. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, selected from Approved, Approved as Noted, Revise and Resubmit or Rejected.
 - 2. Informational Submittals: Architect will review each submittal and will not return it, or will reject and return it if it does not comply with requirements.
 - a. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

END OF SECTION

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-assurance and quality-control requirements for individual work results are specified in their respective Specification Sections. Requirements in individual Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and quality-control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and quality-control services required by Architect, Owner, Commissioning Authority, or authorities having jurisdiction are not limited by provisions of this Section.
- C. Related Requirements:
 - 1. Section 012100 "Allowances" for testing and inspection allowances.

1.3 DEFINITIONS

- A. Experienced: When used with an entity or individual, "experienced," unless otherwise further described, means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.
- B. Field Quality-Control Tests and Inspections: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- C. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, subcontractor, or sub-subcontractor, to perform a particular construction operation, including installation, erection, application, assembly, and similar operations.
 - 1. Use of trade-specific terminology in referring to a Work result does not require that certain construction activities specified apply exclusively to specific trade(s).
- D. Mockups: Full-size physical assemblies that are constructed either as freestanding temporary built elements or as part of permanent construction. Mockups are constructed to verify selections made under

Sample submittals; to demonstrate aesthetic effects and qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

- E. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria. Unless otherwise indicated, copies of reports of tests or inspections performed for other than the Project do not meet this definition.
- F. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) according to 29 CFR 1910.7, by a testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- G. Source Quality-Control Tests and Inspections: Tests and inspections that are performed at the source (e.g., plant, mill, factory, or shop).
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. The term "testing laboratory" shall have the same meaning as the term "testing agency."
- I. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work, to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- J. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work, to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Contractor's quality-control services do not include contract administration activities performed by Architect[or Construction Manager].

1.4 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Services Statement: Submit a statement signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

1.5 CONFLICTING REQUIREMENTS

- A. Conflicting Standards and Other Requirements: If compliance with two or more standards or requirements is specified and the standards or requirements establish different or conflicting requirements for minimum quantities or quality levels, inform the Architect regarding the conflict and obtain clarification prior to proceeding with the Work. Refer conflicting requirements that are different, but apparently equal, to Architect for clarification before proceeding.

- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.6 INFORMATIONAL SUBMITTALS

- A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.
- B. Qualification Data: For Contractor's quality-control personnel.
- C. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- D. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
 - 1. Specification Section number and title.
 - 2. Entity responsible for performing tests and inspections.
 - 3. Description of test and inspection.
 - 4. Identification of applicable standards.
 - 5. Identification of test and inspection methods.
 - 6. Number of tests and inspections required.
 - 7. Time schedule or time span for tests and inspections.
 - 8. Requirements for obtaining samples.
 - 9. Unique characteristics of each quality-control service.
- E. Reports: Prepare and submit certified written reports and documents as specified.
- F. Permits, Licenses, and Certificates: For Owner's record, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents established for compliance with standards and regulations bearing on performance of the Work.

1.7 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, telephone number, and email address of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Record of temperature and weather conditions at time of sample-taking and testing and inspection.
 - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.

12. Name and signature of laboratory inspector.
 13. Recommendations on retesting and reinspecting.
- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, telephone number, and email address of technical representative making report.
 2. Statement on condition of substrates and their acceptability for installation of product.
 3. Statement that products at Project site comply with requirements.
 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 6. Statement of whether conditions, products, and installation will affect warranty.
 7. Other required items indicated in individual Specification Sections.
- C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, telephone number, and email address of factory-authorized service representative making report.
 2. Statement that equipment complies with requirements.
 3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 4. Statement of whether conditions, products, and installation will affect warranty.
 5. Other required items indicated in individual Specification Sections.

1.8 QUALITY ASSURANCE

- A. Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Installer Qualifications: A firm or individual experienced in installing, erecting, applying, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that is similar in material, design, and extent to those indicated for this Project.

- F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged in the activities indicated.
 - 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. Testing and Inspecting Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspection indicated, as documented in accordance with ASTM E329, and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
- H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect, demonstrate, repair, and perform service on installations of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- J. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
 - 1. Build mockups of size indicated.
 - 2. Build mockups in location indicated or, if not indicated, as directed by Architect.
 - 3. Notify Architect seven days in advance of dates and times when mockups will be constructed.
 - 4. Employ supervisory personnel who will oversee mockup construction. Employ workers who will be employed to perform same tasks during the construction at Project.
 - 5. Demonstrate the proposed range of aesthetic effects and workmanship.
 - 6. Obtain Architect's approval of mockups before starting corresponding Work, fabrication, or construction.
 - a. Allow seven days for initial review and each re-review of each mockup.
 - 7. Promptly correct unsatisfactory conditions noted by Architect's preliminary review, to the satisfaction of the Architect, before completion of final mockup.
 - 8. Approval of mockups by the Architect does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 9. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 - 10. Demolish and remove mockups when directed unless otherwise indicated.

1.9 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
 - 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspection they are engaged to perform.
 - 2. Costs for retesting and reinspecting construction that replaces or is necessitated by Work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.
1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
 2. Engage a qualified testing agency to perform quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspection will be performed.
 4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 5. Testing and inspection requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- D. Testing Agency Responsibilities: Cooperate with Architect, Commissioning Authority, and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Architect, and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. Determine the locations from which test samples will be taken and in which in-situ tests are conducted.
 3. Conduct and interpret tests and inspections, and state in each report whether tested and inspected Work complies with or deviates from requirements.
 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 6. Do not perform duties of Contractor.
- E. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."
- F. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- G. Contractor's Associated Requirements and Services: Cooperate with agencies and representatives performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspection. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Delivery of samples to testing agencies.
 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 7. Security and protection for samples and for testing and inspection equipment at Project site.
- H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- I. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Coordinate and submit concurrently with Contractor's Construction Schedule. Update and submit with each Application for Payment.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
1. Date test or inspection was conducted.
 2. Description of the Work tested or inspected.
 3. Date test or inspection results were transmitted to Architect.
 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's, Commissioning Authority's, and authorities' having jurisdiction reference during normal working hours.
1. Submit log at Project closeout as part of Project Record Documents.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspection, sample-taking, and similar services, repair damaged construction and restore substrates and finishes.
1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."
- B. Protect construction exposed by or for quality-control service activities.

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- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

1. For standards referenced by applicable building codes, comply with dates of standards as listed in building codes.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

**SECTION 01 4213
ABBREVIATIONS AND ACRONYMS**

PART 1 GENERAL

1.01 ARCHITECTURAL DRAWING ABBREVIATIONS

- A. Architectural abbreviations used on the Drawings shall be as defined in the following list. Discrepancies or abbreviations used on the Drawings but not included in this list shall be as interpreted by the Architect. In cases where different abbreviations are used on the drawings and the abbreviation is explained on the drawing, the drawing shall take precedence.

ABV	ABOVE	CAB	CABINET
AFF	ABOVE FINISHED FLOOR	CPT	CARPET (ED)
ACC	ACCESS, ACCESSIBLE	CSMT	CASEMENT
AP	ACCESS PANEL	CI	CAST IRON
AC	ACOUSTICAL	CB	CATCH BASIN
ACMU	ACOUSTICAL CONCRETE	CK	CALK (ING), CAULK (ING)
	MASONRY	CLG	CEILIN
ACPL	UNIT	CE	G
	ACOUSTICAL	M	CEME
	PLASTER		NT
ACP	ACOUSTICAL PANELS	PCPL	CEMENT PLASTER (PORTLAND)
ACT	ACOUSTICAL TILE	CER	CERAMIC
ADDN	ADDITION	CT	CERAMIC TILE
ADH	ADHESIVE	CHBD	CHALKBOARD
ADJ	ADJACENT	CHAM	CHAMFER
ADJT	ADJUSTABLE	C	CHANNEL
AGG	AGGREGATE	CIR	CIRCLE
A/C	AIR CONDITIONING	CIRC	CIRCUMFERENCE
ALT	ALTERNATE	CLR	CLEAR (ANCE)
ALUM	ALUMINUM	CLOS	CLOSET
ANC	ANCHOR, ANCHORAGE	COL	COLUMN
AB	ANCHOR BOLT	COMB	COMBINATION
ANOD	ANODIZED	COMP	COMPRESS (ED), (ION), (IBLE)
APX	APPROXIMATE	CONC	CONCRETE
ARCH	ARCHITECT (URAL)	CMU	CONCRETE MASONRY UNIT
ASB	ASBESTOS	CX	CONNECTION
ASPH	ASPHALT	CONST	CONSTRUCTION
BPT	BAKED PAINT	CI	CONSTRUCTION JOINT
BSMT	BASEMENT	CONT	CONTINUOUS OR CONTINUE
BRG	BEARING	CONTR	CONTRACT (OR)
BM	BEAM OR BENCH MARK	CJT	CONTROL JOINT
BEL	BELOW	CPR	COPPER
BET	BETWEEN	CG	CORNER GUARD
BVL	BEVELED	CORR	CORRUGATED
BIT	BITUMINOUS OR BITUMEN	CTR	COUNTER
BLK	BLOCK	CFL	COUNTER-FLASHING
BLKG	BLOCKING	CTSK	COUNTERSUNK
BD	BOARD	CRS	COURSE (S)
BW	BOTH WAYS	DP	DAMP-PROOFING

BOT	BOTTOM	DEM	DEMOLISH,
BR	BRICK	DMT	DEMOLITION
BRZ	BRONZE	DEPT	DEMOUNTABLE
BLDG	BUILDING	DEP	DEPARTMENT
			DEPRESSED
BUR	built-up roofing		
DTL	detail	FLR	floor (ing)
DIAG	diagonal	FD	floor drain
DIAM	diameter	FLUR	fluorescent
DIM	dimension	FLDG	folding
DPR	dispenser	FTG	footing
DO/"	ditto	FND	foundation
DIV	division	FR	frame (d), (ing)
DR	door	FRA	fresh air
DTA	dovetail anchor	FS	full size
DTS	dovetail anchor slot	FUR	furred (ing)
DN	down	FUT	future
DS	downspout	GA	gage, gauge
D	drain	GV	galvanized
DT	drain tile	GI	galvanized iron
DWR	drawer	GKT	gasket (ed)
DWG	drawing	GC	general contract (or)
DF	drinking fountain	GL	glass, glazing
EA	each	GRG	glass reinforced gypsum
EW	each way	GST	glazed structural tile
ELEC	electric (al)	GB	grab bar
EC	electrical contractor	GD	grade, grading
EP	electrical panelboard	GR	ground
EWC	electric water cooler	GCMU	ground concrete masonry units
EL	elevation		
ELEV	elevator	GVL	gravel
EMER	emergency	GYP	gypsum
ENC	enclose (ure)	GBD	gypsum board
EPT	epoxy paint	GPL	gypsum plaster
EQ	equal	HDCP	handicapped
EQP	equipment	HR	handrail
EST	estimate	HBD	hardboard
EXH	exhaust	HDW	hardware
EXG	existing	HWD	hardwood
EB	expansion bolt	HDR	header
EJT	expansion joint	HTG	heating
EXP	exposed	HVAC	heating/ventilating/air conditioning
EXT	exterior		
FAB	fabricator	HD	heavy duty
FB	face brick	HWC	heavy weight concrete
FBD	fiberboard	HT	height
FGL	fiberglass	HC	hollow core
FRP	fiberglass reinforced plastic	HM	hollow metal
FRPP	fiberglass reinforced plastic panel	HOR	horizontal
		HB	hose bibb
		HWH	hot water heater
FIN	finish (ed)	INCIN	incinerator

PPE finished floor elevation
 FFL finished floor line
 PA fire alarm
 FE fire extinguisher
 PEC fire extinguisher cabinet
 FP fireproof

INCL include (d), (ing)
 ID inside diameter
 INS insulate (d), (ion)
 INT interior
 INV invert
 JC janitor's closet

FLG flashing
 FHWS flathead wood screw
 KCPL Keene's cement plaster
 KPL kickplate
 KIT kitchen
 KO knockout
 LBL label
 LAB laboratory
 LAM laminate (d)
 LVL laminated veneer lumber
 LAV laboratory
 LH left hand
 L length or steel angle
 LT light
 LW lightweight
 LWC lightweight concrete
 LTL lintel
 LKR locker
 LVR louver
 MH manhole
 MFR manufacture (er)
 MRB marble
 MAS masonry
 MO masonry opening
 MTL material (s)
 MAX maximum
 MECH mechanic (al)
 Mc mechanical contractor
 MCAB medicine cabinet
 MBR member
 MMB membrane
 MET metal
 MCP metal composite panels
 MCB metal corner bead
 MEZZ mezzanine
 MWK millwork
 MIN minimum
 MIR mirror
 misc miscellaneous
 MOD modular or modified
 MLDG molding, moulding
 MT mount (ed), (ing)
 MOV movable
 MULL mullion
 NRC noise reduction coefficient
 NOM nominal

JT joint
 JST joist
 PTD paper towel dispenser
 PTR paper towel receptor
 PAR parallel
 PBD particle board
 PTN partition
 PVMT pavement
 PERF perforate (d)
 PERI perimeter
 PLAS plaster
 PLAM plastic laminate
 PL plate
 PWD plywood
 PCP Portland cement plaster
 PCF pounds per cubic foot
 PFL pounds per lineal foot
 PSF pounds per square foot
 PSI pounds per square inch
 PCC precast concrete
 PFB prefabricate (d)
 PCMU prefaced concrete masonry units
 PFN prefinished
 PRF preformed
 PSC prestressed concrete
 PL property line
 QT quarry tile
 QUAN quantity
 RBT rabbet, rebate
 RAD radius
 RWL rainwater leader
 REC recessed
 REF reference
 RFL reflect (ed), (ive), (or)
 REFR refrigerator
 REG register
 RE reinforce (d), (ing)
 RCP reinforced concrete pipe
 REM remove
 REQ required
 RES resilient
 RET return
 RA return air
 RVS reverse (side)
 REV revision (s), revised

NIC not in contract
 NTS not to scale
 OC on center (s)
 OPG opening
 OPP opposite
 OD outside diameter
 OA overall

RH right hand
 R riser
 RD roof drain
 RPG roofing
 RM room
 RO rough opening
 RB rubber base

OH overhead
 PT paint (ed)
 PNL panel
 SNR sanitary napkin receptor
 SCH schedule
 SCN screen
 SNT sealant
 SEC section
 SS service sink
 SHT sheet
 SV sheet vinyl
 SH shelf, shelving
 SIM similar
 S sink
 SC solid core
 SPK speaker

RBT rubber tile
 SF sand float finish
 SND sanitary napkin dispenser
 TPD toilet paper dispenser
 TPTN toilet partition
 T&G tongue and groove
 TFE top of footing elevation
 TW top of wall
 TB towel bar
 T tread
 TF trowelled finish
 TYP typical
 UC undercut
 UH unit heater
 UL Underwriters Laboratory
 UNF unfinished

R
 SPE specification (s)
 C
 SB splash block
 SQ square
 SSV stain, seal & varnish
 SST stainless steel
 STD standard
 ST steel
 STO storage

UON unless otherwise noted
 UR urinal
 VJ v-joint (ed)
 VBR vapor barrier
 VAR varnish/varies
 VNR veneer
 VERT vertical
 VIN vinyl

R
 SD storm drain
 STR structural
 SCT structural clay tile
 SUS suspended
 SW switch
 SUP supplier
 SYM symmetry (ical)
 SYN synthetic
 SYS system
 TKBD tackboard
 TP tangent point
 TEL telephone
 TV television
 TEM temperature
 P
 TZ terrazzo
 TH test hole
 THK thick (ness)
 THR threshold

VB vinyl base
 VCT vinyl composition tile
 VF vinyl fabric
 VT vinyl tile
 VWC vinyl wall Covering
 WSCT wainscot
 WC water closet
 WP waterproofing
 WWF welded wire fabric
 WT weight
 W width, wide
 WG wire glass
 W/ with
 WDW window
 WM wire mesh
 W/O without
 WD wood
 WB wood base

WPT working point

1.02 SYMBOLS USED FOR ABBREVIATIONS ON DRAWINGS

□	centerline	^	perpendicular
d	penny	□	round

END OF SECTION

SECTION 01 4216

DEFINITIONS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to work of this section.
- B. DESCRIPTION OF REQUIREMENTS
 - 1. General: This section specifies procedural and administrative requirements for compliance with governing regulations and codes and standards imposed upon the Work. These requirements include obtaining permits, licenses, inspections, releases and similar documentation, as well as payments, statements and similar requirements associated with regulations, codes and standards.
 - 2. The term, "Regulations", is defined to include laws, statutes, ordinances and lawful orders issued by governing authorities, as well as those rules, conventions and agreements within the construction industry which effectively control the performance of the work regardless of whether they are lawfully imposed by governing authority or not.

1.02 DEFINITIONS

- A. General Explanation: A substantial amount of specification language consists of definitions of terms found in other contract documents, including the drawings. (Drawings are recognized as being diagrammatic in nature and not completely descriptive of the requirements indicated thereon). Certain terms used in contract documents are defined in this article. Definitions and explanations contained in this section are not necessarily either complete or exclusive, but are general for the Work to the extent that they are not stated more explicitly in another element of the contract documents.
- B. General Requirements: The provisions or requirements of other Division-1 sections apply to entire work of the Contract and, where so indicated, to other elements which are included in the project.
- C. Indicated: The term "indicated", is a cross-reference to graphic representations, notes or schedules on the drawings, to other paragraphs or schedules in the specifications, and to similar means of recording requirements in contract documents. Where terms such as "shown", "noted", "scheduled", and "specified" are used in lieu of "indicated", it is for the purpose of helping the reader locate the cross-reference, and no limitation of location is intended except as specifically noted.
- D. Directed, Requested, Etc.: Where not otherwise explained, terms such as "directed", "requested", "authorized", "selected", "approved", "required", "accepted", and "permitted" mean "directed by Architect", "requested by Architect", and similar phrases. However, no such implied meaning will be interpreted to extend Architect's/Engineer's responsibility into Contractor's area of construction supervision.
- E. Approve: Where used in conjunction with the Architect's/ Engineer's response to submittals, requests, applications, inquiries, reports and claims by the Contractor, the meaning of term "approved" will be held to limitations of the Architect's/ Engineer 's responsibilities and duties as specified in General and Supplementary Conditions. In no case will the Architect/ Engineer's approval be interpreted as a release of the Contractor from responsibilities to fulfill requirements of contract documents.
- F. Project Site: The term "project site" is defined as the space available to the Contractor for performance of the Work, either exclusively or in conjunction with others performing other work as part of the project. The extent of the project site is shown on the drawings, and may or may not be identical with the description of the land upon which project is to be built.
- G. Provide: Except as otherwise defined in greater detail, the term "provide" means "to furnish and install, complete and ready for intended use", as applicable in each instance, unless

- H. specifically noted "furnish" means the same as provide. Unless specifically described otherwise "install" means the same as provide.
- I. Installer: The term "installer" is defined as "the entity" (person or firm) engaged by the Contractor, its subcontractor or subcontractor for performance of a particular unit of work at the project site, including installation, erection, application and similar required operations. It is a requirement that installers are experienced in the operations they are engaged to perform.
- J. Testing Laboratories: The term "testing laboratory" is defined as an independent entity engaged to perform specific inspections or tests of the work, either at the project site or elsewhere, and to report, and (if required) interpret results of those inspections or tests.

1.03 DRAWING SYMBOLS

- A. General: Included in section 01 07 00 of this specification, drawing symbols and abbreviations is listed. Where not otherwise noted, symbols are defined by "Architectural Graphic Standards", published by John Wiley & Sons, Inc., eleventh edition. Where a specific note is made on a drawing indicating a material type, that symbol shall become the dominant symbol indication for the drawings.
- B. Mechanical/Electrical
 - 1. Drawings: Graphic symbols used on mechanical and electrical drawings are generally aligned with symbols recommended by ASHRAE. See Divisions 15 and 16 for additional definitions of symbols. Where appropriate, these symbols are supplemented by more specific symbols as recommended by other technical associations including ASME, ASPE, IEEE and similar organizations. Refer instances of uncertainty to the Architect/ Engineer for clarification before proceeding. See also mechanical and electrical drawings for symbol identifications

1.04 INDUSTRY STANDARDS

- A. Applicability of Standards: Except where more explicit or stringent requirements are written into the contract documents, applicable construction industry standards have the same force and effect as if bound into or copied directly into the contract documents. Such industry standards are made a part of the contract documents by reference. Individual specification sections indicate which codes and standards the Contractor must keep available at the project site for reference.
- B. Referenced standards (standards referenced directly in the contract documents) take precedence over non-referenced standards that are recognized in the industry for applicability to the Work.
- C. Non-referenced Standards: Except as otherwise limited by the contract documents, non-referenced standards recognized in the construction industry are defined as having direct applicability to the Work and will be enforced for the performance of the Work. The decision as to whether an industry code or standard is applicable to the Work, or as to which of several standards are applicable, is the sole responsibility of the Architect.
- D. Publication Dates: Except as otherwise indicated, where compliance with an industry standard is required, comply with standard in effect as of date of contract documents.
- E. Conflicting Requirements: Where compliance with two or more standards is specified, and where these standards establish different or conflicting requirements for minimum quantities or quality levels, the most stringent requirement will be enforced, unless the contract documents specifically indicate a less stringent requirement. Refer requirements that are different, but apparently equal, and uncertainties as to which quality level is more stringent to the Architect for a decision before proceeding.
- F. Minimum Quantities or Quality Levels: In every instance the quantity or quality level shown or specified is intended to be the minimum for the work to be provided or performed. Unless otherwise indicated, the actual work may either comply exactly, with in specified tolerances, with the minimum quantity or quality specified, or may exceed that minimum within reasonable

- G. limits. In complying with requirements, the indicated numeric values are either minimum or maximum values, as noted, or as appropriate for the context of the requirements. Refer instances of uncertainty to the Architect for decision before proceeding.
- H. Copies of Standards: The contract documents require that each entity performing work be experienced in that part of the work being performed. Each entity is also required to be familiar with industry standards applicable to that part of the work. Copies of applicable standards are not bound with the contract documents.
 - 1. Where copies of standards are needed for proper performance of the Work, the Contractor is required to obtain such copies directly from the publication source.
 - 2. Although certain copies of standards needed for enforcement of the requirements may be required for submittals, the Architect/ Engineer reserves the right to require the Contractor to submit additional copies of these standards as necessary for enforcement of the requirements.

1.05 GOVERNING REGULATIONS/AUTHORITIES

- A. General: The procedure followed by the Architect has been to contact governing authorities where necessary to obtain information needed for the purpose of preparing contract documents; recognizing that such information may or may not be of significance in relation to the Contractor's responsibilities for performing the Work. Contact governing authorities directly for necessary information and decision having a bearing on performance of the Work.
- B. This Project is to conform to the Building Laws of The State of Indiana and The United States of America.
- C. Copies of Regulations: Obtain copies of the following regulations and retain at the project site during the Contract Time, available for reference by parties at the site who have a reasonable need for such reference.
 - 1. International Building Code and Indiana Amendments
 - 2. International Mechanical Code and Indiana Amendments
 - 3. Uniform Plumbing Code and Indiana Amendments
- D. National Electrical Code and Indiana Amendments 5. ANSI A117.1 – 2003
- E. 6. ACSE-7, 2007
 - 1. Indiana Conservation Energy Code, 2010 / ASHRAE 90.1, 2007 Addition
 - 2. OSHA Regulations for site safety

END OF SECTION

**SECTION 01 4336
SUBCONTRACTORS AND PRODUCTS LIST**

PART 1 -GENERAL

2.01 COMPLIANCE WITH FORM 96, PART II, “

- A. SECTION II PLAN AND EQUIPMENT QUESTIONNAIRE” AS REQUIRED BY THE INDIANA STATE BOARD OF ACCOUNTS, THE APPARENT LOW BIDDER FOR EACH CONTRACT, AND IF REQUESTED BY THE ARCHITECT, THE APPARENT SECOND LOW BIDDER FOR EACH CONTRACT, SHALL PROVIDE ONE COPY OF THIS SUBCONTRACTORS AND PRODUCTS LIST, COMPLETE, IN ACCORDANCE WITH THE INSTRUCTIONS TO BIDDERS. COMPLETE THE BLANKS APPROPRIATE TO THE WORK ON WHICH YOU HAVE BID.
- B. Submit the subcontractors and product list no later than 24 hours after the time set for receipt of Bids.
- C. It is intended that this list name the Subcontractor (Installer) and the Products (equipment, systems, or materials) proposed for the Work. If the Work does not include products (equipment, systems, or materials, e.g. trees, aggregate fill, concrete, materials meeting ASTM or other referenced standards, and similar materials), then furnish name of manufacturer, supplier, person, or entity proposed for the Work.
- D. The Bidder shall provide additional information, not included in this list, on separate letterhead.
- E. The Owner and Architect will choose the Subcontractor or Product for any item where the Bidder leaves a blank, lists more than one name, lists “as specified”, or uses another non-responsive phrase, word, or words for the item in question.
- F. After submission of this list by the Bidder and after approval by the Architect and Owner, it shall become a part of the Contract. The list shall not be changed unless the request is accompanied by a “notarized release” from the originally named Subcontractor and Product manufacturer or supplier, and written approval in the form of a “Change Order” is authorized by the Owner and Architect.

PART 2 - PRODUCTS

PART 3 - EXECUTION

BIDDERS ARE TO DEVELOP A LIST SHOWING THE DIVISION OF WORK, THE SUB-CONTRACTOR FOR THE WORK, AND THE MANUFACTURER OF THE RELATED PRODUCTS

END OF SECTION

SECTION 01 4500
TESTING AND QUALITY CONTROL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 DESCRIPTION

- A. WORK INCLUDED:
 - 1. Provide all testing laboratory services, as required or implied in the Contract Documents.
 - 2. Quality control services include inspections, tests and related actions, including reports performed by independent agencies, governing authorities and the Contractor. They do not include contract enforcement activities performed by the Owner or Architect.
 - 3. From time to time during progress of the Work, the Architect/Engineer may require that testing be performed, to confirm that materials provided for the Work meet the specified requirements.
 - 4. Selection and payment of testing laboratory services:
 - a. The Owner will select and pay for testing laboratory services for the following Any and all material/structural testing to included but may not be limited to:
 - 1) Soils Testing
 - 2) Concrete Testing
 - 3) Masonry Grout and Mortar
 - 4) Structural Steel
 - 5) All testing required by other specification sections shall be provided by the Contractor responsible for that specification section.
 - 5. Contractor shall be required to coordinate directly with Owner specified testing agency as stated under communication protocol

1.03 RELATED WORK SPECIFIED ELSEWHERE:

- A. Requirements for testing may be described in various Sections of these Specifications. Where no testing requirements are described but the Architect/Engineer decides that testing is required, the Architect/Engineer may require testing to be performed under current pertinent standards for testing.

1.04 CONFLICTING REQUIREMENTS:

- A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect or Construction Manager for a decision before proceeding.

1.05 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

- C. **Manufacturer Qualifications:** A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. **Fabricator Qualifications:** A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- E. **Professional Engineer Qualifications:** A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or products that are similar to those indicated for this Project in material, design, and extent.
- F. **Specialists:** Certain sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicates.
 - 1. Requirement for specialists shall not supersede building codes and regulations governing the Work.
 - 2. **Testing Agency Qualifications:** An NRTL, and NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 548; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.
 - 3. **NRTL:** A nationally recognized testing laboratory according to 29 CFR 1910.7.
 - a. **NVLAP:** A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- G. **Factory-Authorized Service Representative Qualifications:** An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- H. **Preconstruction Testing:** Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
 - 1. Contractor responsibilities include the following:
 - a. Provide test specimens representative of proposed products and construction.
 - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
 - d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
 - e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
 - f. When testing is complete, remove test specimens, assemblies, mockups, and laboratory mockups; do not reuse products on Project.
 - 2. **Test Agency Responsibilities:** Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect or Construction Manager, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

1.06 MOCKUPS

- A. Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
 - 1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.

2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
 3. Demonstrate the proposed range of aesthetic effects and workmanship. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
 - a. Allow seven days for initial review and each re-review of each mockup.
 4. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 5. Demolish and remove mockups when directed, unless otherwise indicated.
- B. Laboratory Mockups: Comply with requirements of preconstruction testing and those specified in individual Sections in Divisions 02 through 49.

1.07 PRODUCT HANDLING

- A. Promptly process and distribute all required copies of test reports and related instructions to ensure all necessary retesting and/or replacement of materials with the least possible delay in the progress of the Work.

PART 2 - PRODUCTS

2.01 CODE COMPLIANCE TESTING

- A. Inspections and tests required by codes or ordinances, or by a plan approval authority, and made by a legally constituted authority, shall be the responsibility of and shall be paid for by the Contractor, unless otherwise provided in the Contract Documents.
- B. When all identified resources are determined as unsatisfactory (by Owner and/or Architect), Contractor shall comply with final determination (by Owner/Architect) without change to time or cost of project."
- C. CONTRACTOR'S CONVENIENCE TESTING
 1. Inspection or testing performed exclusively for the Contractor's convenience shall be the sole responsibility of the Contractor.

PART 3 - EXECUTION

3.01 CONTRACTOR'S RESPONSIBILITIES

- A. Contractors shall cooperate with representatives of the testing laboratory and shall allow them access to the Work at all times. Provide facilities for such access in order that the laboratory may properly perform its functions.
- B. The Contractor is responsible for the cost of retesting where results of required inspections, tests or similar services prove unsatisfactory.
- C. Upon completion of inspection, testing, sample-taking and similar services performed on the work, repair damaged work and restore substrates and finishes to eliminate deficiencies, including deficiencies in the visual qualities of exposed finishes. Comply with the specification section "Cutting and Patching". Protect work exposed by or for quality control service activities and protect repaired work. Repair and protection is each Contractor's responsibility regardless of the assignment of responsibility for inspection, testing or similar services.
- D. No work shall be covered before Owner/Architect authorization.

3.02 SCHEDULES FOR TESTING

- A. ESTABLISHING SCHEDULE:
 1. By advance discussion with the testing laboratory, determine the time required for the laboratory to perform its tests and to issue each of its findings.
 2. Provide all required time within the construction schedule.
- B. REVISING SCHEDULE:
 1. When changes of construction schedule are necessary during construction, coordinate all such changes of schedule with the testing laboratory as required.
- C. ADHERENCE TO SCHEDULE:

1. When the testing laboratory is ready to test according to the determined schedule but is prevented from testing or taking specimens due to incompleteness of the Work, all extra costs for testing attributable to the delay may be back-charged to the Contractor and shall not be borne by the Owner.

D. TAKING SPECIMENS

1. REQUIREMENTS:

- a. All specimens and samples for testing, unless otherwise provided in these Contract Documents, will be taken by the testing laboratory.
- b. All sampling equipment and personnel will be provided by the testing laboratory.
- c. All deliveries of specimens and samples to the testing laboratory will be performed by the testing laboratory.

END OF SECTION

SECTION 01 4600
MATERIALS AND EQUIPMENT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section specifies administrative and procedural requirements governing the Contractor's selection of products for use in the Project.
 - 1. Standards: Refer to Section "Definitions and Standards" for applicability of industry standards to products specified.
 - 2. Administrative procedures for handling requests for substitutions made after award of the Contract are included under Section "Product Substitutions".

1.03 DEFINITIONS

- A. Definitions used in this Article are not intended to change the meaning of other terms used in the Contract Documents, such as "specialties", "structure", "finishes", "accessories", and similar terms. Such terms are self-explanatory and have well recognized meanings in the construction industry.
- B. "Products" are items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term "product" includes the terms "material", "equipment", "system", and terms of similar intent.
 - 1. "Named Products" are items identified by manufacturer's product name, including make or model designation, indicated in the manufacturer's published product literature that is current as of the date of the Contract Documents.
 - 2. "Materials" are products that are substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.
 - 3. "Equipment" is a product with operational parts, whether motorized or manually operated, that requires service connections such as wiring or piping.

1.04 SUBMITTALS

- A. Product List Schedule: Prepare a schedule showing products specified in a tabular form acceptable to the Architect. Include generic names of products required. Include the manufacturer's name and proprietary product names for each item listed.
- B. Coordinate the product list schedule with the Construction Schedule and the Schedule of Submittals.
- C. Form: Prepare the product listing schedule with the information on each item tabulated under the following column headings:
 - 1. Related Specification Section number.
 - 2. Generic name used in Contract Documents.
 - 3. Proprietary name, model number and similar designations.
 - 4. Manufacturer's name and address.
 - 5. Supplier's name and address.
 - 6. Installer's name and address.
 - 7. Projected delivery date, or time span of delivery period.
 - 8. Completed Schedule: within 60 days after date of commencement of the Work, submit 3 copies of the completed product list schedule to the Construction Manager. Provide a written explanation for omissions of data, and for known variations from Contract requirements.
 - 9. Architect's Action: The Architect will respond in writing to the Contractor, within 2 weeks of receipt of the completed product list schedule. No response within this time period constitutes no objection to listed manufacturers or products, but does not constitute a waiver of the requirement that products comply with Contract Documents.

1.05 QUALITY ASSURANCE

- A. Source Limitations: To the fullest extent possible, provide products of the same kind, from a single source.
- B. Compatibility of Options: When the Contractor is given the option of selecting between two or more products for use on the Project, the product selected shall be compatible with products previously selected, even if previously selected products were also options.
- C. Each Contractor is responsible for providing products and construction methods that are compatible with products and construction methods of other Contractors.
- D. If a dispute arises between Contractors over concurrently selectable, but incompatible products, the Architect will determine which products shall be retained and which are incompatible and must be replaced.
- E. Foreign Product Limitations: Refer to the laws of the State of Indiana.
- F. Nameplates: Except for required labels and operating data, do not attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products which will be exposed to view in occupied spaces or on the exterior.
- G. Labels: Locate required product labels and stamps on a concealed surface or, where required for observation after installation, on an accessible surface that is not conspicuous.
- H. Equipment Nameplates: Provide a permanent nameplate on each item of service- connected or power-operated equipment. Locate on an easily accessible surface which is inconspicuous in occupied spaces. The nameplate shall contain the following information and other essential operating data:
 - 1. Name of product and manufacturer.
 - 2. Model and serial number.
 - 3. Capacity.
 - 4. Speed.
 - 5. Ratings.

PART 2 – PRODUCTS

2.01 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver, store and handle products in accordance with the manufacturer's instructions, using means and methods that will prevent damage, deterioration and loss, including theft.
 - 1. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other losses.
 - 3. Deliver products to the site in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting and installing.
 - 4. Inspect products upon delivery to ensure compliance with the Contract Documents, and to ensure that products are undamaged and properly protected.
 - 5. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
 - 6. Store heavy materials away from the Project structure in a manner that will not endanger the supporting construction.
 - 7. Store products subject to damage by the elements above ground, under cover in a weathertight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

2.02 PRODUCT SELECTION

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, unused at the time of installation.

1. Provide products complete with all accessories, trim, finish, safety guards and other devices and details needed for a complete installation and for the intended use and effect.
 2. Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.
- B. Product Selection Procedures: Product selection is governed by the Contract Documents and governing regulations, not by previous project experience. Procedures governing product selection include the following:
1. Proprietary Specifications Requirements: Where only a single product or manufacturer is named, provide the product indicated. No substitutions will be permitted.
 2. Semiproprietary Specification Requirements: Where two or more products or manufacturers are named, provide one of the products indicated. No substitutions will be permitted.
 3. Descriptive Specifications Requirements: Where Specifications describe a product or assembly, listing exact characteristics required, with or without use of a brand or trade name, provide a product or assembly that provides the characteristics and otherwise complies with Contract requirements.
 4. Performance Specification Requirements: Where Specifications require compliance with performance requirements, provide products that comply with these requirements, and are recommended by the manufacturer for the application indicated. General overall performance of a product is implied where the product is specified for a specific application.
 5. Manufacturer's recommendations may be contained in published product literature, or by the manufacturer's certification of performance.
 - a. Compliance with Standards, Codes and Regulations: Where the Specifications only require compliance with an imposed code, standard or regulation, select a product that complies with the standards, codes or regulations specified.
 - b. Visual Matching: Where Specifications require matching an established Sample, the Architect's decision will be final on whether a proposed product matches satisfactorily.
 - 1) Where no product available within the specified category matches satisfactorily and also complies with other specified requirements, comply with provisions of the Contract Documents concerning "substitutions" for selection of a matching product in another product category, or for noncompliance with specified requirements.
 6. Visual Selection: Where specified product requirements include the phrase "...as selected from manufacturer's standard colors, patterns, textures..." or a similar phrase, select a product and manufacturer that complies with other specified requirements. The Architect will select the color, pattern and texture from the product line selected.
 - a. When the manufacturer's "standard" selections are limited the Architect may also select from the manufacturers "non-standard" selections without any increase in the Contract Amount. Such selections will be limited to colors and patterns, and excludes textures.

PART 3 – EXECUTION

3.01 INSTALLATION OF PRODUCTS

- A. COMPLY WITH MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS FOR INSTALLATION OF PRODUCTS IN THE APPLICATIONS INDICATED. ANCHOR EACH PRODUCT SECURELY IN PLACE, ACCURATELY LOCATED AND ALIGNED WITH OTHER WORK.
 1. Where guidance is lacking (as concluded by Owner and/or Architect), Contractor shall comply with direction provided by Owner and/or Architect
- B. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION

SECTION 01 5000

TEMPORARY FACILITIES AND CONTROLS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. The drawings and general provisions of the Contract, including Supplementary Conditions and other Division 1 Specification sections, apply to the work of this section.

1.02 WORK DESCRIPTION

- A. For Bid Group A - Baseball and Softball Fields, the Contractor is to pay for all temporary Utilities and facilities required for the construction of the project.
- B. For Bid Group B - High School and McAnally, the Costs will be paid as described below in this section.
- C. Contractor shall maintain clear separation between school operations and project.
- D. Contractor shall maintain a clean and organized site. Contractor shall have 24 hours to correct any conditions reported as unacceptable by Owner and/or Architect. No additional time or cost will be allowed
- E. The work of this section shall be included as a part of the Contract Documents for all Contractors on this project. Certain items of work included in this section may be assigned to a specific prime contractor.
 - 1. Use Charges:
 - a. Each Contractor shall include all costs or use charges for temporary facilities, services and controls unless noted otherwise. Cost or use charges shall not be accepted as a basis of claims for a change order.
 - b. Contractors are responsible for all temporary facilities and associated use charges until the Date of Substantial Completion, including use charges associated with the use of permanent systems prior to the Date of Substantial Completion.
 - c. Water Service: The Owner shall pay metered water service use charges for water used by all entities engaged in construction activities at the project site.
 - d. Electric Power Service: The Owner shall pay electric power service use charges, whether metered or otherwise, for electricity used by all entities engaged in construction activities at the project site. This does not include the cost to provide generators or fuel or for temporary equipment and other work items that an individual Contractor might require.
 - e. The Contractor shall provide temporary electrical service near the Contractor field office area. Each Contractor shall be responsible for connection to the service for their construction trailers.
 - f. Gas Service: The Owner shall pay gas service use charges for gas usage, by all entities engaged in construction activities at the project site. This does not include the cost to provide fuel for temporary equipment and other work items that an individual Contractor might require.
 - g. Sewer Service: The Owner shall pay sewer service use charges for sewer usage, by all entities engaged in construction activities at the project site.
 - h. Temporary Telephone/Fax Service: Each Contractor shall pay its own telephone/fax use charges. The Contractor shall pay for the telephone service use charges for the field office provided for the Owner, Architect and use.
 - i. The Contractor responsible for installing and maintaining such temporary facilities shall maintain them in good order throughout construction and shall remove them from the premises at the completion of the project, or when requested to do so. Temporary structures and facilities become the property of the party furnishing them. Leave the premises clean, undamaged.

1.03 JOB CONDITIONS

- A. Provide each temporary service and facility ready for use at each location when the service or facility is first needed to avoid delay in performance of the work. Maintain, expand as required and modify temporary services and facilities as needed throughout the progress of the work. Do not remove until services or facilities are no longer needed, or are replaced by the authorized use of completed permanent facilities.

1.04 CONTRACTOR'S USE OF PREMISES

- A. LIMITATIONS ON CONSTRUCTION OPERATIONS:
 - 1. Confine operations at site to areas indicated on the Contract Documents and/or areas authorized in writing by the Architect.
 - 2. Activities of Each Contractor, including all subcontractors, material suppliers, employees and others engaged in the work, shall be strictly limited to the project area and the designated storage/staging area. Existing drives and parking areas shall not be used during construction except as directed by the Construction Manager.
 - 3. Under no circumstances shall parking, material storage, or other uses of adjacent private property be permitted.
 - 4. Locations of storage/staging area, field offices, parking areas, etc. on the project site must be approved by the Architect/Owner.
 - 5. Each Contractor shall be held responsible for damage to the existing facilities (including parking lots, driveways, landscaping, buildings, utilities, etc.) resulting from work being performed under his contract; and shall repair such damaged areas to their original condition, as approved by the Architect, at no additional cost to the Owner.

1.05 MATERIAL STORAGE:

- A. Do not load an existing structure or a new structure with weight that exceeds the structural capacity. Particular caution must be exercised when stacking block, drywall, pipe and other relatively heavy materials.
- B. Assume full responsibility for protection and safekeeping of any/all materials stored on the premises.
- C. Move and relocate stored materials/equipment which interfere with the Owner's operations or those of other Contractors.

1.06 SPECIAL SITE CONDITIONS

- A. All Contractors shall understand that the schools being renovated will be fully functional during the school year. Be aware that at each school students, parents and staff will be entering and exiting the parking lots during the mornings and afternoons. Deliveries to the schools will also be made at various times during school hours. All Contractors must coordinate movement of equipment and vehicles on site at all times.

1.07 ACCESS AND PARKING:

- A. An area for Contractor trailers and staging area will be assigned for the new construction.

1.08 CONTRACTOR DELIVERIES:

- A. Advise all shippers to deliver materials to the actual project address in care of the Contractor.
- B. Do not allow material to be shipped to Owner.
- C. The school will not accept postal (U.S. Mail, UPS, FedEx, etc.) deliveries for the Contractor.

1.09 QUALITY ASSURANCE

- A. Comply with requirements of local laws and regulations governing construction and local industry standards, in the installation and maintenance of temporary facilities and services, including but not limited to the following:
 - 1. Building codes including local requirements for permits, testing and inspection.
 - 2. Health and safety regulations
 - 3. Utility company regulations and recommendations governing temporary utility services

4. Police and fire department rules and recommendations
5. Environmental protections regulations governing use of water and energy, and the control of dust, noise and other nuisances.
6. Comply with the requirements of NFPA Code 241 "Building Construction and Demolition Operations", the ANSI-A10 Series standards for "Safety Requirements for Construction
7. Demolition" and the NECA National Joint Guideline NJG-6, "Temporary Job Utilities and Services".
 - a. Refer to "Guidelines for Bid Conditions for Temporary Job Utilities and Services", as prepared jointly by AGC and ASC for industry recommendations.
 - b. Trade Jurisdictions: The assigned responsibilities for the installation and operation of temporary utilities are not intended to interfere with the normal application of trade regulations and union jurisdictions applicable to the work.
 - c. Electrical service shall comply with NEMA, NECA and UL standards and regulations for temporary electrical service. Install service in compliance with National Electrical Code (NFPA 70).
8. Inspect and test each service before placing temporary utilities in use. Arrange for required inspections and tests by governing authorities and obtain required certifications and permits for use.

1.10 TEMPORARY EQUIPMENT AND WORK ITEMS:

- A. Each Contractor shall provide the following listed temporary equipment and work items; maintain and remove same at completion where applicable.
 1. Temporary heat, protective enclosures, concrete blankets, straw, etc. for specific items of work such as masonry, drywall, and concrete on the exterior and in the interior prior to the enclosure of the building or any increment thereof while cold or inclement weather conditions are encountered while proceeding with work as scheduled.
 2. Temporary heat for field offices and storage buildings.
 3. Grounded UL approved extension cords from work area to power source and any additional lighting required to perform the work and as required by applicable laws, in addition to that provided in other parts of this specification.
 4. Restoration of areas damaged by construction operations.
 5. Removal of snow, frost and ice for work continuance.
 6. Drinking water for own employees if otherwise not available.
 7. Receiving of materials at the site.
 8. Barricades for protection of people and property, including warning signs, traffic control signs, flashers, etc.
 9. Acceptable fire protection within five feet (5') of any burning, welding, cutting, or soldering operations.
 10. Replace barricades removed for convenience or for access to the work.
 11. Materials hoisting systems as required to expedite the work.
 12. Fences around excavations.
 13. Ladders, scaffolding, ramps, runways, platforms and other such facilities and equipment necessary for proper access to the work.

PART 3-EXECUTION

2.01 TEMPORARY ENCLOSURES/PARTITIONS

- A. This section does not relate to temporary weather protection or enclosures required for continuation of the work during cold or wet weather (i.e., concrete, masonry, etc.). This type of weather protection, enclosure, etc. shall be provided, maintained and removed by the Contractor performing the work.
 1. Provide and maintain temporary, insulated, weather tight closure of the exterior to accommodate acceptable working conditions and protection of products, to allow for temporary heating, to provide protection against adverse weather and to prevent entry of unauthorized persons.

- a. Provide and maintain hinged plywood temporary doors with locks and automatic closure system.
 - 1) Temporary partitions shall be solid floor to deck (as approved by Owner and/or Architect.
 - 2) As each opening (doors, windows, etc.) in exterior walls is constructed, provide reinforced plastic covered frames for each to maintain required temperatures inside the building.
 - 3) Provide and maintain items such as temporary stairs, ramps, chutes, ladders, walkways, dust partitions and similar items as required for proper execution of the work by all trades.
 - 4) Provide temporary closure and protection of all roof and floor openings as each opening is being constructed. Temporary closure shall be capable of supporting normal loads and traffic.
 - 5) Remove temporary closures when final installation is complete or when directed.

2.02 SANITARY FACILITIES

- A. Provide and maintain temporary toilet facilities of an approved chemical type, or as required by law, and in the quantity needed for the proper servicing of the project for the use of all trades.
- B. Have chemical toilet facilities emptied on a regular basis, or as required, whichever is more frequent.
- C. Shield toilets to insure privacy.
- D. Provide toilet tissue, paper towels, hand sanitizing provisions, and waste paper containers as required.
- E. Clean toilet facilities on a weekly basis.
- F. Provide and maintain temporary flushing type toilets when water and sewer service is available at a permanent location inside the building.

2.03 TEMPORARY HEATING, VENTILATION AND COOLING

- A. Temporary heat shall be provided for enclosed building spaces as required for installation of any material and for working conditions required by any trade or trades working on the Project. This does not include heat or protection as required by Paragraph 1.06.A.1. The minimum period that temporary heat must be made available for enclosed spaces (not permanently heated) begins November 1 and ends May 15th each heating season.
- B. An enclosed building space shall be defined as having a roof and all exterior openings closed by either temporary or permanent means.
- C. The following temperatures shall be maintained:
 - 1. 50° F minimum during working hours and 40° F during non-working hours.
- D. For a period of seven (7) days prior to interior finishing (wall coverings, resilient tile, acoustical ceilings, etc.), and until final acceptance or occupancy by the Owner, spaces shall be kept 60° F to 75° F during working hours and 60° F minimum at all other times.
- E. After the building or any designated portion has been enclosed and temporary heat is required, the Contractor shall provide and maintain all temporary heating systems using one or more of the following methods:
- F. Portable heaters: smokeless type, thermostatically controlled, electric blower operated, of type approved by fire and health authorities for use without vents. This Contractor shall include necessary electrical wiring and controls. Relocate heaters and components as necessary to prevent interference with continuing constructions.
- G. Temporary heating system consisting of approved electric or gas fired unit heaters, direct fired make-up air units, boilers and unit heaters or other similar approved equipment. All such units shall be properly vented to the exterior, piped, wired, thermostatically controlled and have all required safety controls.

- H. The permanent heating system and its component parts may be used for temporary heat where available. The building shall be in the finishing stages and the permanent heating system must be installed as designed when used to supply temporary heat. This shall include permanent power wiring connections to a permanent power source. Provide all phases of operation, maintenance, control and items of like nature during the time the permanent system is used to furnish temporary heat.
- I. At the termination of the use of the permanent system as a temporary heating system, the system shall be thoroughly cleaned, equipped with new filters, new belts if required, etc., and any damage repaired or replaced.
- J. The use of the permanent system for temporary heat shall not affect the warranty period which begins on the date of Substantial Completion of the Project.
- K. All HVAC returns shall be covered with filter fabric (as authorized by Owner/Architect
- L. Refer to Division 23 for other requirements that may affect the use of the permanent system.

2.04 COST OF FUEL AND ELECTRIC POWER

- A. The cost of all fuel and power consumed for temporary heat, ventilation and cooling will be paid by the Owner.

2.05 MAINTENANCE AND REMOVALS

- A. All portions of temporary heating, ventilation and cooling systems, not part of the permanent systems, shall be removed when the period of usefulness is over. Relocate components as required to prevent interference with continuing construction. Restore any compromised surfaces and patch penetrations. Keep temporary air filters in place and change as often as necessary. Install a clean set of permanent filters prior to air balancing.

2.06 TEMPORARY ELECTRICAL AND LIGHTING

- A. The Owner will pay the cost of metered power consumed during construction.
- B. Contractor shall provide and pay for:
 - 1. Any electrical energy required for field offices and storage sheds.
 - 2. Connection of special power (pigtailed, extension cords, etc.) for masonry saws, mixers, floor grinders, etc.
 - 3. Any electrical requirements (service, power and/or lighting) needed at places other than those herein specified or required in a greater amount than would be available from the specified temporary electrical service.
 - 4. Include:
 - a. Weatherproof, grounded temporary lighting and power system of sufficient size, capacity and power characteristics, as described below, which is to be used by all trades for all construction. Maintain the temporary system, relocate the system as required for construction progress, and remove the system at completion of the project.
 - b. Service amperage that is adequate for the construction work and testing of permanent equipment. Include meters, transformers, overcurrent protected disconnect switches, automatic ground fault circuit interrupter devices and main distribution panel.
 - c. Temporary lighting consisting of: a 120 volt lamp-holder pigtail socket with a 150 watt A-21 lamp shall be installed at a minimum on one (1) per room, or in areas over 300 square feet, one (1) per 300 square feet of floor space. Hallways shall have lamps at 20'-0" intervals. Generally, in large areas, light stringers shall be installed in rows 20 feet apart with lights spaced 15 feet apart on the stringers. No more than ten lamps shall be installed on any 20 amp circuit. Replacement lamps shall be provided (by the Electrical Contractor) throughout the construction of this project. Every temporary lamp outlet must be properly lamped throughout construction; dark or burned out lamps shall be immediately replaced. Number 12 wire may be used for temporary lighting circuits. All temporary lighting shall be operated by switches.
 - 5. Temporary lighting for renovated areas.

- a. Temporary work lighting, safety lighting and security lighting. Security lights to work at all hours of darkness; work lighting and safety lighting shall be continuous during working hours.
- b. Circuits for welding and other special equipment.
- c. Circuits for testing and checking permanent equipment.
- d. The following items apply to all temporary electrical and lighting:
- e. The service shall comply with NEC, current edition, OSHA regulations and state and local codes.
- f. All circuits and/or feeders, including lighting, shall be protected by appropriately rated ground fault detection system and interruption devices.
- g. Each Contractor shall provide GFI devices when using the Owner's power supply.
- 6. Use of Permanent Systems:
 - a. When the permanent facilities are reviewed by the Architect/Engineer and determined to be ready for operation, they may be used for temporary light and power.
 - b. Upon approval of use and completion of the changeover to the permanent electrical system, the Electrical Contractor shall remove all portions of the temporary electrical services, including power and lighting distribution and/or utilization equipment and wiring.

2.07 SITE COMMUNICATION

- A. Each Contractor shall provide at least one cellular phone for use as on-site communications.

2.08 SITE MAINTENANCE

- A. Provide weed, grass and trash control in the office trailer area, storage trailer area, parking areas as well as the area around the building.
- B.

2.09 TEMPORARY WARNING SYSTEM

- A. Provide temporary emergency systems, warning systems, and fire alarm systems in accordance with IOSHA standards. The Contractor shall provide alarm stations consisting of an area plan showing alarm station location, escape routes to nearby exits, and a distinctive alarm capable of being heard above ambient noise levels. Remove temporary systems after permanent systems are operational.

2.10 TEMPORARY WATER

- A. Provide and maintain temporary water for the project.
 - 1. Provide water service and distribution piping of sizes and pressures adequate for construction until permanent water service is available.
 - 2. Provide pipe insulation where required to prevent freezing.
 - 3. A minimum of two outlets, located at each end of the building, shall be included. Locate per the direction of the Construction Manager.
 - 4. Remove temporary service when it is no longer needed.
 - a. The Owner will pay the cost of water used.
 - b. Each Contractor shall exercise measures to conserve water.
 - c. Where a Contractor requires water service other than what is specified herein, the Contractor shall make independent arrangements for the water service at his expense.

2.11 FIELD OFFICES AND STORAGE FACILITIES

- A. The Contractor shall furnish a field office for the use of the Owner, Architect/Engineer This office will also be used for regular progress meetings.
 - 1. Each Contractor or subcontractor shall provide his own field offices and storage facilities as necessary for the performance of the Work.
 - 2. The location and size of offices and storage facilities as well as the sequence of their installation and removal shall be approved by the Owner.

3. All temporary work sheds and offices made of combustible material shall be located at least 30 feet from the building.
4. All temporary utilities for temporary offices and sheds including electrical service and telephone service shall be provided by Each Contractor or subcontractor.

2.12 SIGNAGE

- A. No signs or advertisements shall be permitted on the Project Site or on temporary structures, except those which are required to conform to the safety requirements of the Contract Documents or those which are expressly permitted by the Architect/Engineer.
- B. The Construction Manager shall provide temporary jobsite signage as required.

2.13 TEMPORARY SECURITY AND PROTECTION

- A. Temporary Fire Protection
 1. Contractor shall assume total responsibility for adequate fire protection and for elimination of fire-hazardous conditions caused by their operations. Provide, maintain and have readily accessible, approved type extinguishers when working adjacent to hazardous areas such as painting and welding, or when using torches or open flames for heating or cutting, Personnel working on the project shall be familiarized with the locations and operations of fire extinguishers.
 2. Provide and maintain fire extinguishers distributed throughout the construction area for general fire protection needs. Comply with all applicable laws and regulations.

2.14 TEMPORARY DUST PARTITIONS

- A. Temporary dust partitions will be required to separate occupied areas of the building from the construction area and shall be constructed.

2.15 FIRST AID FACILITIES

- A. Contractor shall provide first aid facilities as required by federal, state or local regulations.

2.16 TEMPORARY FENCING AND GATES

- A. Barricades
 1. Erect and maintain structurally adequate barricades in compliance with codes and standards. Paint with appropriate colors, graphics and warning signs to inform personnel and the public of the hazard being protected against. Install cones or barrels where necessary. Where appropriate and needed provide lighting, including flashing red or amber lights.
 2. Remove and legally dispose of barricades when no longer required.

2.17 ENVIRONMENTAL PROTECTION

- A. Provide protection, operate temporary facilities and conduct construction operations in ways and methods that comply with all applicable federal, state and local laws and regulations, and minimize the possibility that air, waterways and subsoil might be contaminated or polluted, or that other undesirable effects might result. Maintain all facilities constructed for pollution control as long as the operations creating the particular pollutant are being carried out, until the material concerned has become stabilized to the extent that pollution is no longer being created.
- B. Avoid use of tools and equipment which cause harmful noise. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons or firms near the site.
- C. Perform all work and take such steps required to prevent any interference or disturbance to fish or wildlife.
- D. Carefully preserve items having any apparent historical or archaeological interest which are discovered in the course of construction and excavation activities. Leave archaeological finds undisturbed and report finds to the Construction Manager so that proper authorities may be notified.
- E. Protect monuments, markers and works of art before beginning operations near them.

2.18 DUST/MUD CONTROL

- A. Comply with the requirements of the Air Pollution Control Board of the State of Indiana and other specified requirements.
- B. Maintain all excavations, embankments, stockpiles, haul roads, permanent access roads, plant sites, waste areas, borrow areas, and all other work areas on or off site free of dust.
- C. Keep the public streets and walkways and private drives and lots, adjacent to the project site, free of mud, dirt, dust, and debris that result from the Contractor's work activities.
- D. Approved temporary methods of stabilization consisting of sprinkling, chemical treatment, light bituminous treatment, or similar methods will be permitted to control dust. Sprinkling, to be approved, must be repeated at such intervals as to keep all parts of the disturbed area at least damp at all times; and the Contractor must have sufficient competent equipment on the job to accomplish this if sprinkling is used. Sprinkling that causes mush tracking of public roads will not be allowed and other approved methods must be used.

2.19 WATER CONTROL

- A. Protect excavations, trenches and structure from damage by rain water, ground water, backing-up of drains and sewers and from all other water. Provide pumps, well points, equipment and enclosures to provide protection for the Work.
- B. Install approved temporary erosion control devices when discharge velocity of pumping equipment causes soil erosion at the point of discharge.
- C. Furnish necessary equipment and take necessary precautions for handling and properly disposing of sewerage, seepage, storm, surface, floor or underground flows of water and water flows which may be encountered during the construction of his work.

2.20 EROSION CONTROL

- A. Conform to requirements of regulatory agencies as called for in the General Conditions.
- B. The requirements that are specified on the Civil Engineering drawings shall supercede requirements called for in this specification.
 - 1. The following list is included as a bidding and construction aid and does not necessarily represent all affected agencies.
 - a. Environmental Protection Agency
 - b. Corps of Engineers
 - c. Department of Agriculture, Soil Conservation Service
 - d. State of Indiana, Stream Pollution Control Board
 - e. State of Indiana, Department of Natural Resources, Division of Water.
 - f. County and municipal regulatory agencies.
 - g. Reference Standards.
 - 1) The latest issues of the following documents form a part of this Specification to the extent indicated hereinafter.
 - 2) Indiana State Highway Commission, "Standard Specification" (ISHSS).
 - 3) U.S. Department of Agriculture, Soil Conservation Service, Agriculture Information Bulletin 343, "Controlling Erosion on Construction Sites".
 - 4) Mulches and Binding Material.
 - 5) Straw bales shall be wire bound, unweathered, wheat straw containing no viable seeds of noxious weeds as defined by Indiana Seed Law.
 - 6) When bales are used for sediment traps, provide two (2) 36" stakes per bale.
 - 7) Installation
 - 8) Surface drainage from cuts and fills within the construction limits, whether or not completed, and from borrow and waste disposal areas, shall, if turbidity producing materials are present, be held in suitable sedimentation ponds or shall be graded to control erosion within acceptable limits.
 - 9) Temporary erosion and sediment control measures such as berms, dikes, drains, or sedimentation basins, if required to meet the above standards, shall be

provided and maintained until permanent drainage and erosion control facilities are completed and operative.

- 10) The area of bare soil exposed at any one time by construction operations should be held to a minimum. Stream crossing by fording with equipment shall be limited to control turbidity and in areas of frequent crossings temporary culverts or bridge structures shall be installed. Any temporary culverts or bridge structures shall be removed upon completion of the Project.
- 11) Fills and waste areas shall be constructed by selective placement to eliminate silts or clays on the surface that will erode and contaminate adjacent streams.
- 12) Straw Bale Sediment Filters
- 13) Install straw bales (laid end to end) for erosion and sediment traps. Bales generally are to be placed along a line twenty feet (20') beyond toe of slopes, around sediment settling basins, wheel wash areas, and other such locations as indicated. Remove sediment before it reaches the 1/3 point on the bales. Maintain bales in position until permanent grass is sown and mulched.
- 14) Diversion ditches, sediment basins and erosion repair.
- 15) Construct diversion ditches along the top of all slopes, provide chutes along the slopes from diversion ditches to sediment basins located at the toe of slopes. Ditches, chutes and sediment basins to be large enough to carry a one year storm of 30 minutes duration. Chute to be constructed of polyethylene sheeting or other approved material. Repair all slope and ditch erosion after each rainfall and clean sediment basins to maintain capacity. Maintain all work until installation of permanent lawn or planting. Remove when and as directed.
- 16) Readjust location of control devices when and as necessary to prevent sediment from entering streams or sewers.
- 17) Sediment Traps and Diversion Ditches
- 18) Maintain until installation of permanent construction.
- 19) Remove sediment and redistribute on site where directed. Maximum allowable depth of sediment in any trap shall be 33%.

2.21 TREE AND PLANT PROTECTION

- A. Provide protective fencing for trees and plants indicated to remain. Erect fencing before commencement of any other work. Inspect trees and plants and submit a report and photographs of any damage prior to commencement of work.
- B. Fencing: New wood slat wire bound snow type fencing, 4 feet high. Provide heavy duty studded steel "T" posts, 1 3/8" x 1 3/8" x 7/64" thick by 7 feet tall.
 1. Space posts 6 feet on center and drive 3 feet into the ground. Fasten fence to each post with 5 fasteners.
 2. Place warning signs on tree protective fencing stating, "Do Not Store Materials Within Fence".
 - a. Place fencing completely around trees at the full spread of branches.
 - b. Place fencing completely around individual groups of plants 1 foot beyond the edge of the plants.
 - c. Place fencing around existing lawn and other areas to be left undisturbed where indicated or as required for protection.
 - d. Maintain fencing in good repair until completion of project unless directed otherwise. Remove fencing when directed.

2.22 UTILITY PROTECTION

- A. Protect existing utility lines and structures, indicated or known, from damage.
- B. Locate and flag all lines and structures before beginning excavation and other construction operations.
- C. Protect all utility lines constructed for this project.

- D. When utility lines and structures that are to be removed or relocated are encountered within the area of operations, notify affected utility in ample time for necessary measures to be taken to prevent interruption of services.
- E. Report damage to existing utility lines or structures immediately to the affected utility and to the Construction Manager. If determined that repairs are required under the Contract, the cost of such repairs will be administered in accordance with the General Conditions.

2.23 TEMPORARY PROTECTIVE COVERINGS

- A. Finished Surfaces
 - 1. Provide temporary and removable protection for installed products. Control activity in immediate work area to minimize damage.
 - 2. Contractors shall protect all finished surfaces, including the jambs and soffits of all openings used as passageways or through which materials are handled, against any possible damage resulting from the conduct of work by all trades and subcontractors.
 - 3. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects.
 - 4. The finished surfaces shall be clean and not marred upon delivery of the building to the Owner. The Contractor shall, without extra compensation, replace, repair, or refinish (as determined by the Architect/Engineer) all such spaces where painted or finished surfaces prove to have been inadequately protected and are damaged.
 - 5. Contractor shall provide tight non-staining wood sheathing under any materials that are stored on finished surfaces and shall provide planking on finished surfaces before moving any materials over those finished areas.
 - 6. Prohibit traffic from landscaped areas.
- B. Roof and Waterproof Surfaces
 - 1. Roof and waterproof surfaces shall not be subjected to traffic nor shall they be used for storage of material. Where some activity must take place in order to carry out the work of the Contracts, adequate protection shall be provided by the Contractor doing such work.
 - a. Typical minimum roof protection system shall consist of 2" fiberglass or polystyrene insulation with ½" plywood work surface. Conditions may require greater protection or variations in this system. Contractor shall be responsible for determination of protection and repair of any damage to roofing materials or flashing.
- C. Glass
 - 1. All glass shall be protected and kept clean during the entire construction period by the Contractor. All damaged, etched, defaced, or broken glass shall be replaced at the expense of the Contractor causing the damage.

END OF SECTION

SECTION 015723 - TEMPORARY STORM WATER POLLUTION CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Temporary stormwater pollution controls.

- B. Related Requirements:

- 1. Section 012100 "Allowances" for Storm Water Control Monitoring Agent Allowance.

1.3 STORMWATER POLLUTION PREVENTION PLAN

- A. The Stormwater Pollution Prevention Plan (SWPPP) is part of the Contract Documents.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

- 1. Meet with Owner, Architect and earthwork subcontractor.
- 2. Review requirements of the SWPPP, including permitting process, worker training, and inspection and maintenance requirements.

1.5 INFORMATIONAL SUBMITTALS

- A. Stormwater Pollution Prevention Plan (SWPP): Within 15 days of date established for commencement of the Work, submit completed SWPPP.
- B. EPA authorization under the EPA's "2017 Construction General Permit (CGP)."
- C. Stormwater Pollution Prevention (SWPP) Training Log: For each individual performing Work under the SWPPP.
- D. Inspection reports.

1.6 QUALITY ASSURANCE

- A. Stormwater Pollution Prevention Plan (SWPPP) Coordinator: Experienced individual or firm with a record of successful water pollution control management coordination of projects with similar requirements. (Storm Water Control Monitoring Agent will be paid out of the Allowance)
 - 1. SWPPP Coordinator shall complete and finalize the SWPPP form.
 - 2. SWPPP Coordinator shall be responsible for inspections and maintaining of all requirements of the SWPPP.
- B. Installers: Trained as indicated in the SWPPP.
- C. The Owner will engage a Storm Water Control Monitoring Agent paid out of the Storm Water Control Monitoring Agent Allowance to assist Contractor's (SWPPP) Coordinator.

PART 2 - PRODUCTS

2.1 TEMPORARY STORMWATER POLLUTION CONTROLS

- A. Provide temporary stormwater pollution controls as required by the SWPPP.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with all best management practices, general requirements, performance requirements, reporting requirements, and all other requirements included in the SWPPP.
- B. Locate stormwater pollution controls in accordance with the SWPPP.
- C. Conduct construction as required to comply with the SWPPP and that minimize possible contamination or pollution or other undesirable effects.
 - 1. Inspect, repair, and maintain SWPPP controls during construction.
 - a. Inspect all SWPPP controls not less than every seven days, and after each occurrence of a storm event, as outlined in the SWPPP.
- D. Remove SWPPP controls at completion of construction and restore and stabilize areas disturbed during construction.

END OF SECTION 015723

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. See Section 01 2500 Substitution procedures

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. All products are to be provided as listed in the specifications and drawings unless changed per section 012500 or changed during bidding by addendum.
- C. Related Requirements:
 - 1. Section 012100 "Allowances" for products selected under an allowance.
 - 2. Section 017800 "Closeout Procedures" for submitting warranties.
 - 3. Section 012500 "Substitution Procedures"

1.3 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Salvaged items or items reused from other projects are not considered new products. Items that are manufactured or fabricated to include recycled content materials are considered new products, unless indicated otherwise.
 - 3. Comparable Product: Product by named manufacturer that is demonstrated and approved through the comparable product submittal process described in Part 2 "Comparable Products" Article, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. Published attributes and characteristics of basis-of-design product establish salient characteristics of products.

1. Evaluation of Comparable Products: In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification. Manufacturer's published attributes and characteristics of basis-of-design product also establish salient characteristics of products for purposes of evaluating comparable products.
- C. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications; submit a comparable product request or substitution request, if applicable.
- D. Comparable Product Request Submittal: An action submittal requesting consideration of a comparable product, including the following information:
1. Identification of basis-of-design product or fabrication or installation method to be replaced, including Specification Section number and title and Drawing numbers and titles.
 2. Data indicating compliance with the requirements specified in Part 2 "Comparable Products" Article.
- E. Basis-of-Design Product Specification Submittal: An action submittal complying with requirements in Section 013300 "Submittal Procedures."

1.4 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
1. Resolution of Compatibility Disputes between Multiple Contractors:
 - a. Contractors are responsible for providing products and construction methods compatible with products and construction methods of other contractors.
 - b. If a dispute arises between the multiple contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.
- B. Identification of Products: Except for required labels and operating data, do not attach or imprint manufacturer or product names or trademarks on exposed surfaces of products or equipment that will be exposed to view in occupied spaces or on the exterior.
1. Labels: Locate required product labels and stamps on a concealed surface, or, where required for observation following installation, on a visually accessible surface that is not conspicuous.
 2. Equipment Nameplates: Provide a permanent nameplate on each item of service- or power-operated equipment. Locate on a visually accessible but inconspicuous surface. Include information essential for operation, including the following:
 - a. Name of product and manufacturer.
 - b. Model and serial number.
 - c. Capacity.
 - d. Speed.
 - e. Ratings.

3. See individual identification Sections in Divisions 22, 23, and 26 for additional equipment identification requirements.

1.5 COORDINATION

- A. Modify or adjust affected work as necessary to integrate work of approved comparable products and approved substitutions.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products, using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

- B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to determine compliance with the Contract Documents and that products are undamaged and properly protected.

- C. Storage:

1. Provide a secure location and enclosure at Project site for storage of materials and equipment.
2. Store products to allow for inspection and measurement of quantity or counting of units.
3. Store materials in a manner that will not endanger Project structure.
4. Store products that are subject to damage by the elements under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation and with adequate protection from wind.
5. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
7. Protect stored products from damage and liquids from freezing.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

1. **Manufacturer's Warranty:** Written standard warranty form furnished by individual manufacturer for a particular product and issued in the name of the Owner or endorsed by manufacturer to Owner.
2. **Special Warranty:** Written warranty required by the Contract Documents to provide specific rights for Owner and issued in the name of the Owner or endorsed by manufacturer to Owner.

- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: When specified forms are included in the Project Manual, prepare a written document, using indicated form properly executed.
 - 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 - 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 - 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 - 3. Owner reserves the right to limit selection to products with warranties meeting requirements of the Contract Documents.
 - 4. Where products are accompanied by the term "as selected," Architect will make selection.
 - 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
 - 6. Or Equal: For products specified by name and accompanied by the term "or equal," "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.
 - a. Submit additional documentation required by Architect in order to establish equivalency of proposed products. Unless otherwise indicated, evaluation of "or equal" product status is by the Architect, whose determination is final.
- B. Product Selection Procedures:
 - 1. Sole Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Sole product may be indicated by the phrase "Subject to compliance with requirements, provide the following."
 - 2. Sole Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Sole manufacturer/source may be indicated by the phrase "Subject to compliance with requirements, provide products by the following."

3. Limited List of Products: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Limited list of products may be indicated by the phrase "Subject to compliance with requirements, provide one of the following."
 4. Limited List of Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Limited list of manufacturers is indicated by the phrase "Subject to compliance with requirements, provide products by one of the following."
 5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications may additionally indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers
- C. Visual Matching Specification: Where Specifications require the phrase "match Architect's sample," provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or a similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration of Comparable Products: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with the following requirements:
1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work.
 2. Detailed comparison of significant qualities of proposed product with those of the named basis-of-design product. Significant product qualities include attributes, such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.
 3. Evidence that proposed product provides specified warranty.
 4. List of similar installations for completed projects, with project names and addresses and names and addresses of architects and owners, if requested.
 5. Samples, if requested.
- B. Architect's Action on Comparable Products Submittal: If necessary, Architect will request additional information or documentation for evaluation, as specified in Section 013300 "Submittal Procedures."
1. Form of Approval of Submittal: As specified in Section 013300 "Submittal Procedures."

2. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- C. Submittal Requirements, Two-Step Process: Approval by the Architect of Contractor's request for use of comparable product is not intended to satisfy other submittal requirements. Comply with specified submittal requirements.
 - D. Submittal Requirements, Single-Step Process: When acceptable to Architect, incorporate specified submittal requirements of individual Specification Section in combined submittal for comparable products. Approval by the Architect of Contractor's request for use of comparable product and of individual submittal requirements will also satisfy other submittal requirements.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

**SECTION 01 7200
FIELD ENGINEERING**

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including amended General Conditions and other Division 01 Specification Sections, apply to work of this Section.

1.02 SUMMARY

- A. Section includes administrative and procedural requirements for field engineering services including, but not limited to, the following:
 1. Construction layout.
 2. Field engineering and surveying.
 3. Anchor bolt location survey.

1.03 SUBMITTALS

- A. Record Log: upon request.
- B. Anchor Bolt Survey: upon completion of the Anchor Bolt installation.
- C. Certified Survey of foundation walls and site improvements: upon completion.
- D. Report discrepancies found during Construction Layout to the Architect prior to proceeding with the work.
- E. Request for Information: upon discovery of items needing clarification in the Contract Documents.

1.04 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

PART 2 - EXAMIN AND EXECUTE

2.01 BEFORE CONSTRUCTION, VERIFY THE LOCATION AND POINTS OF CONNECTION OF UTILITY SERVICES.

- A. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
 - a. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

2.02 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect.
- B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.
 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
 2. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 3. Inform installers of lines and levels to which they must comply.
 4. Check the location, level and plumb, of every major element as the Work progresses.
 5. Notify Architect when deviations from required lines and levels exceed allowable tolerances.

6. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

2.03 FIELD ENGINEERING

- A. Identification: Identify existing benchmarks, control points, and property corners.
- B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
- C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.
- D. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, submit in triplicate a certified survey showing dimensions, locations, angles, and elevations of construction sitework.

END OF SECTION

**SECTION 01 7250
WORK LAYOUT**

1 – GENERAL

1.01 1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to work of the Section.

1.02 1.02 LAYOUT

- A. Contractor shall be responsible for the layout of his work and all coordination.
- B. Verify all grades, lines, levels and dimensions as shown on Drawings and report any errors or inconsistencies to the Architect before commencing work.
- C. Dimensions shall not be scaled from the Drawings.

1.03 PRODUCTS NOT APPLICABLE

1.04 EXECUTION NOT APPLICABLE

END OF SECTION

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work, including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering and surveying.
 - 3. Installation of the Work.
 - 4. Cutting and patching.
 - 5. Progress cleaning.
 - 6. Starting and adjusting.
 - 7. Protection of installed construction.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for coordination of limits on use of Project site.
 - 2. Section 017700 "Closeout Procedures" for Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, replacing defective work, and final cleaning.

1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For land surveyor.
- B. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.

1.5 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

- B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 - 1. Structural Elements: When cutting and patching structural elements, or when encountering the need for cutting and patching of elements whose structural function is not known, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
 - 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
 - 3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
 - 4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of specified products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
- C. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
 - 1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, gas service piping, and water-service piping; underground electrical services; and other utilities.
 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
1. Description of the Work, including Specification Section number and paragraph, and Drawing sheet number and detail, where applicable.
 2. List of detrimental conditions, including substrates.
 3. List of unacceptable installation tolerances.
 4. Recommended corrections.
- D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to [local utility] [Owner] that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect [through Construction Manager] in accordance with requirements in Section 013100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks and existing conditions. If discrepancies are discovered, notify Architect and Construction Manager promptly.
- B. Engage a land surveyor experienced in laying out the Work, using the following accepted surveying practices:
 - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
 - 2. Establish limits on use of Project site.
 - 3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 - 4. Inform installers of lines and levels to which they must comply.
 - 5. Check the location, level and plumb, of every major element as the Work progresses.
 - 6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

3.4 FIELD ENGINEERING

- A. Identification: Owner will identify existing benchmarks, control points, and property corners.
- B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
 - 1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.
 - 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.
- C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
 - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
 - 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
 - 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

- D. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.

3.5 INSTALLATION

- A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb, and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
 - 4. Maintain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied spaces, unless otherwise indicated on Drawings.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure satisfactory results as judged by Architect. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations, so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy of type expected for Project.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on-site and placement in permanent locations.
- F. Tools and Equipment: Select tools or equipment that minimize production of excessive noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for Work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions with manufacturer.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed Work are not indicated, arrange joints for the best visual effect, as judged by Architect. Fit exposed connections together to form hairline joints.
- J. Repair or remove and replace damaged, defective, or nonconforming Work.

1. Comply with Section 017700 "Closeout Procedures" for repairing or removing and replacing defective Work.

3.6 CUTTING AND PATCHING

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Temporary Support: Provide temporary support of Work to be cut.
- C. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- D. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 3. [Concrete] [and] [Masonry]: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 6. Proceed with patching after construction operations requiring cutting are complete.
- E. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as practicable, as judged by Architect. Provide materials and comply with installation requirements specified in other Sections, where applicable.
 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

- a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch, corner to corner of wall and edge to edge of ceiling. Provide additional coats until patch blends with adjacent surfaces.
 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- F. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.7 PROGRESS CLEANING

- A. Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
 4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where Work is in progress to the level of cleanliness necessary for proper execution of the Work.
1. Remove liquid spills promptly.
 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls.

- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

- A. Coordinate startup and adjusting of equipment and operating components with General Commissioning Requirements.
- B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.9 PROTECTION AND REPAIR OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Repair Work previously completed and subsequently damaged during construction period. Repair to like-new condition.
- C. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300

**SECTION 01 7329
CUTTING AND PATCHING**

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to work of this Section.
- B. The requirements of this Section apply to all contractors, including mechanical and electrical trades. Refer to other Sections for additional requirements and limitations on cutting and patching of mechanical and electrical work.
- C. DESCRIPTION OF REQUIREMENTS
 - 1. Definition: "Cutting and Patching" includes cutting into existing construction to provide for the installation or performance of other work and subsequent fitting and patching required to restore surfaces to their original condition.
 - a. "Cutting and Patching" is performed for the coordination of the Work, to uncover work for access or inspection, to obtain samples for testing, to permit alterations to be performed or for other similar purposes.
 - b. Cutting performed during the manufacture of products, or during the initial fabrication, erection or installation process is not considered to be "cutting and patching" under this definition. Drilling of holes to install fasteners and similar operations is also not considered to be "cutting and patching".
 - c. "Demolition" and "Selective Demolition" are recognized as related - but - separate categories of work, which may or may not require cutting and patching as defined in this Section; refer to "Demolition" and "Selective Demolition" Sections of Division 2.

1.02 QUALITY ASSURANCE

- A. Requirements for Structural Work: Do not cut and patch structural work in a manner that would result in a reduction of load-carrying capacity or of load-deflection ratio.
- B. Before cutting and patching the following categories of work MUST obtain the Architect/Engineer's approval to proceed with cutting and patching as described in the procedural proposal for cutting and patching:
 - 1. Structural steel
 - 2. Miscellaneous structural metals, including lintels, equipment supports, stair systems and similar categories of work.
 - 3. Structural concrete
 - 4. Foundation construction
 - 5. Timber and primary wood framing
 - 6. Bearing and retaining walls
 - 7. Structural decking
 - 8. Piping, ductwork, vessels and equipment
 - 9. Structural systems of special construction, as specified by Division-13 Sections
- C. Operational and Safety Limitations: Do not cut and patch operational elements or safety related components in a manner that would result in a reduction of their capacity to perform in the manner intended, including energy performance, or that would result in increased maintenance, or decreased operational life or decreased safety.
 - 1. Before cutting and patching the following elements of work, and similar work elements here directed, obtain the Architect/Engineer's approval to proceed with cutting and patching as proposed in the proposal for cutting and patching.
 - 2. Visual Requirements: Do not cut and patch work exposed on the building's exterior or in its occupied spaces, in a manner that would, in the Architect/Engineer's opinion result in lessening the building's aesthetic qualities. Do not cut and patch work in a manner that would result in substantial visual evidence of cut and patch work. Remove and replace work judged by the Architect/Engineer to be cut and patched in visually unsatisfactory manner.

1.03 SUBMITTALS

- A. Procedural Proposal for Cutting and Patching: Where prior approval of cutting and patching is required, submit proposed procedures for this work a minimum of 72 hours in advance of the time work will be performed and request approval to proceed. Include the following information, as applicable, in the submittal:
 - 1. Describe nature of the work and how it is to be performed, indicating why cutting and patching cannot be avoided. Describe anticipated results of the work in terms of changes to existing work, including structural, operational and visual changes as well as other significant elements.
 - 2. List products to be used and firms that will perform work.
 - 3. Give dates when work is expected to be performed.
 - 4. List utilities that will be disturbed or otherwise affected by work, including those that will be relocated and those that will be out of service temporarily. Indicate how long utility service will be disrupted.
 - 5. Where cutting and patching of structural work involves the addition of reinforcement, submit details and engineering calculations to show how that reinforcement is integrated with original structure to satisfy requirements.
 - 6. Approval by the Architect/Engineer to proceed with cutting and patching of work does not waive the Architect/Engineer's right to later require complete removal and replacement of work found to be cut and patched in an unsatisfactory manner.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. General: Except as otherwise indicated, or as directed by Architect/Engineer, use materials for cutting patching that are identical to existing materials. If identical materials are not available, or cannot be used, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect. Use materials for cutting and patching that will result in equal or better performance characteristics.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Temporary Support: To prevent failure, provide temporary support of work to be cut.
- B. Before the start of cutting work, meet at the site with all parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict between the various trades. Coordinate layout of the work and resolve potential conflicts before proceeding with the work.
- C. Protection: Protect other work during cutting and patching to prevent damage. Provide protection from adverse weather conditions for that part of the Project that may be exposed during cutting and patching operations.
 - 1. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
 - 2. Take precautions not to cut existing pipe, conduit or duct serving the building but scheduled to be relocated until provisions have been made to bypass them.

3.02 PERFORMANCES

- A. General: Employ workers, skilled in the appropriate trade, to perform cutting and patching work. Where possible, retain the original installer or fabricator, or another recognized experienced and specialized firm to perform cutting and patching. Except as otherwise indicated or as approved by the Architect/Engineer proceed with cutting and patching at the earliest feasible time and complete work without delay.
- B. Cutting: Cut the work using methods that are least likely to damage Work to be retained or adjoining Work. Where possible, review proposed procedures with the original installer; comply with original installer's recommendations.

1. In general, where cutting is required, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut through concrete and masonry using a cutting machine such as a carborundum saw or core drill to ensure a neat hole. Cut holes and slots neatly to size required with minimum disturbance of adjacent
 - a. work. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces. Temporarily cover openings when not in use.
 2. Comply with requirements of applicable Section of Division-2 where cutting and patching is required in excavating and backfilling.
 3. Bypass utility services such as pipe and conduit, before cutting, where such utility services are shown or required to be removed, relocated, or abandoned. Cut-off conduit and piping in wall or partitions to be removed. After bypass and cutting, cap, valve or plug and seal tight remaining portion of pipe and conduit to prevent entrance of moisture or other foreign matter.
- C. Patching: Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for the work.
1. Where feasible, inspect and test patched areas to demonstrate integrity of work
 2. Restore exposed finishes of patched areas and where necessary extend finish restoration into retained adjoining work in a manner that will eliminate evidence of patching and refinishing.
 3. Where removal of walls or partitions extends from one finished area into another finished area, patch and repair floor and wall surfaces in the new space to provide an even surface or uniform color and appearance. If necessary to achieve uniform color and appearance, remove existing floor and wall coverings and replace with new materials.
 - a. Where patch occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing patch after patched area has received prime and base coat.
- D. Plaster Installation: Comply with manufacturer's instructions and install thickness and coats as indicated.
1. Unless otherwise indicated, provide 3-coat work.
 2. Finish gypsum plaster with smooth troweled finish.
 3. Cut, patch, pointup and repair plaster as necessary to accommodate other work and to restore cracks, dents and imperfections.

3.03 CLEANING

- A. Thoroughly clean areas and spaces where work is performed or used as access to work. Remove completely paint, mortar, oils, putty, and items of similar nature. Thoroughly clean piping, conduit, and similar features before painting or other finishing is applied. Restore damaged pipe covering to its original condition.

END OF SECTION

SECTION 01 7400

CLEANING

PART 1 – GENERAL

1.01 WORK DESCRIPTION

1.02 SCOPE OF WORK:

- A. Throughout the construction period, maintain the building and site in a standard of cleanliness as described in this Section.
- B. In addition to standards described in this section, comply with all requirements for cleaning as described in various other sections of these specifications.

1.03 QUALITY ASSURANCE

A. INSPECTION:

- 1. Conduct daily inspection, and more often if necessary, to verify that requirements of cleanliness are being met.

B. CODES AND STANDARDS:

- 1. In addition to the standards described in this Section, comply with all pertinent requirements of governmental agencies having jurisdiction.

1.04 SAFETY REQUIREMENTS

A. HAZARDS CONTROL:

- 1. Store volatile wastes in covered metal containers, and remove from premises daily.
- 2. Prevent accumulation of wastes, which create hazardous conditions.
- 3. Provide adequate ventilation during use of volatile or noxious substances.
- 4. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
 - a. Do not burn or bury rubbish and waste materials on project site.
 - b. Do not dispose of volatile wastes such as mineral spirits, oil or paint thinner in storm or sanitary drains.
 - c. Do not dispose of wastes into streams or waterways.
 - d. Cease using cleaning materials with objectionable odors, if such odors inconvenience occupants of adjacent facilities.

PART 2 – PRODUCTS

2.01 CLEANING

A. CLEANING AGENTS

- 1. Use EPA compliant, environmentally safe, solvent free cleaning materials and agents recommended by the manufacturer or fabricator of the surface to be cleaned.
- 2. Do not use cleaning agents that are potentially hazardous to health or property, or that might damage finished surfaces.

PART 3 – EXECUTION

3.01 CLEANING/RUBBISH REMOVAL

- A. Daily/Regular Cleaning - Contractor shall remove his rubbish and debris from the construction area daily or as needed to keep the site clean.
 - 1. The Contractor shall regularly sweep, clean and in general keep the site and building clean.

3.02 FINAL CLEANING

A. Contractor shall:

- 1. Remove grease, dust, dirt, stains, and labels from sight-exposed interior and exterior finished surfaces and interior of casework.
- 2. Remove from the jobsite all tools, surplus materials, equipment, scrap, debris and waste.

3. Touch up or otherwise repair and restore marred exposed finishes and surfaces. Replace finishes and surfaces which cannot be satisfactorily repaired or restored, or which show visible evidence of repair or restoration.
 4. Avoid painting over UL and similar labels, including mechanical and electrical "boiler plates".
- B. Contractor shall conduct a final cleaning as necessary to provide the level of cleanliness required for occupancy.
1. Provide Final Cleaning in each area as it is completed per the Project Schedule.
 2. Employ professional cleaners for final cleaning.
 3. Comply with manufacturer's instructions.
 4. Clean transparent materials, including mirrors and glass in doors and windows (inside and outside).
 5. Clean exposed exterior and interior hard-surfaced finishes to a dust free condition, free of stains, films and similar foreign substances. Restore reflective surfaces to their original condition. Leave concrete floors broom clean. Vacuum carpet and other finished flooring surfaces.
 6. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.
 7. Clean the site, including landscape development areas, of rubbish, litter and other foreign substances. Sweep paved areas broom clean; remove stains, spills and other foreign materials. Rake grounds that are neither paved nor planted to a smooth, even textured surface.
 8. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, exposed ductwork and piping, equipment vaults, manholes, attics, mezzanines and similar spaces.
 9. Remove snow and ice to provide safe access to the building and grounds if necessary.

END OF SECTION

SECTION 01 7700
CLOSEOUT PROCEDURES

PART 1 – GENERAL

1.01 WORK DESCRIPTION

A. SCOPE OF WORK:

1. Provide cleanup and submittals as required for final project termination.

1.02 DEFINITIONS:

- A. Closeout is hereby defined to include general requirements near end of contract time, in preparation for final acceptance, final payment, normal termination of Contract, occupancy by Owner and similar actions evidencing completion of the Work. Specific requirements for individual units of work are specified in sections of Divisions 2 through
1. Time of closeout is directly related to “Substantial Completion”, and therefore may be either a single time period for entire Work or a series of time periods for individual parts of the work which have been certified as substantially complete at different dates. That time variation (if any) shall be applicable to other provisions of this Section.

1.03 PREREQUISITES TO SUBSTANTIAL COMPLETION

- A. General: Prior to requesting Architect’s inspection for certification of substantial completion (for either entire Work or portions thereof), complete the following and list known exceptions (if any) in request:
1. In the progress payment request that coincides with, or is the date substantial completion is claimed, show either 100% complete for the portion of the work claimed as substantially complete, or list incomplete items, the value of incomplete work and the reasons for the work being incomplete.
 2. Submit specific warranties, final certifications and similar documents.
 3. Submit record documents, including drawings, specifications, product data, samples, maintenance manuals and similar final record information.
 4. Advise the Owner of pending insurance changeover requirements
 5. Obtain and submit releases enabling Owner’s full and unrestricted use of the Work and access to services and utilities, including (where required) occupancy permits, operating certificates, and similar releases.
 6. Make final change-over of locks and transmit keys to Owner and Owner’s personnel of change-over in security provisions.
 7. Deliver tools, spare parts, extra stocks of materials and similar physical items to owner.
 8. Complete start-up testing of systems and instructions of Owner’s operating/maintenance personnel. Discontinue (or change over) and remove from project site temporary facilities and services along with construction tools and facilities mock-ups, and similar elements.
 9. Touch-up and otherwise repair and restore marred exposed finishes.
 10. Complete final cleaning requirements.

1.04 PREREQUISITES TO FINAL PAYMENT AND ACCEPTANCE

- A. General: Prior to the Contractor’s written request for the Architect’s final inspection for certification of final acceptance and final payment, as required by General Conditions, complete the following and list known exceptions (if any) in request:
1. Submit final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 2. Liquidated Damages as may be applicable to be calculated and applied.
 3. Submit Contractor’s Affidavit of Payment of Debts and Claims, Contractor’s Affidavit of Release of Liens and Consent of Surety Company to Final Payment.
 4. Submit all inspection certificates from local or state authorities.
 5. Submit Record Drawings, Maintenance Manuals, final project photographs, property surveys and similar final record information.

6. Submit copy of the completed Punch List to Architect stating that each Punch List item has been completed or otherwise resolved for acceptance.
7. Submit Contractor's Guarantee letter as noted in paragraph below.
8. Submit final meter readings for utilities, a measured record of stored fuel and similar data either of the date of substantial completion or when the Owner took possession of and assumed responsibility for corresponding elements of the work.
9. Submit certification stating that no materials containing asbestos were incorporated into the Work.
10. Mechanical construction trade contractors shall submit certification stating that no flux or solder used for drinking water piping contained more than 0.2 percent lead, and that no pipe or fittings used for drinking water pipes contained more than 0.8 percent lead.

PART 2 – PRODUCTS

2.01 MATERIALS AND EQUIPMENT

- A. CLEAN UP:
 1. Provide all necessary labor and materials to properly clean up project for occupancy by Owner.

PART 3 – EXECUTION

3.01 PRELIMINARY CLEANING:

- A. Near the completion of the work, the Contractor shall vacuum clean all floors and leave other surfaces dust-free and clean.
- B. PRELIMINARY INSPECTION:
 1. After the preliminary cleaning is complete, the Architect/Engineer will conduct the preliminary inspection.
 2. Listings of work not acceptable to the Architect/Engineer will be issued to the Contractor for corrective action.
 3. After unacceptable work has been corrected, the Contractor shall notify the Architect/Engineer in writing (through the Construction Manager) that all such unacceptable work has been corrected.
 4. Upon receipt of such notification, the Architect/Engineer will set a date for final inspection.
- C. FINAL CLEAN UP AND INSPECTION:
 1. Just prior to the date set for final inspection, the Contractor shall re-clean all surfaces, leaving the Work in a condition suitable in every respect for Owner occupancy.
 - a. Refer to Section 01 74 00.

3.02 CONTRACTOR'S GUARANTEE

- A. INSTALLATIONS:
 1. Contractor guarantees, by this acceptance of the Contract, that all work furnished and installed will be free from any and all defects in workmanship and/or materials and that all apparatus will develop capacities and characteristics specified, and that if, during a period of TWO years, or as otherwise specified, from date of certificate of substantial completion and acceptance of Work, any such defects in workmanship, materials or performance appear, he will, without additional cost, remedy such defects within a reasonable time to be specified in notice from the Architect/Engineer. In default thereof, Owner may have such work done and charge cost to the Contractor.
 - a. Any damage to the building or its contents and/or work of equipment and/or faulty installations shall be repaired or replaced by the party or parties furnishing the original installation and paid for by the Contractor at fault.
 - b. An inspection of the installed work and/or equipment will be made just prior to the end of the stipulated guarantee period and any installations and/or equipment which, in the opinion of the Architect/Engineer and/or Owner, show undue wear, failure, incorrect operation, or otherwise do not conform to the letter and intent of the Contract Documents shall be repaired or replaced by the Contractor furnishing same at no additional charge.

3.03 WARRANTIES

- A. Definitions:
 - 1. Standard Product warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.
 - 2. Special Warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.
- B. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty of the work that incorporates the products, nor does it relieve suppliers, manufacturers and subcontractors required to countersign special warranties with the Contractor.
 - 1. Related Damages and Losses: When correcting warranted work that has failed, remove and replace other work that has been damaged as a result of such failure or work that must be removed and replaced to provide access for correction of warranted work.
 - 2. Reinstatement of Warranty: When work covered by a warranty has failed and been corrected, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment of depreciation.
 - 3. Replacement Cost: On determination that work covered by a warranty has failed, replace or rebuild the work to an acceptable condition complying with requirements of the Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective work regardless of whether the Owner has benefited from use of the work through part of its useful service life.
 - 4. Owner's Recourse: Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights or remedies.
 - 5. Submittals: Submit required number of warranties to be included in the Operations and Maintenance Manuals in accordance with Section 01 33 00.

3.04 PUNCH LIST

- A. After each Contractor submits a list of items to be completed or corrected, as required by the General Conditions, and Architect may issue a revised list, including additional items (punch list) to be completed and/or corrected.
- B. If and when the revised punch list is required, the Architect will issue the Contractor a copy for his use. The Contractor shall give prompt attention and devote his best effort to complete/correct his work within a two-week period, or as determined by the Construction Manager.

3.05 SYSTEMS START-UP

- A. Starting Systems
 - 1. Coordinate schedule for start-up of various equipment and systems provided under the Contractor's work
 - a. Notify the Architect and Owner seven days prior to start-up of each item.
 - b. Verify that each piece of equipment or system has been checked for proper lubrications, drive rotation, belt tension, control sequence or other conditions which may cause damage.
 - c. Verify that tests, meter readings, and specific electrical characteristics agree with those required by the equipment or system manufacturer.
 - d. Verify wiring, controls and support components for equipment are complete and tested.
 - e. Execute start-up under supervision of Contractor's personnel in accordance with manufacturer's instructions and recommendations.
 - f. When specified in individual Specification Sections, or required by a manufacturer, require manufacturer to provide an authorized representative to be present at site to

inspect, check, and approve equipment system installation to start-up, and to supervise placing equipment or system in operation.

- g. Submit a written report that equipment or system has been properly installed and is functioning correctly.

B. Demonstration and Instruction

1. Demonstrate operations and maintenance of products to Owner's personnel at least two (2) weeks prior to date of final inspection.
2. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
3. Utilize operation and maintenance manuals as basis for instructions. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.
4. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed-upon times, at equipment locations.
5. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.
6. Record Demonstrations, including questions and answers. Provide Owner with copy of training either on thumb drive.

END OF SECTION

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings.
 - 2. Record specifications.
 - 3. Record Product Data.
- B. Related Requirements:
 - 1. Section 017700 "Closeout Procedures" for general closeout procedures.
 - 2. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit one set(s) of marked-up record prints.
- B. Record Specifications: Submit one paper copy of Project's Specifications, including addenda and Contract modifications.
- C. Record Product Data: Submit one paper copy of each submittal.
 - 1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

1.4 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
 - 1. Preparation: Mark record prints to show the actual installation, where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.

- a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.
 - d. Record and check the markup before enclosing concealed installations.
2. Content: Types of items requiring marking include, but are not limited to, the following:
- a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Depths of foundations.
 - d. Locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.
 - g. Actual equipment locations.
 - h. Duct size and routing.
 - i. Locations of concealed internal utilities.
 - j. Changes made by Change Order or Construction Change Directive.
 - k. Changes made following Architect's written orders.
 - l. Details not on the original Contract Drawings.
 - m. Field records for variable and concealed conditions.
3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
4. Mark record prints with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 2. Format: Annotated PDF electronic file[
 3. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Architect.
 - e. Name of Contractor.

1.5 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation, where installation varies from that indicated in Specifications, addenda, and Contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.

3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
5. Note related Change Orders, Record Product Data, and Record Drawings where applicable.

B. Format: Submit record specifications as paper copy.

1.6 RECORD PRODUCT DATA

A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and revisions to Project Record Documents as they occur; do not wait until end of Project.

B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.

C. Format: Submit Record Product Data as paper copy.

1. Include Record Product Data directory organized by Specification Section number and title.

1.7 MAINTENANCE OF RECORD DOCUMENTS

A. Maintenance of Record Documents: Store Record Documents in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017839

SECTION 017900 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
 - 1. Instruction in operation and maintenance of systems, subsystems, and equipment.
 - 2. Demonstration and training video recordings.

1.3 INFORMATIONAL SUBMITTALS

- A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
- B. Attendance Record: For each training module, submit list of participants and length of instruction time.

1.4 CLOSEOUT SUBMITTALS

- A. Demonstration and Training Video Recordings: Submit two copies within seven days of end of each training module.
 - 1. Identification: On each copy, provide an applied label with the following information:
 - a. Name of Project.
 - b. Name and address of videographer.
 - c. Name of Architect.
 - d. Name of Contractor.
 - e. Date of video recording.
 - 2. At completion of training, submit complete training manual(s) for Owner's use prepared in same paper format required for operation and maintenance manuals specified in Section 017823 "Operation and Maintenance Data."

1.5 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.

- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 014000 "Quality Requirements," experienced in operation and maintenance procedures and training.
- C. Videographer Qualifications: A professional videographer who is experienced photographing demonstration and training events similar to those required.
- D. Preinstruction Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to demonstration and training including, but not limited to, the following:
 - 1. Inspect and discuss locations and other facilities required for instruction.
 - 2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
 - 3. Review required content of instruction.
 - 4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.6 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data have been reviewed and approved by Architect.

1.7 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:
 - 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
 - a. System, subsystem, and equipment descriptions.
 - b. Operating standards.
 - c. Equipment function.
 - d. Operating characteristics.
 - e. Limiting conditions.
 - 2. Documentation: Review the following items in detail:
 - a. Emergency manuals.
 - b. Systems and equipment operation manuals.
 - c. Systems and equipment maintenance manuals.
 - d. Product maintenance manuals.

3. Emergencies: Include the following, as applicable:
 - a. Instructions on meaning of warnings, trouble indications, and error messages.
 - b. Instructions on stopping.
 - c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.
 - e. Sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.

4. Operations: Include the following, as applicable:
 - a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.

5. Adjustments: Include the following:
 - a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.

6. Troubleshooting: Include the following:
 - a. Diagnostic instructions.
 - b. Test and inspection procedures.

7. Maintenance: Include the following:
 - a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning.
 - e. Procedures for preventive maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.

8. Repairs: Include the following:
 - a. Diagnosis instructions.
 - b. Repair instructions.
 - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - d. Instructions for identifying parts and components.
 - e. Review of spare parts needed for operation and maintenance.

1.8 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Section 017823 "Operation and Maintenance Data."
- B. Set up instructional equipment at instruction location.

1.9 INSTRUCTION

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
 - 1. Owner will furnish Contractor with names and positions of participants.
- C. Scheduling: Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
 - 1. Schedule training with Owner with at least 14 days' advance notice.
- D. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.
- E. Cleanup: Collect used and leftover educational materials and remove from Project site. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

1.10 DEMONSTRATION AND TRAINING VIDEO RECORDINGS

- A. General: Engage a qualified commercial videographer to record demonstration and training video recordings. Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
 - 1. At beginning of each training module, record each chart containing learning objective and lesson outline.
- B. Digital Video Recordings: Provide high-resolution, digital video in MPEG format, produced by a digital camera with minimum sensor resolution of 12 megapixels and capable of recording in full HD mode with vibration reduction technology.
 - 1. Submit video recordings on CD-ROM and thumb drive.
 - 2. File Hierarchy: Organize folder structure and file locations according to Project Manual table of contents. Provide complete screen-based menu.
 - 3. File Names: Utilize file names based on name of equipment generally described in video segment, as identified in Project specifications.
 - 4. Contractor and Installer Contact File: Using appropriate software, create a file for inclusion on the equipment demonstration and training recording that describes the following for each Contractor involved on the Project, arranged according to Project Manual table of contents:

- a. Name of Contractor/Installer.
 - b. Business address.
 - c. Business phone number.
 - d. Point of contact.
 - e. Email address.
- C. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to adequately cover area of demonstration and training. Display continuous running time.
- 1. Film training session(s) in segments not to exceed 15 minutes.
 - a. Produce segments to present a single significant piece of equipment per segment.
 - b. Organize segments with multiple pieces of equipment to follow order of Project Manual table of contents.
 - c. Where a training session on a particular piece of equipment exceeds 15 minutes, stop filming and pause training session. Begin training session again upon commencement of new filming segment.
- D. Light Levels: Verify light levels are adequate to properly light equipment. Verify equipment markings are clearly visible prior to recording.
- 1. Furnish additional portable lighting as required.
- E. Narration: Describe scenes on video recording by audio narration by microphone while video recording is recorded. Include description of items being viewed.

PART 2 - PRODUCTS

PART 3 - EXECUTION

END OF SECTION 017900

SECTION 01 9113
GENERAL COMMISSIONING REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

- A. Commissioning is intended to achieve the following specific objectives; this section specifies the Contractor's responsibilities for commissioning:
 - 1. Verify that the work is installed in accordance with Contract Documents and the manufacturer's recommendations and instructions, and that it receives adequate operational checkout prior to startup: Startup reports and Prefunctional Checklists executed by Contractor are utilized to achieve this.
 - 2. Verify and document that functional performance is in accordance with Contract Documents: Functional Tests executed by Contractor and witnessed by the Commissioning Authority are utilized to achieve this.
 - 3. Verify that operation and maintenance manuals submitted to Owner are complete: Detailed operation and maintenance (O&M) data submittals by Contractor are utilized to achieve this.
 - 4. Verify that the Owner's operating personnel are adequately trained: Formal training conducted by Contractor is utilized to achieve this.
- B. The Commissioning Authority directs and coordinates all commissioning activities; this section describes some but not all of the Commissioning Authority's responsibilities.
- C. The Commissioning Authority is employed by Owner.

1.02 SCOPE OF COMMISSIONING

- A. The following are to be commissioned:
- B. Building envelope:
 - 1. Air tightness.
- C. Plumbing Systems:
- D. HVAC System, including:
- E. Electrical Systems:
 - 1. Power quality.
 - 2. Emergency power systems.
- F. Electronic Safety and Security:
 - 1. Security system, including doors and hardware.
 - 2. Fire and smoke alarms.
- G. Other equipment and systems explicitly identified elsewhere in Contract Documents as requiring commissioning.

1.03 RELATED REQUIREMENTS

- A. Section 01 7800 - Closeout Submittals: Scope and procedures for operation and maintenance manuals and project record documents.

1.04 REFERENCE STANDARDS

- A. ASTM E1827 - Standard Test Methods for Determining Airtightness of Buildings Using an Orifice Blower Door; 2022.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures; except:
 - 1. Make all submittals specified in this section, and elsewhere where indicated for commissioning purposes, directly to the Commissioning Authority, unless they require review by Architect; in that case, submit to Architect first.
 - 2. Submit one copy to the Commissioning Authority, not to be returned.
 - 3. Make commissioning submittals on time schedule specified by Commissioning Authority.

4. Submittals indicated as "Draft" are intended for the use of the Commissioning Authority in preparation of Prefunctional Checklists or Functional Test requirements; submit in editable electronic format, Microsoft Word 2010 preferred.
 5. As soon as possible after submittals made to Architect are approved, submit copy of approved submittal to the Commissioning Authority.
- B. Product Data: If submittals to Architect do not include the following, submit copies as soon as possible:
 1. Manufacturer's product data, cut sheets, and shop drawings.
 2. Manufacturer's installation instructions.
 3. Startup, operating, and troubleshooting procedures.
 4. Fan and pump curves.
 5. Factory test reports.
 6. Warranty information, including details of Owner's responsibilities in regard to keeping warranties in force.
 - C. Manufacturers' Instructions: Submit copies of all manufacturer-provided instructions that are shipped with the equipment as soon as the equipment is delivered.
 - D. Startup Plans and Reports.
 - E. Completed Prefunctional Checklists.

PART 2 PRODUCTS

2.01 TEST EQUIPMENT

- A. Provide all standard testing equipment required to perform startup and initial checkout and required Functional Testing; unless otherwise noted such testing equipment will NOT become the property of Owner.
- B. Calibration Tolerances: Provide testing equipment of sufficient quality and accuracy to test and/or measure system performance with the tolerances specified. If not otherwise noted, the following minimum requirements apply:
 1. Temperature Sensors and Digital Thermometers: Certified calibration within past year to accuracy of 0.5 degree F (0.3 degree C) and resolution of plus/minus 0.1 degree F (0.05 degree C).
 2. Pressure Sensors: Accuracy of plus/minus 2.0 percent of the value range being measured (not full range of meter), calibrated within the last year.
 3. Calibration: According to the manufacturer's recommended intervals and when dropped or damaged; affix calibration tags or keep certificates readily available for inspection.
- C. Equipment-Specific Tools: Where special testing equipment, tools and instruments are specific to a piece of equipment, are only available from the vendor, and are required in order to accomplish startup or Functional Testing, provide such equipment, tools, and instruments as part of the work at no extra cost to Owner; such equipment, tools, and instruments are to become the property of Owner.
- D. Dataloggers: Independent equipment and software for monitoring flows, currents, status, pressures, etc. of equipment.
 1. Dataloggers required to for Functional Tests will be provided by the Commissioning Authority and will not become the property of Owner.

PART 3 EXECUTION

3.01 COMMISSIONING PLAN

- A. Commissioning Authority has prepared the Commissioning Plan.
 1. Attend meetings called by the Commissioning Authority for purposes of completing the commissioning plan.
 2. Require attendance and participation of relevant subcontractors, installers, suppliers, and manufacturer representatives.
- B. Contractor is responsible for compliance with the Commissioning Plan.

- C. Commissioning Plan: The commissioning schedule, procedures, and coordination requirements for all parties in the commissioning process.
- D. Commissioning Schedule:
 1. Submit anticipated dates of startup of each item of equipment and system to Commissioning Authority within 60 days after award of Contract.
 2. Re-submit anticipated startup dates monthly, but not less than 4 weeks prior to startup.
 3. Prefunctional Checklists and Functional Tests are to be performed in sequence from components, to subsystems, to systems.
 4. Provide sufficient notice to Commissioning Authority for delivery of relevant Checklists and Functional Test procedures, to avoid delay.

3.02 STARTUP PLANS AND REPORTS

- A. Startup Plans: For each item of equipment and system for which the manufacturer provides a startup plan, submit the plan not less than 8 weeks prior to startup.
- B. Startup Reports: For each item of equipment and system for which the manufacturer provides a startup checklist (or startup plan or field checkout sheet), document compliance by submitting the completed startup checklist prior to startup, signed and dated by responsible entity.
- C. Submit directly to the Commissioning Authority.

3.03 PREFUNCTIONAL CHECKLISTS

- A. A Prefunctional Checklist is required to be filled out for each item of equipment or other assembly specified to be commissioned.
 1. No sampling of identical or near-identical items is allowed.
 2. These checklists do not replace manufacturers' recommended startup checklists, regardless of apparent redundancy.
 3. Prefunctional Checklist forms will not be complete until after award of the contract; the following types of information will be gathered via the completed Checklist forms:
 - a. Certification by installing contractor that the unit is properly installed, started up, and operating and ready for Functional Testing.
 - b. Confirmation of receipt of each shop drawing and commissioning submittal specified, itemized by unit.
 - c. Manufacturer, model number, and relevant capacity information; list information "as specified," "as submitted," and "as installed."
 - d. Serial number of installed unit.
 - e. List of inspections to be conducted to document proper installation prior to startup and Functional Testing; these will be primarily static inspections and procedures; for equipment and systems may include normal manufacturer's start-up checklist items and minor testing.
 - f. Sensor and actuator calibration information.
- B. Contractor is responsible for filling out Prefunctional Checklists, after completion of installation and before startup; witnessing by the Commissioning Authority is not required unless otherwise specified.
 1. Each line item without deficiency is to be witnessed, initialed, and dated by the actual witness; checklists are not complete until all line items are initialed and dated complete without deficiencies.
 2. Checklists with incomplete items may be submitted for approval provided the Contractor attests that incomplete items do not preclude the performance of safe and reliable Functional Testing; re-submission of the Checklist is required upon completion of remaining items.
 3. Individual Checklists may contain line items that are the responsibility of more than one installer; Contractor shall assign responsibility to appropriate installers or subcontractors, with identification recorded on the form.
 4. If any Checklist line item is not relevant, record reasons on the form.

5. Contractor may independently perform startup inspections and/or tests, at Contractor's option.
 6. Regardless of these reporting requirements, Contractor is responsible for correct startup and operation.
 7. Submit completed Checklists to Commissioning Authority within two days of completion.
- C. Commissioning Authority is responsible for furnishing the Prefunctional Checklists to Contractor.
1. Initial Drafts: Contractor is responsible for initial draft of Prefunctional Checklist where so indicated in Contract Documents.
 2. Provide all additional information requested by Commissioning Authority to aid in preparation of checklists, such as shop drawing submittals, manufacturers' startup checklists, and O&M data.
 3. Commissioning Authority may add any relevant items deemed necessary regardless of whether they are explicitly mentioned in Contract Documents or not.
 4. When asked to review the proposed Checklists, do so in a timely manner.
- D. Commissioning Authority Witnessing: Required for:
1. Each piece of primary equipment, unless sampling of multiple similar units is allowed by the commissioning plan.
 2. A sampling of non-primary equipment, as allowed by the commissioning plan.
- E. Deficiencies: Correct deficiencies and re-inspect or re-test, as applicable, at no extra cost to Owner.
1. If difficulty in correction would delay progress, report deficiency to the Commissioning Authority immediately.

3.04 FUNCTIONAL TESTS

- A. A Functional Test is required for each item of equipment, system, or other assembly specified to be commissioned, unless sampling of multiple identical or near-identical units is allowed by the final test procedures.
- B. Contractor is responsible for execution of required Functional Tests, after completion of Prefunctional Checklist and before closeout.
- C. Commissioning Authority is responsible for witnessing and reporting results of Functional Tests, including preparation and completion of forms for that purpose.
- D. Contractor is responsible for correction of deficiencies and re-testing at no extra cost to Owner; if a deficiency is not corrected and re-tested immediately, the Commissioning Authority will document the deficiency and the Contractor's stated intentions regarding correction.
1. Deficiencies are any condition in the installation or function of a component, piece of equipment or system that is not in compliance with Contract Documents or does not perform properly.
 2. When the deficiency has been corrected, the Contractor completes the form certifying that the item is ready to be re-tested and returns the form to the Commissioning Authority; the Commissioning Authority will reschedule the test and the Contractor shall re-test.
 3. Identical or Near-Identical Items: If 10 percent, or three, whichever is greater, of identical or near-identical items fail to perform due to material or manufacturing defect, all items will be considered defective; provide a proposal for correction within 2 weeks after notification of defect, including provision for testing sample installations prior to replacement of all items.
 4. Contractor shall bear the cost of Owner and Commissioning Authority personnel time witnessing re-testing.
 5. Contractor shall bear the cost of Owner and Commissioning Authority personnel time witnessing re-testing if the test failed due to failure to execute the relevant Prefunctional Checklist correctly; if the test failed for reasons that would not have been identified in the Prefunctional Checklist process, Contractor shall bear the cost of the second and subsequent re-tests.
- E. Functional Test Procedures:

1. Some test procedures are included in Contract Documents; where Functional Test procedures are not included in Contract Documents, test procedures will be determined by the Commissioning Authority with input by and coordination with Contractor.
2. Examples of Functional Testing:
 - a. Test the dynamic function and operation of equipment and systems (rather than just components) using manual (direct observation) or monitoring methods under full operation (e.g., the chiller pump is tested interactively with the chiller functions to see if the pump ramps up and down to maintain the differential pressure setpoint).
 - b. Systems are tested under various modes, such as during low cooling or heating loads, high loads, component failures, unoccupied, varying outside air temperatures, fire alarm, power failure, etc.
 - c. Systems are run through all the HVAC control system's sequences of operation and components are verified to be responding as the sequence's state.
 - d. Traditional air or water test and balancing (TAB) is not Functional Testing; spot checking of TAB by demonstration to the Commissioning Authority is Functional Testing.
- F. Deferred Functional Tests: Some tests may need to be performed later, after substantial completion, due to partial occupancy, equipment, seasonal requirements, design or other site conditions; performance of these tests remains the Contractor's responsibility regardless of timing.

3.05 SENSOR AND ACTUATOR CALIBRATION

- A. Calibrate all field-installed temperature, relative humidity, carbon monoxide, carbon dioxide, and pressure sensors and gauges, and all actuators (dampers and valves) on this piece of equipment shall be calibrated. Sensors installed in the unit at the factory with calibration certification provided need not be field calibrated.
- B. Calibrate using the methods described below; alternate methods may be used, if approved by Commissioning Authority and Owner beforehand. See PART 2 for test instrument requirements. Record methods used on the relevant Prefunctional Checklist or other suitable forms, documenting initial, intermediate and final results.
- C. All Sensors:
 1. Verify that sensor location is appropriate and away from potential causes of erratic operation.
 2. Verify that sensors with shielded cable are grounded only at one end.
 3. For sensor pairs that are used to determine a temperature or pressure difference, for temperature make sure they are reading within 0.2 degree F (0.1 degree C) of each other, and for pressure, within tolerance equal to 2 percent of the reading, of each other.
 4. Tolerances for critical applications may be tighter.
- D. Sensors Without Transmitters - Standard Application:
 1. Make a reading with a calibrated test instrument within 6 inches (150 mm) of the site sensor.
 2. Verify that the sensor reading, via the permanent thermostat, gauge or building automation system, is within the tolerances in the table below of the instrument-measured value.
 3. If not, install offset, calibrate or replace sensor.
- E. Sensors With Transmitters - Standard Application.
 1. Disconnect sensor.
 2. Connect a signal generator in place of sensor.
 3. Connect ammeter in series between transmitter and building automation system control panel.
 4. Using manufacturer's resistance-temperature data, simulate minimum desired temperature.
 5. Adjust transmitter potentiometer zero until 4 mA is read by the ammeter.
 6. Repeat for the maximum temperature matching 20 mA to the potentiometer span or maximum and verify at the building automation system.

7. Record all values and recalibrate controller as necessary to comply with specified control ramps, reset schedules, proportional relationship, reset relationship and P/I reaction.
 8. Reconnect sensor.
 9. Make a reading with a calibrated test instrument within 6 inches (150 mm) of the site sensor.
 10. Verify that the sensor reading, via the permanent thermostat, gauge or building automation system, is within the tolerances in the table below of the instrument-measured value.
 11. If not, replace sensor and repeat.
 12. For pressure sensors, perform a similar process with a suitable signal generator.
- F. Sensor Tolerances for Standard Applications: Plus/minus the following maximums:
1. Watthour, Voltage, Amperage: 1 percent of design.
 2. Pressure, Air, Water, Gas: 3 percent of design.
 3. Air Temperatures (Outside Air, Space Air, Duct Air): 0.4 degrees F (0.2 degree C).
 4. Relative Humidity: 4 percent of design.
 5. Barometric Pressure: 0.1 inch of Hg (340 Pa).
 6. Flow Rate, Air: 10 percent of design.
 7. Flow Rate, Water: 4 percent of design.
 8. AHU Wet Bulb and Dew Point: 2.0 degrees F (1.1 degrees C).
- G. Critical Applications: For some applications more rigorous calibration techniques may be required for selected sensors. Describe any such methods used on an attached sheet.
- H. Valve/Damper Stroke Setup and Check:
1. For all valve/damper actuator positions checked, verify the actual position against the control system readout.
 2. Set pump/fan to normal operating mode.
 3. Command valve/damper closed; visually verify that valve/damper is closed and adjust output zero signal as required.
 4. Command valve/damper to open; verify position is full open and adjust output signal as required.
 5. Command valve/damper to a few intermediate positions.
 6. If actual valve/damper position does not reasonably correspond, replace actuator or add pilot positioner (for pneumatics).
- I. Isolation Valve or System Valve Leak Check: For valves not associated with coils.
1. With full pressure in the system, command valve closed.
 2. Use an ultra-sonic flow meter to detect flow or leakage.

3.06 TEST PROCEDURES - GENERAL

- A. Provide skilled technicians to execute starting of equipment and to execute the Functional Tests. Ensure that they are available and present during the agreed upon schedules and for sufficient duration to complete the necessary tests, adjustments and problem-solving.
- B. Provide all necessary materials and system modifications required to produce the flows, pressures, temperatures, and conditions necessary to execute the test according to the specified conditions. At completion of the test, return all affected equipment and systems to their pre-test condition.
- C. Sampling: Where Functional Testing of fewer than the total number of multiple identical or near-identical items is explicitly permitted, perform sampling as follows:
1. Identical Units: Defined as units with same application and sequence of operation; only minor size or capacity difference.
 2. Sampling is not allowed for:
 - a. Major equipment.
 - b. Life-safety-critical equipment.
 - c. Prefunctional Checklist execution.
 3. XX = the percent of the group of identical equipment to be included in each sample; defined for specific type of equipment.

4. YY = the percent of the sample that if failed will require another sample to be tested; defined for specific type of equipment.
 5. Randomly test at least XX percent of each group of identical equipment, but not less than three units. This constitutes the "first sample."
 6. If YY percent of the units in the first sample fail, test another XX percent of the remaining identical units.
 7. If YY percent of the units in the second sample fail, test all remaining identical units.
 8. If frequent failures occur, resulting in more troubleshooting than testing, the Commissioning Authority may stop the testing and require Contractor to perform and document a checkout of the remaining units prior to continuing testing.
- D. Manual Testing: Use hand-held instruments, immediate control system readouts, or direct observation to verify performance (contrasted to analyzing monitored data taken over time to make the "observation").
- E. Simulating Conditions: Artificially create the necessary condition for the purpose of testing the response of a system; for example apply hot air to a space sensor using a hair dryer to see the response in a VAV box.
- F. Simulating Signals: Disconnect the sensor and use a signal generator to send an amperage, resistance or pressure to the transducer and control system to simulate the sensor value.
- G. Over-Writing Values: Change the sensor value known to the control system in the control system to see the response of the system; for example, change the outside air temperature value from 50 degrees F to 75 degrees F to verify economizer operation.
- H. Indirect Indicators: Remote indicators of a response or condition, such as a reading from a control system screen reporting a damper to be 100 percent closed, are considered indirect indicators.
- I. Monitoring: Record parameters (flow, current, status, pressure, etc.) of equipment operation using dataloggers or the trending capabilities of the relevant control systems; where monitoring of specific points is called for in Functional Test Procedures:
1. All points that are monitored by the relevant control system shall be trended by Contractor; at the Commissioning Authority's request, Contractor shall trend up to 20 percent more points than specified at no extra charge.
 2. Other points will be monitored by the Commissioning Authority using dataloggers.
 3. At the option of the Commissioning Authority, some control system monitoring may be replaced with datalogger monitoring.
 4. Provide hard copies of monitored data in columnar format with time down left column and at least 5 columns of point values on same page.
 5. Graphical output is desirable and is required for all output if the system can produce it.
 6. Monitoring may be used to augment manual testing.

3.07 BUILDING ENVELOPE COMMISSIONING

- A. General: Comply with the following procedural requirements:
1. ASTM E1827 Standard Test Methods for Determining Airtightness of Buildings Using an Orifice Blower Door.
- B. Verify that the building envelope has been sufficiently completed for testing to commence.
- C. Deficiencies: Correct deficiencies and re-inspect or re-test, as applicable, at no extra cost to Owner.
1. If difficulty in correction would delay progress, report deficiency to the Commissioning Authority immediately.

3.08 OPERATION AND MAINTENANCE MANUALS

- A. See Section 01 7800 - Closeout Submittals for additional requirements.
- B. Add design intent documentation furnished by Architect to manuals prior to submission to Owner.

- C. Submit manuals related to items that were commissioned to Commissioning Authority for review; make changes recommended by Commissioning Authority.
- D. Commissioning Authority will add commissioning records to manuals after submission to Owner.

END OF SECTION

**SECTION 01 9200
BUILDING ENVELOPE TEST**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Test the building envelope with a building pressure test.

1.02 REFERENCE STANDARDS

- A. ASTM E779 - Standard method for determining air leakage.

PART 2 PRODUCTS

PART 3 EXECUTION

3.01 AFTER ALL THE EXTERIOR BUILDING COMPONENTS ARE IN PLACE AND SEALED, THE GC IS TO CALL FOR A BUILDING ENVELOPE TEST.

- A. The test will be performed by the Owner's selected Envelope Testing Company.
- B. The test will be paid for by the Owner.
- C. The contractor is to make corrections to the envelop for air and water leakage found as a result of the test.
- D. The contractor is to coordinate and fully cooperate with the Envelope testing company.

END OF SECTION