BIDDING DOCUMENTS

FOR THE

NORTH STIMSON
DRAIN TILE RECONSTRUCTION

IN

PORTER COUNTY, INDIANA

OCTOBER 2024

PREPARED BY:
STANTEC
708 ROOSEVELT ROAD
WALKERTON, INDIANA 46574

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TABLE OF CONTENTS

Section			Page
1.	Invitation to Bid		1-4
2.	Instructions to Bidders		5-14
3.	Bid Form		15-20
	(a)	Basis of Bid Form	21-22
4.	Responsible Bidding Submittal Requirements Form		23-26
5.	Bidder's Work History Form		27-30
6.	Bidder's Organizational Experience and Workload Form		31-36
7.	Bidder's Subcontractor and Supplier Form		37-38
8.	Bid Bond Form		39-40
9.	Notice of Award		41-42
10.	Contract Documents		
	(a)	Agreement	43-48
	(b1)	Performance Bond Form	49-50
	(b2)	Payment Bond Form	51-52
	(c)	General Specifications	53-102
	(d)	Construction Plans	Appendix A
	(e)	Technical Specifications	103-145
	(f)	Special Provisions	146-147
	(g)	[Reserved] (Addenda)	N/A
	(h)	[Reserved] (Contractor's Bid Form]	N/A
	(i)	[Reserved] (Contractor's Basis of Bid Form)	N/A
	(j)	[Reserved] (Contractor's Subcontractor & Supplier Form)	N/A
	(k)	[Reserved] (Notice to Proceed)	N/A
	(l)	[Reserved] (Work Change Directive)	N/A
	(m)	[Reserved] (Change Order)	N/A

Appendices of Technical and Other Data

A Construction Plans Titled, "North Stimson – Drain Tile Reconstruction", Dated February 12, 2024, Consisting of 26 Pages, Prepared by Stantec.

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INVITATION TO BID

OWNER: Porter County Department of Development & Storm Water Management
155 Indiana Ave., Ste. 311
Valparaiso, IN 46383
P: (219) 465-3530

CONTACT: Chelsey R. Gordon, PE
E: chelsey.gordon@porterco.org
P: (219) 465-3652

ENGINEER: STANTEC
1500 Lake Shore Drive, Suite 100
Columbus, Ohio 43204

CONTACT: Jessica McClory
E: Jessica.mcclory@stantec.com
P: 614-643-4341

The Porter County Department of Development & Storm Water Management hereby invites sealed bids for the project designated as **North Stimson – Drain Tile Reconstruction**, described in detail in these bidding documents and generally described below.

PROJECT LOCATION
The project is located within the drainage easement associated with the North Stimson Drain, from North of Division Road to SR49 in Valparaiso, Indiana. The project is located in Section 05, Township 34 North, Range 5 West, in Morgan Township, Porter County, Indiana.

PROJECT DESCRIPTION
The project consists of the installation of a new drain tile system to replace a failed drain tile system. The overall purpose of the project is to enhance the drainage and storm water management services provided to the surrounding property owners by improving the area's storm water infrastructure.

The project generally includes the installation of drain tile, via open trench construction, and the installation of storm sewer structures. The project also includes road cut and repair work as needed to install the new drain tile across Division Road. It also includes other items incidental to the work including the creation and maintenance of a temporary construction entrance and construction access routes and the restoration of all areas disturbed during the performance of the work. Excess excavated material generated during the performance of the work is to be disposed on site in adjacent agricultural field and then covered with stripped topsoil. The work includes the carrying out of all duties and obligations and the furnishing of all labor, material, tools, equipment, and other incidentals necessary or convenient to the successful completion of the project.

1. DEFINITION OF TERMS
Terms used in this Invitation to Bid have the meanings indicated elsewhere in the bidding documents and shall have such defined meanings wherever used.

2. COPIES OF BIDDING DOCUMENTS
Copies of the bidding documents are fully downloadable on the Porter County Department of Development & Storm Water Management's website at http://www.portercountystormwater.org. Complete sets of the bidding documents may be inspected at the issuing office, the Porter County Department of Development & Storm Water Management, 155 Indiana Ave., Ste. 311, Valparaiso, Indiana 46383, and, upon request, each prospective bidder may obtain one complete set of the bidding documents from the issuing office. Additional complete sets of the bidding documents may be inspected at the issuing office and may, upon request, be issued to prospective bidders by the issuing office at the cost of reproduction. Prospective bidders may phone or email the contact listed above to receive notices of addenda to the bidding documents.

The Porter County Department of Development & Storm Water Management, in making copies of the bidding documents available on the above terms, does so only for the purpose of obtaining bids for the project and does not authorize or confer a license for any other use. The bidding documents furnished by the Porter County Department of Development & Storm Water Management that may be relied upon for preparation of a bid are limited to the printed or hard copies. Files of text, data, graphics, or other types provided in electronic media format are furnished only for the convenience of bidder. Any conclusion or information obtained from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies shall take precedence and govern.

3. EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

Each prospective bidder shall, before submitting his or her bid, examine and carefully study the bidding documents and other related data identified therein. Each prospective bidder shall also, before submitting his or her bid, visit the site and become familiar with and satisfy bidder as to the general, local, and site conditions that may affect cost, progress, and performance of the work. The Porter County Department of Development & Storm Water Management assumes no responsibility for errors or misinterpretations resulting from bidder's failure or neglect to conduct such examinations.

4. PRE-BID MEETING

A pre-bid meeting will be held at 11:00 a.m. local time on Thursday, October 31, 2024, at the Porter County Department of Development & Storm Water Management, 155 Indiana Ave., Ste. 311, Valparaiso, Indiana 46383. The pre-bid meeting will also be conducted live via videoconference. All prospective bidders are encouraged to attend and participate in the meeting, either in person or via videoconference.

Representatives of the Owner, including the Engineer, will be present at the meeting to discuss the project. Owner will transmit to all prospective bidders of record such addenda as Owner considers necessary in response to questions arising at the meeting. Oral statements made in response to questions arising at the meeting shall not be relied upon and will not be binding or legally effective.

Immediately following the pre-bid meeting, each prospective bidder is encouraged to conduct an examination of the site and surrounding area to evaluate the local and site conditions that may affect the work. Upon request, representatives of the Owner, including the Engineer, will be available at the project site at such time to respond to questions that may arise as a result of the site examination.

5. QUALIFICATIONS OF BIDDERS

It is the intention of the Porter County Department of Development & Storm Water Management to award a contract only to a bidder that furnishes satisfactory evidence that he or she has the requisite experience and ability and sufficient capital, facilities, organization, staffing, and equipment to enable him or her to complete the work successfully and promptly and within the time specified in the bidding documents. Bidder shall complete and submit with his or her bid the Bidder's Sworn Work History Form and Bidder's Organizational Experience and Workload Form provided in the bidding documents.

In addition, during the evaluation of bids, the Porter County Department of Development & Storm Water Management may conduct such additional investigations as it deems necessary to establish the responsibility, qualifications, and ability of a bidder to perform the work. Bidders, in accordance with the provisions of Article 6 of the Instructions to Bidders, shall furnish to the Porter County Department of Development & Storm Water Management such additional documentation it may request in order to make such investigations.

6. BID SECURITY

Each bid shall be accompanied by a bid security made payable to Porter County in an amount not less than ten percent (10%) of bidder's total bid and in the form of a bank cashier's check, bank draft, certified check, or bid bond, on the Bid Bond Form included in the bidding documents, or a form otherwise approved by the Porter County Department of Development & Storm Water Management, executed in accordance with the provisions of Article 19 of the Instructions to Bidders, and issued by a surety acceptable to the Owner and authorized to transact business under the laws of the state of Indiana. The bid security shall stand as a guarantee that the successful bidder will, within ten days after receipt of the notice of award, execute and deliver the contract

documents and furnish the required contract security, certificates of insurance, and insurance policy endorsements.
If the successful bidder fails to execute and deliver the contract documents and furnish the required contract security, certificates of insurance, and insurance policy endorsements within ten days after receipt of the notice of award, Owner may consider bidder to be in default, annul the notice of award, and the bid security of that bidder shall be forfeited as liquidated damages.

7. INTERPRETATIONS AND ADDENDA

All questions about the meaning or intent of the bidding documents or any discrepancies or omissions identified therein are to be submitted to the Porter County Department of Development & Storm Water Management. All such questions shall be submitted directly to the contact identified in this Invitation to Bid. Interpretations or clarifications considered necessary by the Porter County Department of Development & Storm Water Management in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by the Porter County Department of Development & Storm Water Management as having received the bidding documents and will be posted on the Porter County Department of Development & Storm Water Management website at: http://www.portercountystormwater.org.

Questions received less than three days prior to the date for opening of bids may not be answered, as all Addenda to be issued by the Porter County Department of Development & Storm Water Management will be issued at least two days prior to the date for opening of bids in order to provide prospective bidders ample time to incorporate such Addenda into their bids. Only questions answered by Addenda will be binding. The Porter County Department of Development & Storm Water Management assumes no responsibility for any other interpretations or clarifications of the bidding documents and such interpretations or clarifications will be without legal effect.

8. BID OPENING

The Porter County Department of Development & Storm Water Management will receive bids for the project until 10:00 a.m. local time on Tuesday, November 12, 2024, at the Porter County Auditor's Department, 155 Indiana Ave., Ste. 204, Valparaiso, Indiana 46383. Bids will be opened and read aloud on Tuesday, November 12, 2024, at a public opening of bids, to be held at 10:00 a.m. local time, or as soon as possible thereafter, at the Porter County Department of Development & Storm Water Management, 155 Indiana Ave., Ste. 311, Valparaiso, Indiana 46383. The public opening of bids will also be conducted live via videoconference. All bidders, as well as members of the public, are welcome to attend the opening of bids, either in person or via videoconference.

An abstract of the amounts of the base bid items, items "as ordered by Engineer," if any, additive bid items, if any, alternate bid items, if any, and total bids will be made available to bidders after the opening of bids.

9. EVALUATION OF BIDS AND AWARD OF CONTRACT

The Porter County Department of Development & Storm Water Management reserves the right to reject any or all bids, including, without limitation, nonconforming, nonresponsive, unbalanced, or conditioned bids and to reject the bid of any bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. The Porter County Department of Development & Storm Water Management further reserves the right to reject the bid of any bidder if it believes that it would not be in the best interest of the project to make an award to that bidder. The Porter County Department of Development & Storm Water Management also reserves the right to waive all irregularities or informalities at its discretion and to negotiate a contract with the successful bidder. If a contract is to be awarded, the Porter County Department of Development & Storm Water Management will award the contract to the lowest responsive and responsible bidder whose bid is in the best interests of the project.

PORTER CO. DEPARTMENT OF DEVELOPMENT & STORM WATER MANAGEMENT

DATED:
October 15, 2024

BY ORDER OF:
Chelsey Gordon, PE
Storm Water Program Manager

INSTRUCTIONS TO BIDDERS

1. DEFINITION OF TERMS

Terms used in these Instructions to Bidders have the meanings indicated in the proposed contract documents and shall have such defined meanings wherever used. Additional terms used in these Instructions to Bidders have the meanings indicated below.

Addenda. Written or graphic instruments issued prior to the opening of bids which clarify, correct, or change the bidding requirements or the proposed contract documents.

Bidding Documents. The bidding requirements and proposed contract documents, including all Addenda.

Bidding Requirements. The Invitation to Bid, Instructions to Bidders, Bid Form, including all attachments, and bid security.

Issuing Office. The Porter County Department of Development and Storm Water Management, 155 Indiana Avenue, Suite 311, Valparaiso, Indiana 46383.

Notice of Award. The written notice by Owner to the successful bidder stating that, upon timely compliance by the successful bidder with the conditions presented therein, Owner will sign and deliver the agreement.

Successful Bidder. The bidder submitting a responsible and responsive bid to whom Owner makes an award.

2. COPIES OF BIDDING DOCUMENTS

The Invitation to Bid provides instructions on obtaining copies of the bidding documents from the issuing office. Owner, in making copies of the bidding documents available to bidders, does so only for the purpose of obtaining bids for the project and does not authorize or confer a license for any other use.

Only complete sets of the bidding documents shall be used in preparing bids; Owner assumes no responsibility for errors or misinterpretations resulting from the use of incomplete sets of bidding documents. The bidding documents furnished by the issuing office that may be relied upon for preparation of a bid are limited to the printed or hard copies. Files of text, data, graphics, or other types provided in electronic media format are furnished only for the convenience of bidder. Any conclusion or information obtained from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies shall take precedence and govern.

3. SITE

Owner shall furnish the site. All easements and landowner agreements necessary to allow for the prosecution of the work will be obtained and, if necessary, paid for by Owner in advance of the start of the work. Land and access thereto required for construction, temporary construction facilities, and the storage of materials and equipment to be incorporated into the work are located on site. If the successful bidder should wish to use another area for temporary construction facilities, the storage of materials and equipment, or other purposes, he or she shall obtain written approval from the owner of such property and present such written approval to the Owner prior to using such area for such purpose.

4. EXAMINATION OF BIDDING DOCUMENTS AND SITE

Information provided in the bidding documents regarding topography, utility locations, stream conditions, site accessibility, and other existing conditions may not be reflective of the current conditions found on site. Each prospective bidder shall, before submitting his or her bid, visit and become familiar with the current conditions found on site. Owner assumes no responsibility for errors or misinterpretations resulting from bidder's failure or neglect to conduct such examination.

In addition to examining the current conditions found on site, it is the responsibility of each bidder before submitting a bid to:

(a) examine and carefully study the bidding documents;

(b) visit the site and become familiar with and satisfy bidder as to the general, local, and site conditions that may affect cost, progress, and performance of the work;

(c) become familiar with and satisfy bidder as to all federal, state, and local laws and regulations that may affect cost, progress, and performance of the work;

(d) consider the information known to bidder; information commonly known to contractors doing business in the locality of the site; information and observations obtained from visits to the site; and the bidding documents, with respect to the effect of such information, observations, and documents on: (1) the cost, progress, and performance of the work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction required by the bidding documents; and, (3) bidder's safety precautions and programs;

(e) agree, at the time of submitting its bid, that no further examinations, investigations, explorations, tests, studies, or data are necessary for determining his or her ability to perform the work at the prices(s) bid and within the times required, and in accordance with the other terms and conditions of the bidding documents;

(f) promptly give Owner written notice of all conflicts, errors, ambiguities, or discrepancies that bidder discovers in the bidding documents and confirm that the written resolution thereof by Owner is acceptable to bidder; and,

(g) determine that the bidding documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the work.

Bidder, by submitting his or her bid, represents: that bidder has complied with every requirement of this Article; that, without exception, bidder's bid is premised upon performing and furnishing the work described within the bidding documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or required by the bidding documents; that bidder has given Owner written notice of all conflicts, errors, ambiguities, and discrepancies that bidder has discovered in the bidding documents and that the written resolutions thereof by Owner are acceptable to bidder; and, that the bidding documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the work. Owner assumes no responsibility for errors or misinterpretations resulting from any matters or things which bidder did not examine and satisfy himself or herself as to prior to submitting his or her bid.

Upon request, Owner will provide bidder access to the site to conduct such additional explorations, investigations, explorations, tests, and studies as bidder deems necessary for preparation of a bid. Bidder shall fill any and all holes and clean up and restore the site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable laws and regulations relative to such explorations, investigations, tests, and studies.

5. PRE-BID MEETING

A pre-bid meeting will be held at the time and place indicated in the Invitation to Bid. All prospective bidders are encouraged to attend and participate in the meeting.

Representatives of the Owner, including the Design Engineer, will be present at the meeting to discuss the project. Owner will transmit to all prospective bidders of record such addenda as Owner considers necessary in response to questions arising at the meeting. Oral statements made in response to questions arising at the meeting shall not be relied upon and will not be binding or legally effective.

Immediately following the pre-bid meeting, each prospective bidder is encouraged to conduct an examination of the site and surrounding area to evaluate the local and site conditions that may affect the work. Upon request, representatives of the Owner, including the Engineer, will be available at the project site at such time to respond to questions that may arise as a result of the site examination.

6. QUALIFICATIONS OF BIDDERS

It is the intention of the Owner to award a contract only to a bidder that furnishes satisfactory evidence that he or she has the requisite experience and ability and sufficient capital, facilities, organization, staffing, and equipment to enable him or her to complete the work successfully and promptly and within the time specified in the bidding documents. Bidder shall complete and submit with his or her bid the Bidder's Sworn Work History Form and Bidder's Organizational Experience and Workload Form. Bidder is also advised to carefully review those portions of the bidding requirements regarding bidder's representations and requiring bidder's certifications.

In addition, during the evaluation of bidders, Owner may conduct such additional investigations as it deems necessary to establish the responsibility, qualifications, and ability of a bidder to perform the work. Within five days of Owner's request, bidder shall submit written evidence such as previous experience, present commitments, and such other data as Owner may request to establish his or her responsibility, qualifications, and ability to perform the work. This information may include, but shall not be limited to:

(a) location and description of bidder's permanent place of business;

(b) evidence of bidder's ability to provide the facilities, staffing, and equipment necessary to complete the work;

(c) list of similar projects recently completed by bidder, including the names and telephone numbers of references for each project;

(d) current financial statement for bidder prepared and certified by a certified public accountant; and,

(e) evidence that bidder is not responsible for any outstanding federal, state, or local regulatory violations.

7. BID SECURITY

Each bid shall be accompanied by a bid security made payable to the Owner in an amount not less than ten percent (10%) of bidder's total bid and in the form of a bank cashier's check, bank draft, certified check, or bid bond, on the Bid Bond Form included in the bidding documents, or a form otherwise approved by the Owner, executed in accordance with the provisions of Article 19 of these Instructions to Bidders, and issued by a surety acceptable to the Owner and authorized to transact business under the laws of the state of Indiana. The bid security shall stand as a guarantee that the successful bidder will, within ten days after receipt of the notice of award, execute and deliver the contract documents and furnish the required contract security, certificates of insurance, and insurance policy endorsements. Bids not accompanied by a properly prepared and executed bid security will not be considered.

The bid security of the successful bidder will be retained until such bidder has executed the contract documents, furnished the required contract security, certificates of insurance, and insurance policy endorsements, and met the other terms and conditions of the notice of award. If the successful bidder fails to execute and deliver the contract documents and furnish the required contract security, certificates of insurance, and insurance policy endorsements within ten days after receipt of the notice of award, Owner may consider bidder to be in default, annul the notice of award, and the bid security of that bidder shall be forfeited as liquidated damages.

The bid security of the next lowest responsive and responsible bidder whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the effective date of the agreement or 61 days after the opening of bids, whereupon bid security furnished by such bidder will be returned. The bid security of all other bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within seven days after the opening of bids. If all bids are rejected, all bid securities will be returned within seven days of the time of rejection.

8. SUBCONTRACTORS, SUPPLIERS, AND OTHERS

Bidder shall complete and submit with his or her bid the Bidder's Subcontractor and Supplier Form provided in the bidding documents. The Bidder shall list on such form all of the subcontractors, suppliers, individuals, or entities who will perform work or labor for or render services or supplies to the bidder in an amount in excess of ten percent (10%) of the bidder's total bid. The bidder shall identify on such form the particular work or labor or the particular services or supplies that each such subcontractor, supplier, individual, or entity will perform or render.

Owner reserves the right to conduct, during the evaluation of bidders, such additional investigations as it deems necessary to establish the responsibility, qualifications, and ability of a named subcontractor, supplier, individual, or entity to perform the work. If requested by Owner, within five days of Owner's request, bidder shall submit a Bidder's Work History Form and Bidder's Organizational Experience and Workload Form for any named subcontractor, supplier, individual, or entity. If Owner, after due investigation, has reasonable objection to any proposed subcontractor, supplier, individual, or entity, Owner may request bidder to submit a replacement, without an increase in the total bid. Bidders shall not otherwise substitute, delete, or add to the Bidder's Subcontractor and Supplier Form without approval of Owner.

If bidder declines to make any such replacement, and such bidder would have otherwise been the successful bidder, Owner may award the contract to the next lowest responsive and responsible bidder that proposes to use subcontractors, suppliers, individuals, or entities acceptable to Owner. Declining to make requested replacements will not constitute grounds for forfeiture of the bid security of any bidder. Bidder shall not be required to use any subcontractor, supplier, individual, or entity against whom bidder has reasonable objection.

Any subcontractor, supplier, individual, or entity so listed and against which Owner makes no written objection prior to issuing a notice of award will be deemed acceptable to Owner, subject to revocation of such acceptance after the effective date of the agreement, as provided for in the proposed contract documents. Any substitutions, deletions, or additions made to the Bidder's Subcontractor and Supplier Form after the effective date of the agreement shall be made in accordance with the applicable provisions of the contract documents.

9. "OR EQUIVALENT" ITEMS

Bidder shall base his or her bid upon the items specified or described in the bidding documents or those "or equivalent" items approved by Owner prior to the opening of bids. The items described in the bidding documents establish a standard of required type, function, and quality to be met by any proposed "or equivalent" item. No item will be considered by Owner during the evaluation of bids as an "or equivalent" item unless a written request for approval of the item has been submitted by bidder in accordance with the applicable provisions of the proposed contract documents and such request has been received by Owner at least five days prior to the date for opening of bids. In all instances, the burden of proof of the merit of the proposed "or equivalent" item shall be upon the bidder and the Owner shall be the sole judge of the equivalency of a proposed "or equivalent" item to that specified or described in the bidding documents. The Owner's decision to approve or disapprove any proposed "or equivalent" item will be final. If Owner approves any proposed "or equivalent" item, such approval will be set forth in an Addendum issued at least two days prior to the date for opening of bids in order to provide prospective bidders ample time to incorporate such Addendum into their bids. Owner assumes no responsibility for substitutions of items made in any other manner during the preparation of bids.

10. INTERPRETATIONS AND ADDENDA

All questions about the meaning or intent of the bidding documents or any discrepancies or omissions identified therein are to be submitted to Owner in writing. All such questions shall be submitted directly to the contact identified in the Invitation to Bid. Interpretations or clarifications considered necessary by Owner in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Owner as having received the bidding documents. Questions received less than two days prior to the date for opening of bids may not be answered, as all Addenda to be issued by the Owner will be issued at least one day prior to the date for opening of bids in order to provide prospective bidders ample time to incorporate such Addenda into their bids. Only questions answered by Addenda will be binding. Owner assumes no responsibility for any other interpretations or clarifications of the bidding documents and such interpretations or clarifications will be without legal effect.

Addenda may also be issued by Owner to clarify, correct, or change the bidding documents as deemed advisable by Owner.

11. TAXES

All applicable sales, use, payroll, and other similar taxes required to be paid during the performance of the work shall be considered during the preparation of bids. Bidders are hereby advised that Owner is exempt from Indiana state sales taxes on materials to be incorporated into the work and such exemption shall be considered during the preparation of bids. Owner will furnish evidence of such exemption to successful bidder, if necessary, for use in purchasing materials to be incorporated into the work. Owner's exemption does not apply to construction

supplies, tools, machinery, equipment, or other property purchased or leased by successful bidder, or to materials not incorporated into the work.

12. EMPLOYMENT PRACTICES
All applicable federal and state statutes pertaining to the selection of labor, including all applicable equal opportunity employment laws, shall apply to the contract and shall be considered during the preparation of bids.

13. UTILIZATION OF MINORITY AND WOMEN'S BUSINESS ENTERPRISES
Owner desires to provide minority business enterprises (MBE) and women's business enterprises (WBE) with a fair opportunity to provide the services described in these bidding documents, and encourages firms to partner with MBEs and WBEs to the maximum extent practicable. The MBE and WBE goals for this project are as follows:

MBE: 7%
WBE: 5%

A "minority business enterprise" (MBE) is defined as a business concern that is: (1) at least 51% owned, managed and controlled by one or more minority individuals, or, in the case of a publicly owned business, at least 51% of the stock is owned by one or more minority individuals; (2) managed and directed by one or more of the minority owners on a daily basis; and, (3) is certified as such by a certifying entity. The ownership interest must be real and continuous and not created solely to meet the MBE goals of this project.

A "women's business enterprise" (WBE) is defined as a business concern that is: (1) at least 51% owned, managed, operated and controlled by one or more women, or, in the case of publicly owned business, at least 51% of the stock is owned by one or more women; (2) managed and directed by one or more of the women owners on a daily basis; and, (3) is certified as such by a certifying entity. The ownership interest must be real and continuous and not created solely to meet the WBE goals of this project.

Please note that only the utilization of certified MBEs and WBEs can be counted toward the MBE and WBE goals for this project.

14. PREPARATION OF BID
Bids shall be made using only the Bid Form and any attachments thereto included in the bidding documents. Bids made without the use of such form and attachments will not be considered. Bidders need not return the entire bidding documents when submitting a bid; the Bid Form and any attachments thereto may be detached from the remainder of the bidding documents to facilitate the preparation and submission of bid by bidder.

Bidder shall fill in all blanks on the Bid Form and all blanks on any attachments thereto using "not applicable," "N/A," or "none" where applicable. Entries on the Bid Form and any attachments thereto shall be typed or legibly written in ink. Bidders are warned against making alterations of any kind to the Bid Form and any attachments thereto or to any entry thereon. Bid Forms or any attachments thereto that contain omissions, conditions, alterations, or additions not called for by Owner may be rejected or interpreted so as to be favorable to Owner. Entries shall be included for each and every bid item listed on the Basis of Bid Form, which is an attachment to the Bid Form. Owner may reject a bid if it does not contain entries for each and every bid item listed on the Basis of Bid Form or may interpret any item left blank as a price of "no charge" for the item. In case of any error in adding or multiplying individual entries on the Basis of Bid Form, such as in adding or multiplying quantities and unit prices, the true sum or product of the individual entries on the Basis of Bid Form shall take precedence and govern.

Total bids are to be provided in both words and figures, as provided for on the Basis of Bid Form. In case of conflict between the words and figures provided on the Basis of Bid Form, the words shall take precedence and govern. In case of conflict between the total bid and the sum of the individual entries on the Basis of Bid Form, the true sum shall take precedence and govern.

15. APPROXIMATE QUANTITIES
The quantities of base bid items, items "as ordered by Engineer," if any, additive bid items, if any, and alternate bid items, if any, appearing in the Basis of Bid Form are estimates prepared by Engineer. Such estimates are

provided solely for the Owner's convenience in comparing bids, establishing pay item unit prices, and determining an initial contract price. In accordance with the proposed contract documents, payment to the successful bidder will be based upon the actual quantities of work performed, the acceptance of such work and the determination of such quantities to be made by the Engineer in accordance with the contract documents.

16. ITEMS "AS ORDERED BY ENGINEER"

All items appearing in the Basis of Bid Form as items "as ordered by Engineer" are contingent work items that may be selected for inclusion in the work during the performance of the work at the sole discretion of Owner. Bidder acknowledges that bidder's total bid includes such items "as ordered by Engineer" but that such items "as ordered by Engineer" shall not be included in the work unless Owner adds such items "as ordered by Engineer" to the work during the performance of the work in accordance with the contract documents. Once such items "as ordered by Engineer" have been added to the work, payment for such items "as ordered by Engineer" will be based on the actual quantities of such work completed by bidder and accepted by Owner.

17. ADDITIVE BID ITEMS

All items appearing in the Basis of Bid Form as additive bid items are contingent work items that may be selected for inclusion in the work prior to the notice of award at the sole discretion of Owner. Bidder acknowledges that bidder's total bid does not include such additive bid items but that the initial contract price will depend on the number of additive bid items selected for inclusion in the work prior to the notice of award. Once such additive bid items have been included in the work, payment for such additive bid items will be based on the actual quantities of such work completed by bidder and accepted by Owner.

18. ALTERNATE BID ITEMS

All items appearing in the Basis of Bid Form as alternate bid items are contingent work items that may be substituted for base bid items and selected for inclusion in the work prior to the notice of award at the sole discretion of Owner. Bidder acknowledges that bidder's total bid does not include such alternate bid items but that the initial contract price will depend on the number of alternate bid items substituted for base bid items and selected for inclusion in the work prior the work prior to the notice of award. Once such alternate bid items have been included in the work, payment for such alternate bid items will be based on the actual quantities of such work completed by bidder and accepted by Owner.

19. SIGNING OF BID

Bidder shall observe the following requirements in the signing of his or her bid:

(a) A bid by a corporation shall be executed in the legal name of the corporation by the president or other corporate officer authorized to sign contracts on behalf of the corporation. The bid shall bear the attesting signature of the secretary or an assistant secretary of the corporation. The official address and of the corporation and the state of incorporation shall be provided.

(b) A bid by a limited liability company shall be executed in the legal name of the firm by a member of the company. The official address of the company and the state of formation shall be provided.

(c) A bid by a partnership shall be executed in the legal name of the partnership and signed by all of the partners. The official address of the partnership shall be provided.

(d) A bid by an individual shall show the bidder's name and official address.

(e) A bid by a joint venture shall be executed by each joint venture in the manner indicated on the Bid Form. The official address of the joint venture shall be provided.

All names shall be printed in ink below the signatures. When requested by Owner, satisfactory evidence of the authority of the person or persons signing on behalf of bidder shall be furnished by bidder.

The signature requirements set forth in this Article shall apply to all other bidding requirements requiring execution by bidder, as well as to all contract documents requiring execution by bidder.

20. SUBMITTAL OF BID

Bids shall consist of properly prepared and signed Bid Forms, complete with an acknowledgement of the receipt of all Addenda issued by Owner, if any, and all of the following attachments thereto:

(a) Basis of Bid Form;

(b) Bidder's Work History Form;

(c) Bidder's Organizational Experience and Workload Form;

(d) Bidder's Subcontractor and Supplier Form; and,

(e) Bid Security

Each bid shall include all of the bidding requirements named above and shall be enclosed in a sealed package, plainly marked with the project title, the name and address of bidder, and the notation "BID ENCLOSED." Bids shall be submitted no later than the date and time prescribed and at the place indicated in the Invitation to Bid. If a bid is sent by mail or other delivery system, the sealed envelope containing the bid shall be enclosed in a separate package and plainly marked on the outside as described above.

21. WITHDRAWAL OF BID

A bid may be withdrawn at any time prior to the date and time for the opening of bids by an appropriate written request duly executed by the bidder in accordance with the provisions of Article 19 of these Instructions to Bidders and delivered to the Owner prior to the date and time for the opening of bids. Such withdrawal will not prevent a bidder from submitting a new bid prior to the date and time for the opening of bids.

No bid shall be withdrawn without the written consent of Owner for a period of 60 days after the opening of bids. Any bid may be withdrawn at any time following the expiration of such 60 day period, provided that an appropriate written request duly executed by the bidder in accordance with the provisions of Article 19 of these Instructions to Bidders is delivered to the Owner. If no such written request is filed, the date for accepting such bid shall be extended until such written request is filed or until Owner has executed a contract for the work or rejects such bid in writing.

22. OPENING OF BIDS

Bids will be opened at the time and place indicated in the Invitation to Bid and, unless obviously non-responsive, read aloud publicly. Bidders are invited to be present at the opening of bids. An abstract of the amounts of the base bid items, items "as ordered by Engineer," if any, additive bid items, if any, alternate bid items, if any, and total bids will be made available to bidders after the opening of bids.

23. BIDS REMAIN SUBJECT TO ACCEPTANCE

All bids will remain subject to acceptance for 60 days after the opening of bids, or for such longer period of time that bidder may agree to in writing upon request of Owner. Owner may, in its sole discretion, release or reject any bid prior to the end of this acceptance period.

24. DISQUALIFICATION OF BIDS

More than one bid for the same work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any bidder has an interest in more than one bid for the work may be cause for disqualification of that bidder and the rejection of all bids in which that bidder has an interest. If there are reasonable grounds for believing that collusion exists among the bidders, the bids of the bidders reasonably believed to be involved in such collusion will not be considered. If a bidder is or has been in default on a contract with Owner or in the payment of monies due Owner, his or her bid will not be considered.

25. EVALUATION OF BIDS AND AWARD OF CONTRACT

In evaluating bids, Owner will consider whether or not the bids address all of the bidding requirements (i.e., Bid Form and any attachments thereto), address such base bid items, items "as ordered by Engineer," additive bid items, and alternate bid items as may be included on the Basis of Bid Form, and include all of the information requested on the Bid Form and any attachments thereto. In evaluating bidders, Owner will consider the qualifications of bidders and may consider the qualifications and experience of subcontractors, suppliers, and

other individuals or entities which have been identified by bidder in accordance with the provisions of Article 8 of these Instructions to Bidders. Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and ability of bidders and any named subcontractors, suppliers, individuals, or entities to perform the work. In accordance with the provisions of these Instructions to Bidders, bidder shall promptly and in a timely manner submit such information and data as Owner may request to conduct such investigations.

Owner reserves the right to reject any or all bids, including, without limitation, nonconforming, nonresponsive, unbalanced, or conditioned bids and to waive all irregularities or informalities at its discretion. Owner further reserves the right to reject the bid of any bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the bid of any bidder if it believes that it would not be in the best interest of the project to make an award to that bidder.

If a contract is to be awarded, Owner will award the contract to the lowest responsive and responsible bidder whose bid is in the best interests of the project. The Owner reserves the right to negotiate an agreement with the successful bidder.

26. NOTICE OF AWARD

If a contract is awarded by Owner, such award will be made when a formal notice of award, duly executed by the Owner, has been issued by Owner and delivered or sent by mail or other delivery system to the successful bidder at the principal business address shown on his or her Bid Form.

27. CONTRACT SECURITY AND INSURANCE

Upon award of the contract, the successful bidder will be required to furnish, as contract security, a performance bond and a payment bond, each in the penal sum of the full amount of the initial contract price, on the forms included in the bidding documents, or forms otherwise approved by the Owner, executed in accordance with the provisions of Article 19 of these Instructions to Bidders, and issued by a surety acceptable to the Owner and authorized to transact business under the laws of the state of Indiana. The successful bidder will be required to furnish such contract security to Owner within ten days after receipt of a notice of award.

Upon award of the contract, the successful bidder will also be required to furnish certificates of insurance and insurance policy endorsements, as required by the contract documents. Such insurance shall be provided by insurance companies acceptable to the Owner and authorized to transact business under the laws of the state of Indiana. The successful bidder will be required to furnish such certificates of insurance and insurance policy endorsements to Owner within ten days after receipt of a notice of award.

28. E-VERIFY AFFIDAVIT AND CERTIFICATION REGARDING INVESTMENTS IN IRAN

As required by IC 22-5-1.7-11 and IC 5-22-16.5, upon award of the contract, the successful bidder will be required to furnish an E-Verify Affidavit and Certification Regarding Investments in Iran, on a form to be provided by the Owner, and executed in accordance with the provisions of Article 19 of these Instructions to Bidders. The successful bidder will be required to furnish such E-Verify Affidavit and Certification Regarding Investments in Iran within ten days after receipt of a notice of award.

29. SIGNING OF AGREEMENT

When Owner issues a notice of award to the successful bidder, it shall be accompanied by two unsigned counterparts of the agreement along with the other contract documents requiring execution attached thereto. Within ten days after receipt of the notice of award, the successful bidder shall sign and deliver the two counterparts of the agreement and the other contract documents requiring execution attached thereto, along with the required contract security, certificates of insurance, insurance policy endorsements, and E-Verify Affidavit and Certification Regarding Investments in Iran to Owner. Within ten days thereafter, Owner shall deliver one fully signed counterpart to successful bidder with two complete sets of the contract documents with appropriate identification. Owner will furnish additional copies of the contract documents to successful bidder upon request.

Owner will date the unsigned counterparts of the agreement that will accompany the notice of award to indicate when the agreement is to become effective. This will be the effective date of the agreement. The required contract

security, certificates of insurance, and insurance policy endorsements shall be dated the same as the effective date of the agreement.

30. FAILURE TO SIGN AGREEMENT

If the successful bidder fails to execute and deliver the contract documents and furnish the required contract security, certificates of insurance, and insurance policy endorsements within ten days after receipt of a notice of award, Owner may consider bidder to be in default and annul the notice of award. Upon annulment of the notice of award, Owner may then award the contract to the next lowest responsive and responsible bidder whose bid is in the best interests of the project.

In the event of any such failure by the successful bidder to timely and properly execute and deliver the contract documents and furnish the required contract security, certificates of insurance, and insurance policy endorsements, it will be difficult and impracticable to ascertain and determine the amount of damage that Owner will sustain by reason of such failure. For such reason, bidder, by submitting his or her bid, agrees that Owner shall have the right, at its sole discretion in the event of any such default, to retain or recover, as reasonably estimated liquidated damages, and not as a penalty, the entire amount of the bid security.

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BID FORM

(*Based on State Form 52414 (R2 / 2-13) / Form 96 (Revised 2013)*)

SECTION I. BID
(*Please type or print*)

Date (month, day, year): _____

1. Project: _____
2. Owner (Governmental Unit): _____
3. County: _____
4. Respondent (Firm): _____

   Address: _____

   City/State/ZIP Code: _____
5. Telephone Number: _____
6. Agent of Respondent (*if applicable*): _____

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

The undersigned bidder further agrees to furnish, with this bid, a bid security made payable to the owner in an amount not less than ten percent (10%) of bidder's total bid and in the form of a bank cashier's check, bank draft, certified check, or bid bond, on the bid bond form included in the bidding documents, or a form otherwise approved by the owner, executed in accordance with the provisions of the instructions to bidders, and issued by a surety acceptable to the owner and authorized to transact business under the laws of the state of Indiana.

If items "as ordered by engineer", additive bid items, and/or alternate bid items will be considered by owner, the undersigned bidder shall submit a bid for each item "as ordered by engineer", additive bid item, and/or alternate bid item in accordance with the instructions to bidders. If additional items of work originally included in the contract are needed, the unit costs associated with such work shall be the same as those included in the contract, if accepted by the owner. Any addenda issued by the governmental unit shall be specifically acknowledged by the undersigned at the appropriate location on this form.

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

SECTION II. BASIS OF BID FORM
(*Please type or print*)

SECTION III. CERTIFICATION OF USE OF UNITED STATES STEEL PRODUCTS
(*if applicable*)

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

SECTION IV. BIDDER'S FINANCIAL STATEMENT

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

SECTION V. BIDDER'S NON-COLLUSION AFFIDAVIT

The undersigned bidder, or agent of such bidder, being duly sworn under oath, says that he has not, nor has any other member, representative, or agent of the firm, company, corporation, or partnership represented by him, entered into any combination, collusion, or agreement with any person relative to the price to be bid by anyone in response to the invitation to bid issued by the governmental unit, nor to prevent any person from bidding, nor to include anyone to refrain from bidding, and that this bid is provided without reference to any other bid and without any agreement, understanding, or combination with any other person in reference to such other bid.

He further says that no person or persons, firm, or corporation has, have, or will receive, directly or indirectly, any rebate, fee, gift, commission, or thing of value on account of the contract being awarded to the bidder.

SECTION VI. BIDDER'S REPRESENTATIONS

In submitting this bid, bidder represents that:

(a) Bidder has examined and carefully studied the contract documents, other related data identified in the invitation to bid, and the following addenda, receipt of which is hereby acknowledged:

Addendum No.	Addendum Date

(b) Bidder has visited the site and become familiar with and is satisfied as to the general, local, and site conditions that may affect cost, progress, and performance of the work.

(c) The contract documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the work for which this bid is submitted.

SECTION VII. OATH AND AFFIRMATION FORM

I HEREBY AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE FACTS AND INFORMATION CONTAINED IN THE FOREGOING BID ARE TRUE AND CORRECT.

Dated at _____ this _____ day of _____, _____

_____
(Name of Organization)

By_____

_____
(Title of Person Signing)

ACKNOWLEDGEMENT

STATE OF_____)
) ss
COUNTY OF _____)

Before me, a Notary Public, personally appeared the above-named _____ and swore that the statements contained in the foregoing document are true and correct.

Subscribed and sworn to before me this _____ day of _____, _____.

_____
(Notary Public)

My Commission Expires: _____

County of Residence: _____

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SECTION II. BASIS OF BID FORM
(*Please type or print*)

This Basis of Bid Form is to be submitted by bidder, as an attachment to the Bid Form, for the project designated as **North Stimson – Drain Tile Reconstruction**. It is to include an entry for each and every work item listed, including all base work items, all items "as ordered by Engineer", if any, all additive work items, if any, and all alternate work items, if any, as well as a total bid, in both words and figures, as provided for below.

BASE BID

Bidder will perform all work specified or indicated in the contract documents in accordance with terms and conditions of the contract documents for the following price(s):

BASE BID ITEMS

ITEM	DESCRIPTION	UNIT	QTY.	UNIT PRICE	EXT. PRICE
1	MOBILIZATION & DEMOBILIZATION	LS	1		
2	PRE-CONSTRUCTION VIDEO SURVEY	LS	1		
3	CONSTRUCTION LAYOUT & SURVEY	LS	1		
4	AS-BUILT DRAWINGS	LS	1		
5	TEMPORARY CONSTRUCTION ENTRANCE	EA	2		
6	TEMPORARY PERMIETER SEDIMENT CONTROL	LF	600		
7	TEMPORARY CATCH BASIN INSERT INLET PROTECTION	EA	3		
8	CLEARING & TREE REMOVAL	LS	1		
9	MOWING	AC	17		
10	DEWATERING	LS	1		
11	EXCAVATION AND/OR ROCK EXCAVATION	CY	20,844		
12	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CY	321		
13	BEDDING & INITIAL BACKFILL (INDOT NO. 8, NO. 9, OR NO. 73 COMPACTED AGGREGATE)	CY	2,379		
14	FINAL BACKFILL (NATIVE MATERIAL)	CY	17,637		
15	INDOT REVETMENT RIPRAP (RIPRAP OUTLET PROTECTION)	TN	13		
16	ABANDON 15" CMP (GROUT FILL)	CY	68		
17	DRAIN TILE REMOVAL, 24" CMP	LF	4,557		
18	DRAIN TILE REMOVAL, 18" CMP	LF	776		

ITEM	DESCRIPTION	UNIT	QTY.	UNIT PRICE	EXT. PRICE
19	DRAIN TILE REMOVAL, 15” CMP	LF	104		
20	STORMWATER MANHOLE REMOVAL	EA	6		
21	STORMWATER INLET REMOVAL	EA	3		
22	DRAIN TILE, 36” RCP, CLASS III	LF	5,383		
23	DRAIN TILE, 15” RCP, CLASS III	LF	166		
24	DRAIN TILE, 12” RCP, CLASS III	LF	60		
25	6” PERFORATED PIPE	LF	1,485		
26	8” PERFORATED PIPE	LF	1,928		
27	STORM SEWER STRUCTURES, STORMWATER MANHOLE	EA	15		
28	STORM SEWER STRUCTURES, STORMWATER INLET	EA	3		
29	INLET HEADWALL AND ORIFICE	EA	1		
30	ROAD CUT & REPAIR	SY	105		
31	TRAFFIC CONTROL	LS	1		
32	RESTORE DISTURBED AREAS	LS	1		
TOTAL BID (I.E., TOTAL OF ALL EXTENDED PRICES, ITEMS 1-32):					

Bidder’s total bid for the work, which is the sum of the Bidder’s extended price(s) for the base bid items, is:

TOTAL BID (IN FIGURES): _____

TOTAL BID (IN WORDS): _____

Bidder acknowledges that the estimated quantities of items of unit price work included on this Basis of Bid Form are not guaranteed and are provided solely for the purposes of comparing bids, establishing pay item unit prices, and determining an initial contract price. In accordance with the contract documents, payment to the successful bidder will be based upon the actual quantities of work performed, the acceptance of such work and the determination of such quantities to be made by the Engineer in accordance with the contract documents.

RESPONSIBLE BIDDING SUBMITTAL REQUIREMENTS FORM

This Responsible Bidding Submittal Requirements Form is to be submitted by Bidder, as an attachment to the Bid Form, for the project designated as **North Stimson Drain Tile Reconstruction**.

[IF NECESSARY, ATTACH ADDITIONAL RESPONSIBLE BIDDING SUBMITTAL REQUIREMENTS FORMS]

1. BIDDER
This form is submitted by:

Full Name of Bidder: _____

Principal Business Address: _____

2. EVIDENCE OF EXISTENCE & GOOD STANDING
Bidder shall attach a Certificate of Existence, formerly known as a Certificate of Good Standing, issued by the Indiana Secretary of State, showing that the Bidder is in existence and that it has complied with all requirements to operate in the state of Indiana. If the Bidder is an individual, partnership, or joint venture, this requirement shall not apply.

3. FORMER BUSINESS NAMES
Bidder shall list any former business names:

Name	Address	Years

4. DISCLOSURE OF VIOLATIONS OF FEDERAL, STATE, OR LOCAL LAWS
Bidder shall disclose any determinations by a court or governmental agency for violations of federal, state, or local laws including, but not limited to, violations of contracting or anti-trust laws, tax or licensing laws, environmental laws, the Occupational Safety and Health Act (OSHA), or the Davis-Bacon Act or related Acts:

_____

_____

_____

_____

_____

_____

_____

5. STAFFING CAPABILITIES & LABOR SOURCES
Bidder shall provide a statement regarding staffing capabilities, including labor sources:

6. EVIDENCE OF PARTICIPATION IN APPRENTICESHIP & TRAINING PROGRAMS
Bidder shall attach evidence of participation in apprenticeship and training programs, applicable to the work to be performed on the project, which are approved by and registered with the United States Department of Labor's Office of Apprenticeship, or its successor organization. Such evidence shall include a copy of all applicable apprenticeship certificates and standards for applicable training programs.

7. EMPLOYEE DRUG TESTING PLAN
Bidder shall attach a copy of a written plan for employee drug testing that: (i) covers all employees of the bidder who will perform work on the project; and, (ii) meets, or exceeds, the requirements set forth in IC 4-13-18-5 or IC 4-13-18-6.

8. PROJECT MANAGER & SUPERINTENDENT EXPERIENCE
Bidder shall, on the Bidder's Organizational Experience and Workload Form, provide information regarding the experience of the Bidder's designated project manager and superintendent.

9. EVIDENCE OF PROFESSIONAL & TRADE LICENSES
Bidder shall attach evidence of any professional and/or trade licenses required by law for any trade or specialty area that is applicable to the project. Bidder shall also disclose any suspension or revocation within the previous five years of any professional and/or trade licenses held by the Bidder or by any office, director, or manager of the Bidder:

10. EVIDENCE OF APPROVED SURETY
Bidder shall attach evidence that it is utilizing and will utilize a surety company which appears on the United States Department of the Treasury's Listing of Approved Sureties to furnish all required bid and contract securities.

11. DISCLOSURE OF TAX LIENS & DELINQUENCIES

Bidder shall disclose any federal, state, or local tax liens or tax delinquencies owed to any federal, state, or local taxing body in the last five years:

12. CLASSIFICATION OF INDIVIDUALS PERFORMING WORK

Bidder shall provide a statement regarding the proper classification of individuals who will perform work on the project as either: (i) an employee; or (ii) an independent contractor, under all applicable federal and state laws and local ordinances:

13. RELATED EXPERIENCE

In order to demonstrate its capability and qualifications to perform the work generally described in the bidding documents and described in detail in the contract documents, Bidder shall, on the Bidder's Work History Form, provide information regarding at least three recently (i.e., within last 3 years) and satisfactorily completed projects of similar size and scope in the state of Indiana.

14. EVIDENCE OF PREQUALIFICATION

Bidder shall provide evidence that it appears on the Indiana Department of Administration's or Indiana Department of Transportation's List of Prequalified Contractors for at least one similar work type.

15. FORM SUBMITTAL

This form is submitted by _____, who hereby certifies under penalty of law that: (1) he or she has carefully prepared, reviewed, and checked this form; (2) that the statements made on this form are true and correct; and, (3) that all statements made herein have been made on behalf of and with the authorization of the Bidder in support of this bid.

SIGNED AND SUBMITTED ON: _____, 20_____, BY:

By: _____
(Signature)

Printed Name: _____

Title: _____

BIDDER'S WORK HISTORY FORM

This Bidder's Work History Form is to be submitted by Bidder, as an attachment to the Bid Form, for the project designated as **North Stimson – Drain Tile Reconstruction**.

[IF NECESSARY, ATTACH ADDITIONAL WORK HISTORY FORMS]

[JOINT VENTURES MUST SUBMIT SEPARATE WORK HISTORY FORMS FOR EACH INDIVIDUAL, PARTNERSHIP, OR CORPORATION THAT IS PARTY TO THE JOINT VENTURE]

1. BIDDER
This form is submitted by:

Full Name of Bidder: _____

Principal Business Address: _____

2. NATURE OF BUSINESS
State the nature of the Bidder's business:

_____

_____

_____

_____

_____

3. COMPOSITION OF WORK
During the past three years, Bidder's work has consisted of:

_____ % Federal _____ % as Contractor _____ % to Bidder

_____ % State _____ % as Subcontractor _____ % to Subcontractors

_____ % Other Public _____ % to Materials

_____ % Private

4. YEARS IN BUSINESS
State the number of years that Bidder, under its current name and organization, has been continuously engaged in the aforesaid business: _____ years.

5. PREDECESSOR ORGANIZATIONS
If Bidder has been in business under its current name and organization for less than five years, list any predecessor organizations:

Name	Address	Years

6. BUSINESS LICENSES

List all business licenses currently held by Bidder:

Issuing Agency	Type	Number	Expires

7. RELATED EXPERIENCE

This project, designated as **North Stimson – Drain Tile Reconstruction** consists of the installation of a new drain tile system to replace a failed drain tile system. The overall purpose of the project is to enhance the drainage and storm water management services provided to the surrounding property owners by improving the area's storm water infrastructure.

The project generally includes the installation of drain tile, via open trench construction, and the installation of storm sewer structures. The project also includes road cut and repair work as needed to install the new drain tile across Division Road. It also includes other items incidental to the work including the creation and maintenance of a temporary construction entrance and construction access routes and the restoration of all areas disturbed during the performance of the work. Excess excavated material generated during the performance of the work is to be disposed on site in adjacent agricultural field and then covered with stripped topsoil. The work includes the carrying out of all duties and obligations and the furnishing of all labor, material, tools, equipment, and other incidentals necessary or convenient to the successful completion of the project.

In order to demonstrate its capability and qualifications to perform the work generally described above and described in detail in the contract documents, Contractor shall:

1. Provide information below regarding at least three recently (i.e., within last 3 years) and satisfactorily completed projects of similar size and scope in the State of Indiana.

All projects described by Contractor below shall demonstrate Contractor's ability to successfully complete a project of similar size and scope. Similar projects may include:

- Storm sewer and/or drain tile installation, via open trench construction, and storm sewer structure installation; and,
- Projects demonstrating the application of such skills and expertise as may be necessary to perform the work described in the contract documents.

In evaluating respondents, the Department will consider the qualifications and experience of respondent and reserves the right to conduct such additional investigations as it deems necessary to establish the responsibility, qualifications, and ability of respondents to perform the work. This may include, but is not limited to, requests for additional information on work history beyond what is included herein. Contractor shall, promptly and in a timely manner, submit such information and data as the Department may request to conduct such investigations.

	PROJECT 1	PROJECT 2	PROJECT 3
Project Name			
Project Location			
Owner			
Owner's Address			
Reference			
Reference's Phone			
Contractor *if Bidder was subcontractor*			
Cont. Contact *if Bidder was subcontractor*			
Cont. Contact's Phone *if Bidder was subcontractor*			
Description of Work			
Contract Price	**$**	**$**	**$**
Date Completed			
Bidder's Project Manager			
Bidder's Superintendent			

8. FORM SUBMITTAL

This form is submitted by _____, who hereby certifies under penalty of law that: (1) he or she has carefully prepared, reviewed, and checked this form; (2) that the statements made on this form are true and correct; and, (3) that all statements made herein have been made on behalf of and with the authorization of the Bidder in support of this bid.

SIGNED AND SUBMITTED ON: _____, 20_____, BY:

By: _____
(Signature)

Printed Name: _____

Title: _____

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BIDDER'S ORGANIZATIONAL EXPERIENCE AND WORKLOAD FORM

This Bidder's Organizational Experience and Workload Form is to be submitted by Bidder, as an attachment to the Bid Form, for the project designated as **North Stimson– Drain Tile Reconstruction**.

[IF NECESSARY, ATTACH ADDITIONAL EXPERIENCE & WORKLOAD FORMS]

[JOINT VENTURES MUST SUBMIT SEPARATE EXPERIENCE & WORKLOAD FORMS FOR EACH INDIVIDUAL, PARTNERSHIP, OR CORPORATION THAT IS PARTY TO THE JOINT VENTURE]

1. BIDDER
This form is submitted by:

Full Name of Bidder: _____

Principal Business Address: _____

2. PROJECT MANAGER AND SUPERINTENDENT
Bidder shall provide information below regarding the experience of Bidder's designated project manager and superintendent.

	Name	Years with Company	Years Experience
Project Manager			
Project Manager schedules and coordinates the work, allocating the resources necessary to complete the project, and preparing and delivering all submittals required under the contract documents, including pay requests.			
Superintendent			
Superintendent supervises and directs the work, overseeing on-site, day-to-day operations on the project site and maintaining control over the quality of the work. Superintendent must be present at all times on the project site.			

3. PROJECT MANAGER'S WORK HISTORY
Bidder's designated project manager shall have experience scheduling and coordinating construction projects involving the application of skills and expertise similar to those that may be necessary to perform the work described in the contract documents. Bidder shall provide information below regarding such construction projects scheduled and coordinated by the Bidder's designated project manager.

	PROJECT 1	PROJECT 2	PROJECT 3
Project Name			
Project Location			
Owner			
Owner's Address			
Reference			

	PROJECT 1	PROJECT 2	PROJECT 3
Reference's Phone			
Contractor (Cont.) *if Bidder was subcontractor*			
Cont. Contact *if Bidder was subcontractor*			
Cont. Contact's Phone *if Bidder was subcontractor*			
Description of Work			
Significant Work Items *Include quantity installed*			
# of Crew Supervised			

4. SUPERINTENDENT'S WORK HISTORY

Bidder's designated superintendent shall have experience supervising and directing construction projects involving the application of skills and expertise similar to those that may be necessary to perform the work described in the contract documents. Bidder shall provide information below regarding such construction projects supervised and directed by the Bidder's designated superintendent.

	PROJECT 1	PROJECT 2	PROJECT 3
Project Name			
Project Location			
Owner			
Owner's Address			
Reference			
Reference's Phone			

	PROJECT 1	PROJECT 2	PROJECT 3
Contractor (Cont.) *if Bidder was subcontractor*			
Cont. Contact *if Bidder was subcontractor*			
Cont. Contact's Phone *if Bidder was subcontractor*			
Description of Work			
Significant Work Items *Include quantity installed*			
# of Crew Supervised			

5. CURRENT ORGANIZATIONAL WORKLOAD

Bidder shall provide below information regarding the Bidder's current organizational workload, attaching, as necessary, additional Organizational Experience and Workload Forms.

PROJECT 1

Project Name			
Project Location			
Owner			
Owner's Address			
Reference			
Reference's Phone		**Reference's E-mail**	
Description of Work			
Project Manager		**Superintendent**	
Contract Price			
Percent Complete		**Expected Completion Date**	

PROJECT 2

Project Name			
Project Location			
Owner			
Owner's Address			
Reference			
Reference's Phone		**Reference's E-mail**	
Description of Work			
Project Manager		**Superintendent**	
Contract Price			
Percent Complete		**Expected Completion Date**	

PROJECT 3

Project Name			
Project Location			
Owner			
Owner's Address			
Reference			
Reference's Phone		**Reference's E-mail**	
Description of Work			
Project Manager		**Superintendent**	
Contract Price			
Percent Complete		**Expected Completion Date**	

6. FORM SUBMITTAL

This form is submitted by _____, who hereby certifies under penalty of law that: (1) he or she has carefully prepared, reviewed, and checked this form; (2) that the statements made on this form are true and correct; and, (3) that all statements made herein have been made on behalf of and with the authorization of the Bidder in support of this bid.

SIGNED AND SUBMITTED ON: _____, 20_____, BY:

By: _____
(Signature)

Printed Name: _____

Title: _____

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BIDDER'S SUBCONTRACTOR AND SUPPLIER FORM

This Bidder's Subcontractor and Supplier Form is to be submitted by Bidder, as an attachment to the Bid Form, for the project designated as **North Stimson – Drain Tile Reconstruction**.

[IF NECESSARY, ATTACH ADDITIONAL SUBCONTRACTOR AND SUPPLIER FORMS]

1. BIDDER
This form is submitted by:

Full Name of Bidder: _____

Principal Business Address: _____

2. BIDDER'S SUBCONTRACTORS AND SUPPLIERS
Bidder shall provide information below regarding all of the first-tier subcontractors, suppliers, individuals, or entities who will perform work or labor on or render services or supplies for the project, as well as all of the second-and lower-tier subcontractors, suppliers, individuals, or entities who will perform work or labor on or render services or supplies for the project in an amount in excess of ten percent (10%) of the Bidder's total bid.

Subcontractor/Supplier: _____

Principal Business Address: _____

Contact: _____ Telephone: _____

Fax: _____ E-mail: _____

Work to be Performed/
Services to be Provided: _____

_____

Subcontractor/Supplier: _____

Principal Business Address: _____

Contact: _____ Telephone: _____

Fax: _____ E-mail: _____

Work to be Performed/
Services to be Provided: _____

_____

Subcontractor/Supplier: _____

Principal Business Address: _____

Contact: _____ Telephone: _____

Fax: _____ E-mail: _____

Work to be Performed/
Services to be Provided: _____

_____

Subcontractor/Supplier: _____

Principal Business Address: _____

Contact: _____ Telephone: _____

Fax: _____ E-mail: _____

Work to be Performed/
Services to be Provided: _____

Subcontractor/Supplier: _____

Principal Business Address: _____

Contact: _____ Telephone: _____

Fax: _____ E-mail: _____

Work to be Performed/
Services to be Provided: _____

Subcontractor/Supplier: _____

Principal Business Address: _____

Contact: _____ Telephone: _____

Fax: _____ E-mail: _____

Work to be Performed/
Services to be Provided: _____

In accordance with the Instructions to Bidders, Owner reserves the right to conduct, during the evaluation of bidders, such additional investigations as it deems necessary to establish the responsibility, qualifications, and ability of subcontractors, suppliers, individuals, or entities named above to perform the work. This may include, but is not limited to, requests for the submittal of a Bidder's Work History Form and Bidder's Organizational Experience and Workload Form for any subcontractor, supplier, individual, or entity named above. Bidder shall, in accordance with the Instructions to Bidders, promptly and in a timely manner submit such information and data as Owner may request to conduct such investigations.

BID BOND FORM

KNOW ALL MEN BY THESE PRESENTS, THAT _____, as
(full name and principal business address of Bidder)

Bidder, and that _____, as Surety, a corporation organized and
(full name and principal business address of Surety)

existing under the laws of the state of _____, are held and firmly bound unto the PORTER COUNTY STORM WATER MANAGEMENT BOARD, 155 Indiana Avenue, Valparaiso, Indiana 46383, as Owner,

in the penal sum of _____ Dollars ($_____),
(value of bond in words) (value of bond in figures)
for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally by these presents.

WHEREAS, Bidder has submitted a bid dated _____, 20_____ to Owner for the project designated as North Stimson – Drain Tile Reconstruction, the conditions of such submittal are, by this reference, incorporated herein as though fully set forth herein.

NOW, THEREFORE, in accordance with the conditions of Bidder's submittal to Owner of the bid described above, the condition of the obligation of this bond is such that, if: (1) Bidder, after receiving a notice of award from Owner, delivers within ten days after receipt of the notice of award, or any extension thereof agreed to in writing by Owner, the executed agreement and other contract documents requiring execution attached thereto, along with the required contract security, certificates of insurance, and insurance policy endorsements, to Owner; or, (2) Bidder's bid is rejected by Owner; or, (3) Owner fails to issue a notice of award to Bidder within 60 days after the opening of bids, or for such longer period of time agreed to in writing by Bidder, then the obligation of this bond shall be null and void; otherwise it shall remain in full force and effect.

Surety, for value received, hereby stipulates and agrees that its obligation under this bond shall be in no way impaired or affected by any extension of the 60 day period after the opening of bids within which Owner may issue a notice of award to Bidder, and Surety does hereby consent to and waive notice of any such extension.

Upon default of Bidder, which shall occur upon the failure of Bidder, after receiving a notice of award from Owner, to deliver within ten days after receipt of the notice of award, or any extension thereof agreed to in writing by Owner, the executed agreement and other contract documents requiring execution attached thereto, along with the required contract security, certificates of insurance, and insurance policy endorsements, to Owner, the penal sum will become due and payable to Owner within 30 days after receipt by Bidder and Surety of a written notice of default from Owner. Such notice will be given by Owner with reasonable promptness upon default of Bidder, and will identify this bond and include a statement of the amount due. Payment of the penal sum represents the extent of Bidder's and Surety's liability and receipt of such payment shall be Owner's sole and exclusive remedy upon default of Bidder.

Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective principal business addresses shown above. Such notices may be sent by personal delivery, commercial courier, or by registered or certified mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the concerned parties.

No suit or action shall be commenced under this bond prior to 30 days after a notice of default is received by Bidder and Surety and in no case later than one year after the date of the bid described above. Any suit or action commenced under this bond shall be taken only in a court of competent jurisdiction located in the state in which the project described above is located.

This bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this bond shall be deemed to be included herein as though fully set

forth herein. If any provision of this bond conflicts with any applicable statue, then the provision of said statute shall govern and the remainder of this bond that is not in conflict therewith shall continue in full force and effect. Surety and Bidder, intending to be legally bound hereby, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

SIGNED AND SEALED ON: _____, 20_____, BY:

BIDDER:

Bidder's Name: _____ (SEAL)

By: _____
(Signature)

Printed Name: _____

Title: _____

Attest: _____

SURETY:

Surety's Name: _____ (SEAL)

By: _____
(Signature)

Printed Name: _____

Title: _____

Attest: _____

The Department of
DEVELOPMENT & STORM WATER MANAGEMENT
Porter County, Indiana

County Administration Center
155 Indiana Avenue, Suite 311
Valparaiso, IN 46383
p: 219.465.3530
www.porterco.org

NOTICE OF AWARD

To:	[SUCCESSFUL BIDDER]
From:	Porter Co. Dept. of Development & Storm Water Management
Date:	[DATE]
Subject:	North Stimson – Drain Tile Reconstruction Construction Services

You are hereby notified that your bid dated [DATE], for the project designated as **North Stimson – Drain Tile Reconstruction** was accepted at the [MONTH] [DAY], [YEAR], meeting of the Porter Co. Storm Water Management Board. You are the successful bidder and are hereby awarded a contract for the project.

The value of your contract is **[CONTRACT VALUE]**, which represents the represents the initial contract price.

Two copies of the agreement and one complete set of the contract documents, including the construction plans, accompany this notice of award.

You must comply with the following conditions within ten days after receipt of this notice of award:

1. Sign and deliver to Department two partially executed copies of the agreement and two fully executed copies of the other contract documents requiring execution attached thereto.
2. Deliver to Department the required contract security, certificates of insurance, and insurance policy endorsements, as required by the Instructions to Bidders (Article 27) and General Specifications (Article 107.20), and a signed E-Verify Affidavit & Certification Regarding Investments in Iran, as required by the Instructions to Bidders (Article 28).

Failure to comply with these conditions within the time specified will permit the Department to consider you to be in default, annul this notice of award, and retain or recover your bid security.

DEPARTMENT

By: _____
(Signature)

Printed Name: _____

Title: _____

Enclosure(s)

Porter County is an equal opportunity employer and does not discriminate on the basis of race, color, religion, sex, age, national origin, disability, military status, genetic testing, pregnancy, sexual orientation or any other unlawful bias.

County Administration Center
155 Indiana Avenue, Suite 311
Valparaiso, IN 46383
p: 219.465.3530
www.porterco.org

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Porter County is an equal opportunity employer and does not discriminate on the basis of race, color, religion, sex, age, national origin, disability, military status, genetic testing, pregnancy, sexual orientation or any other unlawful bias.

CONSTRUCTION SERVICES AGREEMENT
between
PORTER CO. DEPARTMENT OF DEVELOPMENT &
STORM WATER MANAGEMENT
and
[NAME OF SUCCESSFUL RESPONDENT]
for
NORTH STIMSON
DRAIN TILE RECONSTRUCTION

This is an agreement by and between the PORTER COUNTY DEPARTMENT OF DEVELOPMENT & STORM WATER MANAGEMENT, 155 Indiana Ave., Ste. 311, Valparaiso, Indiana 46383 (hereinafter called Owner) and [SUCCESSFUL RESPONDENT], [SUCCESSFUL RESPONDENT'S ADDRESS] (hereinafter called Contractor), for the project designated as North Stimson – Drain Tile Reconstruction.

1. Project
The project, for which the work described in the contract documents may be the whole or only a part, is generally described as follows:

The project consists of the installation of a new drain tile system to replace a failed drain tile system. The overall purpose of the project is to enhance the drainage and storm water management services provided to the surrounding property owners by improving the area's storm water infrastructure.

2. Work
Contractor shall perform all work specified or indicated in the contract documents for the contract price and within the contract times indicated therein and in accordance with all other terms and conditions of the contract documents. The work, which is described in detail in the contract documents, is generally described as follows:

The project consists of the installation of a new drain tile system to replace a failed drain tile system. The overall purpose of the project is to enhance the drainage and storm water management services provided to the surrounding property owners by improving the area's storm water infrastructure.

The project generally includes the installation of drain tile, via open trench construction, and the installation of storm sewer structures. The project also includes road cut and repair work as needed to install the new drain tile across Division Road. It also includes other items incidental to the work including the creation and maintenance of a temporary construction entrance and construction access routes and the restoration of all areas disturbed during the performance of the work. Excess excavated material generated during the performance of the work is to be disposed on site in adjacent agricultural field and then covered with stripped topsoil. The work includes the carrying out of all duties and obligations and the furnishing of all labor, material, tools, equipment, and other incidentals necessary or convenient to the successful completion of the project.

3. Contract Times
Contractor shall complete all work in accordance with terms and conditions of the contract documents within the dates and times determined pursuant to Paragraphs 3(a), 3(b), and 3(c) below.

(a) Time is of the Essence. All dates and times for milestones, substantial completion, and final completion and readiness for final payment described in the contract documents are of the essence of this agreement.

(b) Dates for Substantial Completion and Final Completion. The work shall be substantially completed, as described in Article 105.17 of the General Specifications, by October 31, 2025, or before, and shall be completed and ready for final payment, as described in Article 109.09 of the General Specifications, 30 days, or as soon as possible, thereafter. Acceptance of and payment for the work shall occur in accordance with the applicable provisions of the contract documents.

Substantial completion shall mean that all drainage and storm water management infrastructure to be constructed, including all drain tiles and storm sewer structures have been constructed, all road base to be installed has been installed, all hot mix asphalt pavement has been placed, and that the site is ready for

shaping, trimming, and finishing of disturbed areas, cleaning up of disturbed areas, restoration of disturbed areas, and completing the work for acceptance. Final completion shall mean that all work has been completed that that all disturbed areas have been restored in accordance with the Technical Specifications.

(c) Liquidated Damages. Contractor recognizes that time is of the essence of this agreement, as stated in Paragraph 3(a) above, and that Owner will suffer financial loss if the work is not completed within the dates and times specified in Paragraph 3(b) above, or any extensions thereof agreed to in writing by Owner in accordance with Article 108.11 of the General Specifications. Contractor and Owner also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the work is not completed within the dates and times specified in Paragraph 3(b) above, or any extensions thereof agreed to in writing by Owner. Accordingly, Contractor and Owner agree that Contractor shall pay Owner, as liquidated damages, but not as a penalty, the amount shown in the schedule of deductions provided in Article 108.12 of the General Specifications for each day that expires after the date and time specified in Paragraph 3(b) above for substantial completion, or any extensions thereof agreed to in writing by Owner, until the work is complete.

Following substantial completion of the work, if Contractor shall neglect, refuse, or fail to complete the remaining work by the date and time specified in Paragraph 3(b) above for final completion, or any extensions thereof agreed to in writing by Owner, Contractor and Owner agree that Contractor shall pay Owner, as liquidated damages, but not as a penalty, the amount shown in the schedule of deductions provided in Article 108.12 of the General Specifications for each day that expires after the date and time specified in Paragraph 3(b) above for final completion, or any extensions thereof agreed to in writing by Owner, until the work is complete and ready for final payment.

4. Contract Price

Owner shall pay Contractor for all work completed in accordance with terms and conditions of the Contract Documents an amount determined pursuant to Paragraphs 4(a), 4(b), and 4(c) below.

(a) Owner shall pay Contractor for all quantities of work completed in accordance with terms and conditions of the Contract Documents at the unit prices stated on the Contractor's Bid Form, which, as specified in Paragraph 7 below, is attached as a Contract Document. The Contractor's Total Bid of [TOTAL BID], which is stated on the Contractor's Bid Form, represents the initial Contract Price of [CONTRACT PRICE].

(b) The estimated quantities of work stated on the Basis of Bid Form and the Contract Price set forth above are not guaranteed and are provided herein for the purposes of establishing pay item unit prices and the initial Contract Price. In accordance with the Contract Documents, payment to Contractor will be based upon the actual quantities of work performed by Contractor, the acceptance of such work and the determination of such quantities to be made by the Owner in accordance with the Contract Documents.

5. Payment Procedures

Owner shall pay Contractor for all work completed in accordance with terms and conditions of the Contract Documents in accordance with the procedures described below.

(a) Progress Payment Requests. During performance of the work, Contractor shall submit to Owner, on approximately a monthly basis, applications for payment prepared in accordance with Article 109.08 of the General Specifications. Applications for payment will be processed by the Owner in accordance with the applicable provisions of the Contract Documents.

(b) Progress Payments and Retainage. During performance of the work, in response to Contractor's applications for payment, Owner shall make, on approximately a monthly basis, progress payments, as described in Paragraph 5(b)(1) below, to Contractor. All such progress payments will be made based upon the actual quantities of work completed in accordance with terms and conditions of the Contract Documents and upon the Contractor's schedule of values prepared in accordance with Article 108.02 of the General Specifications.

(1) Prior to substantial completion of the work, progress payments will be made in an amount equal to the value of 90 percent (90%) of the work completed, less the sum of payments previously made and less

such amounts as Owner may withhold in accordance with Article 109.08 of the General Specifications, including, but not limited to, liquidated damages.

(2) Upon substantial completion of the work, Owner shall pay Contractor an amount sufficient to increase the sum of the payments made to Contractor to the value of 100 percent (100%) of the work completed, less such amounts as Owner may withhold in accordance with Article 109.08 of the General Specifications, including, but not limited to, liquidated damages, and less 200 percent (200%) of the estimated value of any work to be completed or corrected before final inspection and payment, as shown on the list of such items attached to the certificate of substantial completion.

(c) Final Payment. Upon final completion of the work, as described in Article 109.09 of the General Specifications, Contractor shall submit to Owner a final application for payment prepared in accordance with Article 109.09 of the General Specifications. In response to Contractor's final application for payment, Owner shall pay Contractor an amount equal to the total value of the work completed for which payment has not yet been made, less such amounts as Owner may withhold in accordance with Article 109.08 of the General Specifications, including, but not limited to, liquidated damages. At the time of final payment, any retainage withheld from payments previously made will also become due and payable to Contractor.

6. Contractor's Representations

In entering into this Agreement, Contractor makes the following representations:

(a) Contractor has examined and carefully studied the Contract Documents and other related data identified in the Contract Documents.

(b) Contractor has visited the site and become familiar with and is satisfied as to the general, local, and site conditions that may affect cost, progress, and performance of the work.

(c) Contractor is familiar with and is satisfied as to all laws and regulations that may affect cost, progress, and performance of the work.

(d) Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the site; information and observations obtained from visits to the site; and the Contract Documents, with respect to the effect of such information, observations, and documents on: (1) the cost, progress, and performance of the work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and, (3) Contractor's safety precautions and programs.

(e) Contractor does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the work at the Contract Price and within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

(f) Contractor has given Owner written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Owner is acceptable to Contractor.

(g) Contractor is familiar with and is satisfied with the general nature of the work to be performed by Owner or others at the site, as described in the Contract Documents, as a part of the project.

(h) The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the work.

7. Contract Documents

The Contract Documents consist of the following, which are attached hereto:

(a) Contract (i.e., this Agreement).

(b) Contract Security:

(1) Performance Bond; and,

(2) Payment Bond.

(c) General Specifications to the Construction & Maintenance Services Agreements.

(d) Construction Plans for North Stimson – Drain Tile Reconstruction.

(e) Technical Specifications for North Stimson – Drain Tile Reconstruction.

(f) Special Provisions for North Stimson – Drain Tile Reconstruction.

(g) Addendum #___.

(h) Contractor's Bid Form.

(i) Contractor's Basis of Bid Form.

(j) Contractor's Subcontractor and Supplier Form.

and the following, which may be issued or delivered on or after the effective date of the agreement and, consequently, are not attached hereto:

(k) Notice to Proceed.

(l) Work Change Directives.

(m) Change Orders.

The contract documents may only be amended, modified, or supplemented as provided for in Article 104.02 of the General Specifications.

8. Contractor's Certifications

Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing this contract. For the purposes of this Paragraph 8:

(a) "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in execution of the contract;

(b) "fraudulent practice" means an intentional misrepresentation of facts made: (a) to influence the bidding process or the execution of the contract to the detriment of Owner; (b) to establish bid or contract prices at artificial non-competitive levels; or, (c) to deprive Owner of the benefits of free and open competition;

(c) "collusive practice" means a scheme or arrangement between two or more bidders, with or without the knowledge of Owner, a purpose of which is to establish bid or contract prices at artificial, non-competitive levels; and,

(d) "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the contract.

9. Miscellaneous

The following terms and conditions are hereby made a part of this agreement:

(a) Terms. Terms used in this agreement have the meanings indicated in the contract documents and shall have such defined meanings wherever used.

(b) Assignment of Contract. No assignment by a party hereto of any rights under or interests in the contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the contract documents.

(c) Successors and Assigns. Owner and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the contract documents.

(d) Severability. Any provision or part of the contract documents held to be void or unenforceable under any laws or regulations shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the contract documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement. Counterparts have been delivered to Owner and Contractor. All of the Contract Documents have been identified by Owner and reviewed and, if applicable, signed, by Owner and Contractor or on their behalf.

This Agreement will be effective on the date on which the agreement is signed by the last of the two parties to sign the Agreement, but not later than [MONTH] [DAY], [YEAR] the earliest of which shall be the effective date of the Agreement.

OWNER: PORTER CO. STORM WATER MANAGEMENT BOARD	CONTRACTOR: [SUCCESSFUL BIDDER]
Date: _____	Date: _____
By: Barbara Regnitz	By: _____
Title: County Commissioner	Title: _____
By: Laura Blaney	
Title: County Commissioner	
By: Jim Biggs	(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)
Title: County Commissioner	
By: Kevin Breitzke	
Title: County Surveyor	
Address for giving notices:	Address for giving notices:
Porter Co. Dept. of Development & Storm Water Management	
155 Indiana Ave., Ste. 311	
Valparaiso, Indiana 46383	

PERFORMANCE BOND FORM

KNOW ALL MEN BY THESE PRESENTS, THAT _____, as
(full name and principal business address of Bidder)

Contractor, and that _____, as Surety, a corporation organized and
(full name and principal business address of Surety)

existing under the laws of the state of _____, are held and firmly bound unto the PORTER COUNTY STORM WATER MANAGEMENT BOARD, 155 Indiana Avenue, Valparaiso, Indiana 46383, as Owner,

in the penal sum of _____ Dollars ($_____),
(value of bond in words) (value of bond in figures)
for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally by these presents.

WHEREAS, Contractor has entered into an agreement with Owner for the project designated as North Stimson – Drain Tile Reconstruction, the effective date of such agreement being _____, 20_____, the terms and conditions of such agreement are, by this reference, incorporated herein as though fully set forth herein.

NOW, THEREFORE, the condition of the obligation of this bond is such that, if Contractor shall well and truly perform or otherwise comply with the terms and conditions of the contract documents, then the obligation of this bond shall be null and void; otherwise it shall remain in full force and effect.

Surety, for value received, hereby stipulates and agrees that its obligation under this bond shall be in no way impaired or affected by any change to the contract documents, including changes to the contract times, and Surety does hereby consent to and waive notice of any such change.

Upon default of Contractor, which shall occur upon the failure of Contractor to perform or otherwise comply with the terms and conditions of the contract documents, Owner shall provide written notice to Contractor and Surety of such default. Such notice will be given by Owner with reasonable promptness upon default of Contractor and will identify this bond and specify the corrective measures required. If Contractor, within a period of ten days after receipt by Contractor of such written notice of default, shall not proceed according to such notice, Owner shall have full power and authority to forfeit the rights and obligations of Contractor under the agreement described above and, at its sole discretion: (1) call upon Surety to complete the work; or, (2) take over the work, including all materials and equipment on the ground as may be suitable or acceptable, and complete it with its own forces, or use other such methods that, in its opinion, may be required to complete the work in an acceptable manner. Upon termination of the rights and obligations of Contractor, Owner shall, with reasonable promptness, provide Contractor and Surety a written notice of termination for default, which will identify this bond and specify whether Surety or Owner is to complete the work.

When Owner issues a written notice of termination for default and calls upon Surety to complete the work, Surety shall within 30 days after receipt by Surety of such notice, and at Surety's expense, take over the work, including all materials and equipment on the ground as may be suitable or acceptable, and employ by contract or otherwise any person or entity satisfactory to the Owner to complete the work in a manner consistent with the contract documents. Such transfer, from Contractor to Surety, of the rights and obligations to complete the work, shall not terminate or otherwise alter the agreement described above nor shall the employment by Surety of any person or entity to complete the work relieve Surety of its obligation under this bond nor its obligation to perform or otherwise comply with the terms and conditions of the contract documents. Payment for work performed subsequent to the transfer, from Contractor to Surety, of the rights and obligations to complete the work, shall be made by Owner to Surety, to the limit of the balance of the contract price, which is the total amount payable by Owner to Contractor after all proper adjustments have been made (i.e., contract price), reduced by all valid and proper payments made to Contractor in accordance with the contract documents.

When Owner issues a written notice of termination for default and takes over and completes the work, payment shall be made by Surety to Owner for all costs incurred by Owner in completing the work to the limit of the value of this bond.

After Owner has terminated the rights and obligations of Contractor to complete the work, the responsibilities of Surety to Owner shall not be greater than those of Contractor under the agreement, and the responsibilities of Owner to Surety shall not be greater than those of Owner under the agreement. To the limit of the value of this bond, Surety is obligated for: (1) correction of defective work and completion of the work in a manner consistent with the contract documents; (2) legal, design, inspection, and other costs resulting from Contractor's default and/or resulting from the actions of Surety or Surety's failure to act; and, (3) liquidated damages. Surety shall not be liable to Owner or others for obligations of Contractor that are unrelated to the agreement described above. No right of action shall accrue on this bond to any person or entity other than Owner or its heirs, executors, administrators, or successors.

Notices required hereunder shall be in writing and sent to Contractor and Surety at their respective principal business addresses shown above. Such notices may be sent by personal delivery, commercial courier, or by registered or certified mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the concerned parties.

No suit or legal action shall be commenced under this bond prior to ten days after a written notice of default is received by Contractor and Surety and in no case later than two years after the effective date of agreement described above. Any suit or legal action commenced under this bond shall be taken only in a court of competent jurisdiction located in the state in which the project described above is located.

This bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this bond shall be deemed to be included herein as though fully set forth herein. If any provision of this bond conflicts with any applicable statue, then the provision of said statute shall govern and the remainder of this bond that is not in conflict therewith shall continue in full force and effect.

Contractor and Surety, intending to be legally bound hereby, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

SIGNED AND SEALED ON: _____, 20_____, BY:

CONTRACTOR:

Contractor's Name: _____ (SEAL)

By: _____
(Signature)

Printed Name: _____

Title: _____

Attest: _____

SURETY:

Surety's Name: _____ (SEAL)

By: _____ (Attach Power of Attorney)
(Signature)

Printed Name: _____

Title: _____

Attest: _____

PAYMENT BOND FORM

KNOW ALL MEN BY THESE PRESENTS, THAT _____, as
(full name and principal business address of Bidder)

Contractor, and that _____, as Surety, a corporation organized and
(full name and principal business address of Surety)

existing under the laws of the state of _____, are held and firmly bound unto the PORTER COUNTY STORM WATER MANAGEMENT BOARD, 155 Indiana Avenue, Valparaiso, Indiana 46383, as Owner,

in the penal sum of _____ Dollars ($_____),
(value of bond in words) (value of bond in figures)
for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally by these presents.

WHEREAS, Contractor has entered into an agreement with Owner for the project designated as North Stimson - Drain Tile Reconstruction, the effective date of such agreement being _____, 20_____, the terms and conditions of such agreement are, by this reference, incorporated herein as though fully set forth herein.

NOW, THEREFORE, the condition of the obligation of this bond is such that, if: (1) Contractor shall promptly make payment, directly or indirectly, for all sums due to any person or entity who furnished labor, material, or equipment for use in the performance of the work, whether or not said labor, material, or equipment becomes a component part of the work; and, (2) Contractor shall indemnify, save harmless, and defend Owner against any and all claims, demands, liens, and lawsuits alleging non-payment by Contractor by any person or entity who furnished labor, material, or equipment for use in the performance of the work, then the obligation of this bond shall be null and void; otherwise it shall remain in full force and effect.

Surety, for value received, hereby stipulates and agrees that its obligation under this bond shall be in no way impaired or affected by any change to the contract documents, including changes to the contract times, and Surety does hereby consent to and waive notice of any such change.

Upon default of Contractor, which shall occur upon the failure of Contractor to promptly make payment for all sums due to any persons or entities who furnished labor, material, or equipment for use in the performance of the work, such persons or entities who have not received payment for all sums due (i.e., Claimants) shall provide written notice to Contractor, with a copy to Surety and Owner, that a claim is being made. Such notice shall be given by Claimant within 90 days after having last furnished labor, material, or equipment for use in the performance of the work and shall, with substantial accuracy, state the amount of the claim and the name of the party to whom the labor, material, or equipment were furnished.

If Contractor, within a period of 30 days after receipt of a claim, does not respond to such claim or rejects such claim in whole or in part, such Claimant shall provide written notice to Surety, with a copy to Owner, that a claim is being made under this bond. Such notice shall identify this bond and include a copy of the written notice previously furnished to Contractor.

When a Claimant has satisfied the conditions described above, Surety shall within 45 days after receipt of a claim, and at Surety's expense, take the following actions: (1) send a response to such Claimant, with a copy to Owner, stating the amounts that are undisputed and disputed and the basis for challenging any amounts that are disputed; and, (2) pay or arrange for payment of any undisputed amounts.

Upon request of any person or entity appearing to be a potential beneficiary of this bond, Contractor shall promptly furnish a copy of this bond or shall permit a copy to be made.

The total amounts payable by Owner to Contractor (i.e., contract price) shall be used to perform or otherwise comply with the terms and conditions of the contract documents and to satisfy claims, if any, under the Performance Bond. By Contractor furnishing and Owner accepting this bond, they agree that all funds earned by Contractor for performing or otherwise complying with the terms and conditions of the contract documents shall be used satisfy

obligations of Contractor and Surety under this bond.

Surety's responsibility shall not exceed the value of this bond. Surety shall not be liable to Owner, Claimants, or others for obligations of Contractor that are unrelated to the agreement described above. Owner shall not be liable for payment of any costs or expenses of any Claimant under this bond, and shall have, under this bond, no obligation to make payments to, give notices on behalf of, or otherwise have obligations to claimants under this bond.

Notices required hereunder shall be in writing and sent to Contractor, Surety, and Owner at their respective principal business addresses shown above. Such notices may be sent by personal delivery, commercial courier, or by registered or certified mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the concerned parties.

No suit or legal action shall be commenced under this bond prior to 45 days after receipt, by Surety, of a written notice that a claim is being made under this bond and in no case later than two years after the effective date of agreement described above. Any suit or legal action commenced under this bond shall be taken only in a court of competent jurisdiction located in the state in which the project described above is located.

This bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this bond shall be deemed to be included herein as though fully set forth herein. If any provision of this bond conflicts with any applicable statue, then the provision of said statute shall govern and the remainder of this bond that is not in conflict therewith shall continue in full force and effect.

Contractor and Surety, intending to be legally bound hereby, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

SIGNED AND SEALED ON: _____, 20_____, BY:

CONTRACTOR:

Contractor's Name: _____ (SEAL)

By: _____
(Signature)

Printed Name: _____

Title: _____

Attest: _____

SURETY:

Surety's Name: _____ (SEAL)

By: _____ (Attach Power of Attorney)
(Signature)

Printed Name: _____

Title: _____

Attest: _____

GENERAL SPECIFICATIONS

TO THE

CONSTRUCTION & MAINTENANCE SERVICES AGREEMENTS

PORTER CO. DEPARTMENT OF DEVELOPMENT & STORM WATER MANAGEMENT
October 15, 2024

The following General Specifications apply to and shall govern the Construction and Maintenance Services Agreements.

DIVISION 100
GENERAL REQUIREMENTS AND COVENANTS

SECTION 101
DEFINITION OF TERMS

Wherever in these specifications, or in other contract documents, the following terms, or pronouns in place of them, are used, the intent and meaning shall be interpreted as follows.

101.01 Abbreviations. Wherever the following abbreviations are used in these specifications, or in other contract documents, they are to be construed the same as the respective expressions represented.

ANSI	American National Standards Institute
ASA	American Standards Association
ASTM	ASTM International
FSS	Federal Specifications and Standards
GSA	General Services Administration
IDEM	Indiana Department of Environmental Management
INDOT	Indiana Department of Transportation
IDNR	Indiana Department of Natural Resources
ISO	Insurance Services Office
NIST	National Institute of Standards and Technology
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Administration
UL	Underwriters Laboratories
USASI	United States of America Standards Institute
USDA	United States Department of Agriculture
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency

101.02 Advertisement. The public announcement, as required by law, inviting bids or requesting quotes for work to be performed.

101.03 Agreement. The written instrument which is evidence of the agreement between the Department and the Contractor covering the work.

101.04 Application for Payment. The form acceptable to the Department which is to be used by the Contractor during the performance of the work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the contract documents.

101.05 Award. The decision of the Department, in the form of a notice of award, to accept the bid or quote of the lowest responsible bidder or respondent for the work, subject to the execution of a contract satisfactory to the Department, receipt of bonds to secure the performance thereof, and compliance with such other conditions as may be specified or otherwise required by law.

101.06 Awarding Authority. The Porter County Storm Water Management Board.

101.07 Bid. The offer of a bidder, on the prescribed form, to perform the work and to furnish the labor and materials at the prices quoted.

101.08 Bid Security. The security furnished with a bid to guarantee the bidder will enter into a contract if the bid is accepted.

101.09 Bidder. Any individual, firm, partnership, or corporation submitting a bid for the work contemplated, acting directly or through a duly authorized representative.

101.10 Calendar Day. Every day shown on the calendar.

101.11 Cataclysmic Event. An occurrence, caused exclusively by any of the irresistible forces of nature that is an unexpected, singular event without continued, persistent existence, or that is irregularly predictable. The event must occur without the involvement of human causative action, and must not be preventable or capable of substantial limitation in its impact by application of human care, skill, or foresight. Cataclysmic events include earthquakes, floods, flash floods of surface water caused by heavy rains and storm water runoff, tornadoes, or other cataclysmic phenomena of nature. A flood, defined as water elevation in excess of the channel capacity of a river, stream, or other body of water, is not a cataclysmic event, unless the flood water elevation exceeds the 100-year flood elevation as defined in the contract.

101.12 Change Order. A document issued by the Engineer, and signed by both the Contractor and the Department, on or after the effective date of the agreement, which authorizes an addition, deletion, or revision in the work that requires an adjustment in the contract price or contract times.

101.13 Claim. A demand or assertion by the Department or the Contractor seeking an adjustment of contract price or contract times, or both, or other relief with respect to the terms of the contract.

101.14 Contract. The written agreement between the Department and the Contractor setting forth the obligations of the parties thereunder, including, but not limited to, the performance of the work, the furnishing of labor and materials, and the basis of payment. The contract includes those items designated as contract documents in the agreement, all of which constitute one instrument.

101.15 Contract Security. The approved form of security furnished by the Contractor and his/her surety as a guaranty that the Contractor will execute the work according to the terms of the contract.

101.16 Contract Documents. Those items designated as such in the agreement. Only printed or hard copies of the items listed in the agreement shall be considered contract documents.

101.17 Contract Price. The monies payable by the Department to the Contractor for completion of the work in accordance with the contract documents, as stated in the agreement, subject to any provisions of the contract documents related to unit price work.

101.18 Contract Times. The number of days or the dates, as stated in the agreement, to achieve milestones, if any, achieve substantial completion, and complete the work so that it is ready for final payment as evidenced by the Engineer’s recommendation of final payment.

101.19 Contractor. The individual, firm, partnership, joint venture, or corporation contracting with the Department for performance of prescribed work.

101.20 Day. Calendar day.

101.21 Department. The Porter County Department of Development and Storm Water Management.

101.22 Effective Date of the Agreement. The date indicated in the agreement on which it becomes effective, but if no such date is indicated, it means the date on which the agreement is signed by the last of the two parties to sign the agreement.

101.23 Engineer. The Porter County Engineer or his or her authorized representative.

101.24 Equipment. All machinery and equipment, together with those supplies necessary for upkeep and maintenance of such machinery and equipment, and all tools and apparatus necessary for the proper construction and acceptable completion of the work.

101.25 Extra Work. An item of work not provided for in the contract as awarded but found essential and germane to the satisfactory completion of the contract within its intended scope as determined by the Engineer.

101.26 Field Order. A written order issued on or after the effective date of the agreement by the Engineer, and signed by both the Contractor and the Department, which requires minor changes in the work but which does not involve a change in the contract price or contract times.

101.27 Inspector. An authorized representative of the Engineer assigned to make a detailed inspection of any or all portions of the work.

101.28 Instructions to Bidders. The document describing the Department's rules and procedures for advertising, awarding, and executing contracts for all work on which bids are required. Such instructions will indicate, with reasonable accuracy, the type, location, and quantity of work to be performed.

101.29 Invitation for Bids. The advertisement inviting bids for all work on which bids are required. Such invitation will indicate the time and place of the opening of bids.

101.30 Laboratory. Any testing laboratory which may be designated as the testing laboratory of the Department.

101.31 Laws and/or Regulations. Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction over the project.

101.32 Materials. Any substances specified for use in the construction of the project and its appurtenances.

101.33 Notice to Proceed. A written notice given by the Department to the Contractor fixing the date on which the contract times will commence to run and on which the Contractor shall start to perform the work required under the contract documents.

101.34 Owner. The Porter County Department of Development and Storm Water Management.

101.35 Pay Item. A specifically described unit of work for which a price is provided in the contract.

101.36 Plans. The construction plans, or exact reproductions thereof, that show the location, character, dimensions, and details of the work to be performed. Construction plans include, but are not limited to, those plans, profiles, cross sections, details, working drawings, supplemental drawings, and referenced standards approved by the Department.

101.37 Progress Schedule. A schedule, prepared and maintained by the Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the work within the contract times.

101.38 Project. The total construction, of which the work to be performed under the contract documents may be the whole or a part.

101.39 Quote. The offer of a respondent, on the prescribed form, to perform the work and to furnish the labor and materials at the prices quoted.

101.40 Resident Project Representative. The authorized representative of the Department serving as the Department's liaison with the Contractor, providing the Contractor with information regarding the intent of the contract documents and obtaining additional details and information from the Engineer when required for proper execution of the work.

101.41 Samples. Physical examples of materials, equipment, or workmanship that are representative of some portion of the work and which establish the standards by which such portion of the work will be evaluated.

101.42 Schedule of Submittals. A schedule, prepared and maintained by the Contractor, of the submittals required to support the performance of the work and the time requirements associated with the review and approval or acceptance of such submittals.

101.43 Schedule of Values. A schedule, prepared and maintained by the Contractor, allocating portions of the contract price to various portions of the work, and used as the basis for reviewing the Contractor's applications for payment.

101.44 Site. Lands or areas indicated in the contract documents as being furnished by the Department upon which the work is to be performed, including easements for access thereto, and such other lands furnished by the Department which are designated for the use of the Contractor.

101.45 Special Provisions. Additions and revisions to the general and supplemental specifications covering conditions peculiar to an individual contract.

101.46 Specifications. The body of directions, provisions, and requirements contained herein, or in any supplement adopted by the Department, together with written agreements and all documents of any description made or to be made pertaining to the method or manner of performing and paying for the work, the quantities, and the quality of materials to be furnished under the contract.

101.47 Structure. Unless otherwise defined in the specifications, structures shall include all objects constructed, in whole or in part, of materials other than earth, and required by the contract to be built or removed.

101.48 Subcontractor. An individual, firm, partnership, or corporation who, with the written consent of the Department, assumes obligation for performing specified work.

101.49 Substantial Completion. The time at which the work has progressed to the point where, in the opinion of the Engineer, the work is sufficiently complete, in accordance with the contract documents, such that the work can be utilized for the purposes for which it is intended.

101.50 Supplier. A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with the Contractor or with any subcontractor to furnish materials or equipment to be incorporated into the work by the Contractor or any subcontractor.

101.51 Surety. The corporation, partnership, or individual, other than the Contractor, executing the contract security.

101.52 Utility. The privately, publicly, municipally, or cooperatively owned line, facility, or system for producing, transmitting, or distributing communications, cable television, power, electricity, light, heat, gas, oil, crude products, water, steam, or wastewater. Utility shall also mean the utility company, inclusive of any wholly owned or controlled subsidiary.

101.53 Work. Work shall mean the furnishing of all labor, materials, tools, equipment, and other incidentals necessary or convenient to the successful completion of the project and the carrying out of all duties and obligations imposed by the contract. Work may also be used in context to described, in whole or in part, the completed facilities to be constructed, altered, or removed, as detailed in the contract. The Department will have the exclusive authority to determine the intent and meaning of the usage of this term wherever it appears in the contract.

101.54 Work Change Directive. A written statement issued by the Engineer, and signed by both the Contractor and the Department, on or after the effective date of the agreement ordering an addition, deletion, or revision in the work, or responding to differing or unforeseen subsurface or physical conditions or to emergencies. A work change directive does not change the contract price or contract times, but is evidence that the parties expect that the change ordered by the work change directive will be incorporated in a subsequently issued change order following negotiations by the parties as to its effect, if any, on the contract price or contract times.

SECTION 102
ADVERTISEMENT, AWARD, AND EXECUTION OF THE CONTRACT

102.01 Procedures for Advertisement, Award, and Execution of the Contract
The procedures for the advertisement, award, and execution of the contract shall be in accordance with the rules of the Department. The instructions to bidders or request for quotes shall have been prepared in accordance with such rules. The Contractor shall comply with all such rules and procedures described in the instructions to bidders or request for quotes.

SECTION 103
[RESERVED]

SECTION 104
SCOPE OF WORK

104.01 Intent of the Contract
The intent of the contract documents is to prescribe a complete outline of the work which the Contractor is to complete but is not so detailed as to identify minor additional, extra, and incidental items as may be necessary to complete the work in full compliance with the plans and specifications to the intended finished lines, grades, elevations, and dimensions. All construction required to complete the work in full compliance with the contract documents shall be performed by the Contractor whether or not specifically identified in the plans and specifications. The Contractor shall perform all earthwork, construct all structures, and complete such additional, extra, and incidental construction as may be necessary to complete the work to the finished lines, grades, elevations, and dimensions in an acceptable manner. The Contractor shall furnish all required materials, equipment, tools, labor, and incidentals, unless otherwise provided for in the contract, and shall include the cost of these items in the unit prices bid for the work. The quantities appearing in the invitation to bid or request for quotes are estimates prepared for the purposes of comparison of bids or quotes, establishment of pay item prices, and determination of an initial contract price. Payment to the Contractor will be made for the actual quantities of work performed, the acceptance of such work and the determination of such quantities to be made by the Department in accordance with the contract documents, and the scheduled quantities may be increased, decreased, or omitted and the contract price adjusted as provided herein.

Under no circumstances shall the Contractor exceed any established pay item quantity without notification to the Department and receipt of written authorization as provided herein.

104.02 Amending and Supplementing the Contract
The Department reserves the right to amend the contract and to modify the terms and conditions thereof prior to and during the performance of the work. All modifications that significantly change the character of the work and require a change in the contract price or contract times will be authorized by a work change directive and a change order issued by the Engineer and authorized by the Department. All adjustments to the contract price will be made according to the provisions of Article 104.03 and all adjustments to the contract times will be made according to the provisions of Article 108.11. Such modifications shall not invalidate the contract nor release the surety, and the Contractor shall promptly perform the work in accordance with the contract, as amended.

The Department also reserves the right to supplement the contract to provide for clarifications and interpretation thereof. Such supplemental information shall not significantly change the character of the work or require a change in the contract price or contract times. Supplemental information will be provided to the Contractor through field orders issued by the Engineer, written interpretations or clarifications provided by the Engineer, the Engineer’s issuance of shop, working, or layout drawings, the Engineer’s approval of shop, working, or layout drawings according to the provisions of Article 105.04, or the Engineer’s approval of samples and test results according to the provisions of Article 106.04. Such supplemental information shall not invalidate the contract nor release the surety, and the Contractor shall promptly perform the work in accordance with the contract as supplemented.

104.03 Alterations, Cancellations, Deductions, Extensions, and Extra Work
The Department reserves the right to order, in writing, at any time prior to or during the performance of the work, alterations to the work, changes in the quantities of work to be performed, including cancellations, deductions,

and extensions to the quantities of such work, and extra work to satisfactorily complete the project. Such alterations, changes, and inclusions shall not invalidate the contract nor release the surety, and the Contractor shall agree to perform the work as altered.

All alterations, cancellations, deductions, extensions, and extra work shall be authorized in writing by the Department. All such alterations, cancellations, deductions, extensions, and extra work will be ordered by a work change directive and a change order issued by the Engineer and authorized by the Department. Such work change directives and change orders shall establish the items of work involved and any adjustments to be made to the contract.

If the alterations, cancellations, deductions, extensions, or extra work significantly change the character of the work to be completed under the contract, an adjustment will be made to the contract. The basis for the adjustment shall be agreed upon by both the Contractor and the Department. If a basis cannot be agreed upon, then an adjustment will be made either for or against the Contractor in such amount as the Engineer may determine to be fair and equitable.

The term “significant change” shall apply only when the character of the work as altered differs materially in kind or nature from that involved or included in the original contract or when a major work item, defined as a work item whose original contract value exceeds ten percent (10%) of the total original contract value, is increased in excess of 125 percent (125%) or decreased below 75 percent (75%) of its original contract value.

If the alterations, cancellations, deductions, extensions, or extra work do not significantly change the character of the work to be performed under the contract, an adjustment will be made to the contract. The basis for the adjustment shall be as provided for below:

(a) All increases in work items that appear in the original contract with unit prices will, except as provided under paragraph (d) below, be paid for at the unit prices specified in the original contract. Such additions will be added to the contract value. All decreases in work items that appear in the original contract with unit prices will be deducted from the contract value at the unit prices specified in the original contract. No allowance will be made for loss of anticipated profits resulting from an increase or decrease in the quantities of work to be performed.

(b) Major work items, as defined above, which are increased to not more than 125 percent (125%) or decreased to not less than 75 percent (75%) of their original contract value will be paid for as specified in paragraph (a) above. Any adjustments made to the unit prices specified in the original contract for major work items which are increased to more than 125 percent (125%) of their original contract value (i.e., significant change) shall only apply to that portion of the major work item performed in excess of 125 percent (125%) of the original contract value. Any adjustments made to the unit prices specified in the original contract for major work items which are decreased to less than 75 percent (75%) of the their original contract value (i.e., significant change) shall apply to the actual amount of the major work item performed.

(c) Extra work items which are not included in the original contract and are not included in other items of the work will be paid for according to Article 109.05.

(d) Work items that appear in the original contract with unit prices which, for any one or more of the following reasons, experience a material increase or decrease in the cost to perform such work, provided that the reasons for such material increase or decrease in the cost to perform such work are not included in the other items of the work, will be paid for according to Article 109.05. Such reasons include:

    (1) Work involving a substantial change of location.

    (2) Work which differs in design.

    (3) Work requiring a change in the type of construction.

(e) In cases where the Department cancels or alters any portion of the work, work items which are partially completed will be paid for as specified in Article 109.07.

Claims for alterations to the work, changes that result in an increase or decrease in the quantities of work to be performed, and extra work that have not been authorized in writing by the Department will be rejected.

104.04 Use of Site

Land and access thereto required for construction, temporary construction facilities, and the storage of materials and equipment to be incorporated into the work are located on the site, and the Contractor shall confine such construction, temporary construction facilities, and the storage of materials and equipment to such site. If the Contractor should wish to use another area for the erection of temporary construction facilities, the storage of materials and equipment, or other purposes, he or she shall obtain written approval from the owner of such property and present such written approval to the Department prior to using such area. The Contractor shall not unreasonably encumber the site or other areas with construction facilities, materials, or equipment. In accordance with Article 107.15, the Contractor shall take all necessary precautions for the protection of the site and other areas during the prosecution of the work and shall be responsible for any damage to the site or other areas resulting from the prosecution of the work.

104.05 Differing Site Conditions

At the time of submitting a bid or quote to the Department, Contractor made a final commitment to the Department with respect to contract price and contract times, and by becoming bound to such by executing an agreement with the Department, the Contractor represented that it did not consider that further examinations, investigations, explorations, tests, studies, or data were necessary to determine his or her ability to perform the work at the contract price and within the contract times and in accordance with the other terms and conditions of the contract. However, during the progress of the work, if latent subsurface or physical conditions differing materially from those indicated in the contract documents or of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract documents, are encountered at the site, the Contractor shall, promptly after becoming aware of such conditions and before further disturbing such conditions or performing any work in connection therewith, notify the Department in writing about such conditions. Such latent subsurface or physical conditions, may include, but not be limited to those listed below.

(1) An underground obstruction which would prevent the installation of any part or detail of the work according to the lines, grades, elevations, and dimensions shown on the plans.

(2) Unsuitable soil or subsurface conditions which would cause shifting of any part or detail of the work in any direction.

(3) Any conditions which would affect the stability of any part or detail of the work or the ability of any part or detail of the work to support the loading to be placed upon it.

Upon written notification to the Department, the Engineer will investigate the conditions, and if he/she determines the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the contract, an adjustment, excluding loss of anticipated profits, will be made and the contract modified in writing accordingly. The Engineer will notify the Contractor and the Department of his/her determination whether or not an adjustment of the contract is warranted.

No contract adjustment which results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice. No contract adjustment will be allowed for any effects caused on unchanged work.

The Contractor shall not be entitled to any contract adjustment if the Contractor knew of the existence of such latent subsurface or physical conditions at the time the Contractor made a final commitment to the Department with respect to contract price and contract times and became bound to such by executing an agreement with the Department or the existence of such conditions could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study conducted by or for the Contractor prior to the Contractor making such final commitment.

Any adjustment in contract price made because of a change or changes resulting from one or more the conditions described above will be made in accordance with Article 104.03. Any adjustment in contract times made because of such change or changes will be made in accordance with Article 108.11.

104.06 Rights In and Use of Materials Found on the Site
The Contractor, with the approval of the Department, may use on the work such stone, gravel, sand, or other materials determined suitable by the Department as may be found within the limits of the proposed construction, and will be paid both for the excavation of such materials at the corresponding contract unit price and for the pay item for which the excavated material is used. The Contractor shall replace, at no additional cost to the Department, with other acceptable material, all of that portion of the excavated material so removed and used which was needed for use in embankments, backfills, structures, or otherwise. No charge for the materials so used will be made against the Contractor. The Contractor shall not excavate or remove any material from within the site which is not within the limits of the proposed construction, as indicated by the slope and grade lines, without written authorization from the Department.

104.07 Site Clean Up
During the prosecution of the work, the Contractor shall maintain the site in a neat and presentable condition, free from debris and rubbish. The Contractor shall clean the site of all debris and rubbish at the end of each day's operations, and at other times as directed by the Department. The Contractor shall furnish the type and size of receptacles and equipment and conduct the work necessary to maintain the site and adjacent premises free from such debris and rubbish.

The cost incurred by the Contractor in complying with this requirement shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

104.08 Final Site Clean Up
Before final acceptance, all ground occupied or disturbed by the Contractor in connection with the work shall be cleaned of all rubbish, excess materials, temporary structures, and equipment, and all parts of the work shall be left in a neat and presentable condition.

The cost incurred by the Contractor in complying with this requirement shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

SECTION 105
CONTROL OF WORK

105.01 Authority of Engineer
All work of the contract shall be completed to the satisfaction of the Engineer. The Engineer will have authority to reject all work which the Engineer believes to be defective, or that the Engineer believes will not produce a completed project that conforms to the contract documents or will prejudice the integrity of the design concept of the completed project as a functioning whole. The Engineer will also have authority to require special inspection of the work by an inspector to evaluate its acceptability.

The decision of the Engineer shall be final on all questions which may arise regarding, but not limited to, the quality and acceptability of materials and work; the manner of performance; acceptable rates of progress on the work; the interpretation of the contract plans and specifications; the fulfillment of the contract; the measurement of quantities and payment under the contract; and the determination of the existence of changed or differing site conditions.

The Department will notify the Contractor in writing if the work is to be suspended wholly or in part due to the failure of the Contractor to carry out provisions of the contract or failure to carry out orders of the Engineer. The work may also be suspended at the Contractor's risk for such periods as the Engineer may deem necessary due to unsuitable weather; for conditions considered unsuitable for the prosecution of the work; or, for any other condition or reason deemed to be in the public interest.

The contract does not require the Engineer to provide the Contractor with direction or advice on how to do the work. If the Engineer approves or recommends any method or manner for doing the work, the approval or recommendation shall not guarantee that following the method or manner will result in compliance with the contract, relieve the Contractor of the risks and obligations of the contract, or create liability for the Engineer.

In case of failure on the part of the Contractor to execute work ordered by the Engineer, the Department may, at the expiration of a period of 48 hours after giving notice in writing to the Contractor, proceed to execute such work

as may be deemed necessary, and the cost thereof will be deducted from compensation due or which may become due the Contractor under the contract.

105.02 Duties of Engineer

The authority of the Engineer during performance of the work is set forth in Article 105.01. His or her duties and responsibilities during performance of the work are set forth below.

The Engineer will make visits to the site as he or she deems necessary in order to observe, as an experienced and qualified design professional, the progress that has been made in and the quality of the various aspects of the work. Based on information obtained during such visits and observations, the Engineer will determine, in general, if the work is proceeding in accordance with the contract documents. The Engineer will not be required to make exhaustive or continuous inspections of the site to check the quality or quantity of the work or to evaluate its acceptability. The Engineer will keep the Department informed of the progress of the work and will endeavor to guard the Department against defective work.

If it is determined to be in the best interest of the Department, the Department may furnish a Resident Project Representative to assist the Engineer in providing more extensive observation of the work. The duties of any such Resident Project Representative are described in Article 105.14, and the limitations on his or her authority are also provided therein.

In accordance with Article 105.01, all work of the contract shall be completed to the satisfaction of the Engineer. The Engineer will have authority to reject work which the Engineer believes to be defective, or that the Engineer believes will not produce a completed project that conforms to the contract documents or will prejudice the integrity of the completed project as a functioning whole. The Engineer will also have authority to require special inspection of the work by an inspector to evaluate its acceptability.

During the performance of the work, the Engineer shall have the duties and authority described above, in Article 105.01, and elsewhere in the contract documents. In performing such duties, the Engineer shall not assume any responsibilities of the Contractor or any subcontractors, suppliers, individuals, or entities performing work or labor for or rendering services or supplies to the Contractor. The Engineer shall not have control or authority over, nor be responsible for, the Contractor’s means, methods, techniques, sequences, or procedures of construction, or for the Contractor’s safety precautions and programs incident thereto, or for any failure of the Contractor to comply with laws and regulations applicable to the performance of the work. The Engineer will not be responsible for the Contractor’s failure to perform the work in accordance with the contract documents.

105.03 Conformity with Contract

All work performed and all materials furnished shall be in conformity with the contract and the lines, grades, elevations, dimensions, and material and construction requirements shown on the plans or indicated in the contract documents. All work or material which does not conform to the requirements of the contract will be considered unacceptable. Prompt notice of all unacceptable work of which the Engineer is aware will be given to the Contractor by the Engineer.

Unacceptable work, whether the result of poor workmanship, use of defective or unacceptable materials, damage through carelessness, or other cause, and unacceptable materials shall be removed and replaced or otherwise corrected in an acceptable manner at no additional cost to the Department.

The Department reserves the right to accept work produced by the Contractor if the Engineer finds the noncompliant materials, the finished product in which the noncompliant materials are used, or the nonconforming work are in close conformity with the contract. In this event, the Engineer will document the basis of acceptance by contract modification which may provide for an appropriate adjustment in the contract value for such work or materials as the Engineer deems necessary to conform to the determination. The determination of the Department will be based on the best engineering judgment of the Engineer and shall be final and binding.

Work done contrary to instructions given by the Engineer, work done beyond the limits shown on the plans, or any extra work performed without the written authorization of the Department will be considered as unacceptable and will not be paid for under the contract. Work so done may be ordered removed or replaced at no additional cost to the Department.

For unacceptable work that impacts the environment, a deduction will be applied to monies due or that might become due the Contractor. These deficiency deductions will be applied as follows.

(a) Soil Erosion and Sediment Control (SE/SC) Deficiency Deduction. When the Engineer is notified of or determines that a soil erosion and/or sediment control deficiency(s) exists, or the Contractor's activities represent a violation of the Department's soil erosion and/or sediment control permits, the Engineer will notify and direct the Contractor to correct the deficiency within a specified time. The specified time, which begins upon notification to the Contractor, will be from 1/2 hour to 1 week based on the urgency of the situation and the nature of the work effort required. The Engineer will be the sole judge of the adequacy of the specified time.

A deficiency may be any lack of maintenance, repair, or implementation of any of the soil erosion and/or sediment control practices included in the contract, or any failure to comply with the conditions of the Department's soil erosion and/or sediment control permits. A deficiency may also be applied to situations where corrective action is not an option, such as the failure to participate in an inspection of the project, failure to install required soil erosion and/or sediment control practices prior to initiating earth moving operations, disregard of concrete washout requirements, or other disregard of the Department's soil erosion and/or sediment control permits.

If the Contractor fails to correct a deficiency within the specified time, a daily monetary deduction will be imposed for each calendar day or portion thereof until the deficiency is corrected to the satisfaction of the Engineer. The count of calendar day(s) will begin with notification to the Contractor and end with the Engineer's acceptance of the correction. The base value of the daily monetary deduction is $1,000.00. The value of the deficiency deduction assessed will be determined by multiplying the base value by a Gravity Adjustment Factor provided in Table A; except for failure to participate in a required inspection of the project prior to initiating earthmoving operations, which will be based on the total acreage of planned disturbance at the following multipliers: <5 Acres: 1; 5-10 Acres: 2; >10-25 Acres: 3; >25 Acres: 5. For those deficiencies where corrective action was not an option, the monetary deduction will be immediate and will be valued at one calendar day multiplied by a Gravity Adjustment Factor.

Table A
Deficiency Deduction Gravity Adjustment Factors

Types of Violations	Soil Disturbed and Not Permanently Stabilized at Time of Violation			
	< 5 Acres	5 - 10 Acres	> 10 - 25 Acres	> 25 Acres
Failure to Install, Repair, or Maintain BMP	0.1 - 0.5	0.2 - 1.0	0.5 - 2.5	1.0 - 5
Careless Destruction of BMP	0.2 - 1.0	0.5 - 2.5	1.0 - 5	1.0 - 5
Intrusion into Protected Resource	1.0 – 5	1.0 - 5	2.0 - 10	2.0 - 10
Failure to properly manage Chemicals, Concrete Washouts or Residuals, Litter or other Wastes	0.2 - 1.0	0.2 - 1.0	0.5 - 2.5	1.0 - 5
Improper Vehicle and Equipment Maintenance, Fueling, or Cleaning	0.1 - 0.5	0.2 - 1.0	0.2 - 1.0	0.5 - 2.5
Failure to Provide or Update Written or Graphic Plans Required by SWPPP	0.2 - 1.0	0.5 - 2.5	1.0 - 5	1.0 - 5
Failure to Comply with Other Provisions of Department's SE/SC Permits	0.1 - 0.5	0.2 - 1.0	0.2 - 1.0	0.5 - 2.5

The statement elsewhere in the contract of remedies for the use of unacceptable materials or for unacceptable work shall not be exclusive of the remedies provided in this Article unless expressly provided therein.

Upon failure of the Contractor to comply with any order of the Engineer made under the provisions of this Article, the Engineer will have authority to cause the unacceptable work, or deficiency(s), to be corrected,

removed or replaced, and to deduct the cost from any monies due or to become due the Contractor. This corrective action will in no way relieve the Contractor of their contractual requirements or responsibilities.

105.04 Plans and Working Drawings

Construction plans that show the location, character, dimensions, and details of the work to be performed and prescribe a complete outline of the work which the Contractor is to complete will be furnished by the Department. In accordance with Article 104.02, the Department reserves the right to provide supplemental information prior to and during the performance of the work to further clarify, detail, and illustrate the work. Consequently, the Engineer may furnish additional shop, working, or layout drawings or written interpretations or explanations to the Contractor. Such supplemental information shall not invalidate the contract nor release the surety, and the Contractor shall promptly perform the work in accordance with the contract as supplemented.

The Contractor shall submit to the Engineer for approval such additional shop, working, or layout drawings pertaining to the construction of the work as may be required by the contract documents. Approval of such shop, working, or layout drawings by the Engineer is required before proceeding with the work represented by such drawings. Prior to the approval of such additional shop, working, or layout drawings, any work performed or materials ordered to facilitate the completion of the work represented within such drawings shall be at the sole risk of the Contractor.

Such additional shop, working, or layout drawings shall be provided to the Engineer in a timely manner in order to allow for review by the Engineer. The Engineer may require up to 14 days, after receipt of the submittal, for review. Such review may involve rejection, revision, or resubmittal when the submittal does not meet the contract requirements or does not contain sufficient detail, in which case, up to an additional 14 days may be required for each subsequent review. Approval, by the Engineer, of any additional shop, working, or layout drawings submitted by the Contractor shall not confer upon the Engineer any responsibility for the accuracy of the drawings. The Contractor shall bear all risk and all costs for any delays in the performance of the work associated with the preparation, review, and approval of such additional shop, working, or layout drawings.

105.05 Coordination of the Contract Documents

The documents included in the contract are intended to be complementary and to describe a complete work. Before undertaking each part or detail of the work, the Contractor shall carefully study and compare the contract documents, checking and verifying pertinent figures therein, and shall carefully review all applicable field measurements. The Contractor shall promptly report in writing to the Department any conflict, error, ambiguity, or discrepancy which the Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from the Engineer before proceeding with any work affected thereby.

If, during the performance of the work, the Contractor discovers any conflict, error, ambiguity, or discrepancy within the contract documents, or between the contract documents and: (a) any applicable law or regulation; (b) any standard, specification, manual, or code; or, (c) any instruction of any supplier, then the Contractor shall promptly report it in writing to the Department. The Contractor shall not proceed with the work affected thereby, except in an emergency, in accordance with Article 107.31, until the apparent conflict, error, ambiguity, or discrepancy has been resolved by the Engineer.

Upon written notification, the Engineer will investigate such conflict, error, ambiguity, or discrepancy. If the Engineer determines a conflict, error, ambiguity, or discrepancy exists in or between the contract documents, an amendment or supplement to the contract documents will be issued by the Department in accordance with Article 104.02. The following hierarchy will be applied by Engineer in resolving any conflict, error, ambiguity, or discrepancy in or between the contract documents.

Hierarchy of the Contract Documents		
Special Provisions	Hold over:	Technical Specifications, Construction Plans, General Specifications
Technical Specifications	Hold over:	Construction Plans, General Specifications
Construction Plans	Hold over:	General Specifications

Except as may be otherwise specifically stated in the contract documents, the provisions of the contract documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the contract documents and the provisions of any standard, specification, manual, or code, or the instruction of any

supplier, whether or not specifically incorporated by reference in the contract documents, or the provisions of any laws or regulations applicable to the performance of the work, unless such an interpretation would result in violation of such law or regulation.

105.06 Reference Standards

Reference, within the contract documents, to standards, specifications, manuals, or codes of any organization, technical society, or association, or to laws or regulations, whether such reference be specific or be implied, shall mean the standard, specification, manual, code, or laws or regulations in effect at the time of opening of bids or quotes, except as may be otherwise specifically stated in the contract documents. No provision of any such standard, specification, manual, or code, or any instruction of a supplier, shall be effective to change the duties or responsibilities of the Department, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the contract documents. No such provision or instruction shall be effective to assign to the Department, Engineer, or any of their officers, directors, members, partners, employees, agents, or consultants, any duty or authority to supervise or direct the performance of the work or any duty or authority to undertake the Contractor's responsibilities with regards to the performance of the work.

105.07 Cooperation by Contractor

The Contractor will be supplied with a minimum of two sets of approved construction plans and contract documents, one set of which the Contractor shall keep available on the work at all times. In receiving copies of the contract documents from the Department, the Contractor shall not have or acquire any title to or ownership rights in any of the plans, specifications, or other contract documents, or copies thereof, prepared by or bearing the seal of the Department or its consultants, including electronic media versions, or reuse any such plans, specifications, or other contract documents, or copies thereof, on extensions of the project or any other project, without the written consent of the Department and without specific written approval of such adaptation by the Engineer. The prohibitions of this Article shall survive final payment or termination of the contract. Nothing herein shall preclude the Contractor from retaining copies of the contract documents for record purposes.

The Contractor shall give the work the constant attention necessary to facilitate the progress thereof, and shall cooperate with the Department, the Engineer, and other contractors in every way possible. The Contractor shall supervise, inspect, and direct the work competently and efficiently, applying such skills and expertise as may be necessary to perform the work in accordance with the contract documents and shall have competent, suitably qualified personnel on the work at all times. The Contractor shall at all times maintain good discipline and order at the site.

The Contractor shall have on the work at all times, as the Contractor's agent, a competent English-speaking superintendent, capable of reading and thoroughly understanding the plans and specifications and thoroughly experienced in the type of work being performed, who shall have the authority to receive instructions from the Engineer. The superintendent shall have full authority to execute orders or directions of the Engineer without delay, and to promptly supply such materials, equipment, tools, labor, and incidentals as may be required to perform the work in accordance with the contract documents. Such superintendent shall be furnished irrespective of the amount of work subcontracted. Such superintendent shall not be replaced without written notice to the Department.

105.08 Cooperation with Utilities

The Contractor shall be aware of the location of all utilities on or adjacent to the project site prior to the start of work. Within the State of Indiana, a statewide one call notice system has been established for notifying utility companies about locating their facilities. The system is known as Indiana 811. All utility companies and municipalities that have buried utility facilities in the State of Indiana are part of this system. The Contractor shall request all utility owners to locate their facilities by contacting Indiana 811 at (800) 382-5544 or 811 at least 48 hours prior to the start of the work. The Contractor shall be responsible for maintaining all markers or excavations provided by the utility owners.

The Contractor shall take all necessary precautions for the protection of utility facilities located on or adjacent to the site. The Contractor shall be responsible for any damage or destruction of utility facilities resulting from neglect, misconduct, or omission in the Contractor's manner or method of execution or nonexecution of the work, or caused by defective work or the use of unsatisfactory materials. Should any damage or destruction of a utility facility occur during performance of the work, the Contractor shall immediately notify the utility owner and the Department. Arrangements will be made to restore such facility to a condition equal to that existing before any such damage or destruction was done. The cost of such restoration shall be the sole responsibility of the Contractor.

(a) Known Utilities. Prior to construction, the Department will notify all known utility owners regarding the proposed work. Based on information obtained from the various utility owners, all known existing utilities will be indicated on the plans. As it is based on information obtained from the various utility owners, the accuracy of the plans with regards to the various known existing utilities is not guaranteed by the Department.

Generally, arrangements for adjusting known utilities will be made by the Department prior to project construction; however, utilities will not necessarily be adjusted in advance of project construction and, in many cases, utilities will not be removed from the project limits. Utilities to be adjusted during project construction shall be adjusted by the utility owner or the utility owner's representative, except as otherwise provided for in the contract documents. The Contractor shall coordinate with any planned or required utility adjustment that is scheduled to occur during project construction. When the Contractor discovers a utility has not been adjusted by the utility owner or the utility owner's representative in accordance with in the contract documents, the Contractor shall promptly notify the Department.

The Contractor shall take all necessary precautions to prevent disturbance of or damage to all existing utilities. Prior to the start of work, the Contractor shall request all known utility owners to locate their facilities by contacting Indiana 811 at (800) 382-5544 or 811 at least 48 hours prior to the start of the work. The Contractor shall be responsible for maintaining all markers or excavations provided by the utility owners. This field location procedure may be waived if the utility owner has stated in writing to the Department that it is satisfied the construction plans are sufficiently accurate. If the utility owner does not submit such statement to the Department, and they do not field locate their facilities in both horizontal and vertical alignment, the Engineer will authorize Contractor in writing to proceed to locate the facilities in the most economical and reasonable manner, subject to the approval of the Department, and be paid according to Article 109.05.

When the Contractor discovers a utility is not shown on the construction plans and conflicts with the proposed work, the Contractor shall not interfere with said utility, shall take proper precautions to prevent damage or interruption of the utility, and shall notify the Department of the nature and location of said utility.

The Contractor shall be responsible for any damage or destruction of utility facilities resulting from neglect, misconduct, or omission in the Contractor's manner or method of execution or nonexecution of the work, or caused by defective work or the use of unsatisfactory materials. Whenever any damage or destruction of a utility facility occurs as a result of work performed by the Contractor, the Contractor shall immediately notify the utility owner and the Department. Arrangements will be made to restore such facility to a condition equal to that existing before any such damage or destruction was done. The cost of such restoration shall be the sole responsibility of the Contractor.

No additional compensation will be allowed for any delays, inconveniences, or damages sustained by the Contractor due to the presence of or any claimed interference from any known utility facilities or any adjustment of them.

(b) Unknown Utilities. Except as provided hereinafter, the discovery of an unknown utility will be evaluated according to Article 104.05.

(1) Definition. An unknown utility is defined as an active or inactive underground utility, which is neither (a) shown in any way in any location on the contract documents; nor, (b) identified in writing by the Department to the Contractor prior to the letting. Service connections shall not be considered to be unknown utilities.

(2) Compensation. Compensation will not be allowed for delays, inconveniences, or damages sustained by the Contractor from unknown utilities not meeting the above definition or if the discovery of an unknown utility does not cause a shutdown of the work applicable to the utility but only a change in the rate of progress. The provisions of Article 104.05 notwithstanding, compensation for unknown utility delays determined to be a changed condition will be paid according to the provisions of this Article governing minor and major delays.

(3) Minor and Major Delays. Minor and major delays are defined as follows.

a. Minor Delay. When the Contractor's operation is stopped by the unknown utility for more than two hours, but not to exceed three weeks.

b. Major Delay. When the Contractor's operation is stopped by the unknown utility for more than three weeks.

(4) Payment. Payment for minor and major delays will be made as follows.

a. Minor Delay. Labor idled which cannot be used on other work will be paid for according to Article 109.05(b)(1) and (2) for the time between start of the delay and the minimum remaining hours in the work shift required by the prevailing practice in the area.

Equipment idled which cannot be used on other work, and which is authorized to standby on the project site by the Engineer, will be paid for according to Article 109.05(b)(4).

b. Major Delay. Labor will be the same as for a minor delay.

Equipment will be the same as for a minor delay, except Contractor-owned equipment will be limited to three weeks plus the cost of move-out to either the Contractor's yard or another job, whichever is less. Rental equipment may be paid for longer than three weeks provided the Contractor presents adequate support to the Department (including lease agreement) to show retaining equipment on the job is the most economical course to follow and in the public interest.

If the delay is clearly shown to have caused work, which would have otherwise been completed, to be done after material of labor costs have increased, such increases may be paid. Payment for materials will be limited to increased cost substantiated by documentation furnished by the Contractor. Payment for increased labor rates will include those items in Article 109.05(b)(1) and (2), except the 35 percent and ten percent additives will not be permitted.

Project overhead (not including interest) will be allowed when all progress on the contract has been delayed, and will be calculated as fifteen percent of the delay claim.

(5) Other Obligations of Contractor. Upon payment of a claim under this provision, the Contractor shall assign subrogation rights to the Department for the Department's efforts of recovery from any other party for monies paid by the Department as a result of any claim under this provision. The Contractor shall fully cooperate with the Department in its efforts to recover from another party any money paid to the Contractor for delay damages under this provision.

105.09 Cooperation Between Contractors

The Department reserves the right at any time to contract for and perform other or additional work on or near the work covered by the contract. Each contractor shall conduct his/her work so as not to interfere with or hinder the progress or completion of the work being performed by other contractors. In case of dispute, the Engineer shall be the referee and the Engineer's decision shall be final and binding on all.

Each contractor involved shall assume all liability, financial or otherwise, in connection with his/her contract, and shall protect and save harmless the Department from any and all damages or claims that may arise because of inconvenience, delay, or loss experienced by the Contractor because of the presence and operation of other contractors working within the limits of the same improvement. Each contractor shall assume all responsibility for all work not completed or accepted because of the presence and operations of the other contractors.

The Contractor shall arrange the work and shall place and dispose of the materials being used so as not to interfere with the operations of the other contractors within the limits of the same project. The Contractor shall join his/her work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

105.10 Survey Control Points

Survey control points will be set by the Department, unless specified otherwise in the contract, to establish the horizontal and vertical control required for construction of the various contract items of work. The Department will be responsible for the accuracy of the control points. The Contractor shall assume full responsibility for all dimensions and measurements taken or derived by the Contractor from control points set by the Department.

The Contractor shall preserve and protect all control points set by the Department. If the Contractor removes, disturbs, or otherwise displaces any control point, without the prior approval of the Department, the Department may deduct the direct cost incurred by the Department in re-establishing the control point from compensation due the Contractor.

105.11 Construction Layout and Survey

The Contractor shall coordinate with the Engineer to review each part or detail of the work prior to the start of such work and shall be responsible for laying out each part or detail of the work as and when necessary to ensure that such work will be installed in accordance with the lines, grades, elevations, and dimensions shown in the construction plans. The Contractor shall also be responsible for surveying the work as it is completed to verify consistency with the lines, grades, elevations, and dimensions shown in the construction plans. Survey control points will be set and, using materials furnished by the Contractor, marked by the Department prior to the start of the work in accordance with Article 105.10.

The Contractor shall use the following materials to lay out the work.

(1) Paint. The Contractor shall use white, pink, or purple paint in aerosol cans to lay out the work. At no time shall any of the colors used by JULIE to mark utilities, and described in Article 107.24, be used to lay out the work.

(2) Lath. The Contractor shall use lath to lay out the work. The lath shall be as follows.

  (a) Each lath shall be 1-1/8” x 1/2” x 48”.

  (b) Each lath shall be kiln dried Douglas fir, oak, or maple and surfaced on the two larger sides and without splits, pitch pockets, wane, knots, or decayed wood.

  (c) The tapered end of each lath may be saw cut or pencil point tapered.

All construction layout and survey work shall be completed to the satisfaction of the Engineer and the decision of the Engineer shall be final on all questions which may arise regarding thereto. The Contractor shall provide competent, suitably qualified personnel and the equipment necessary to conduct the construction layout and survey work and shall assume full responsibility for all dimensions and measurements taken or derived by the Contractor from control points set by the Department.

The cost incurred by the Contractor in complying with the requirements of this Article shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

105.12 Inspection of Work

All materials and each part or detail of the work shall be subject at all times to inspection by the Engineer. Such inspection may include mill, plant, or shop inspection, and any material furnished under the specifications is subject to such inspection. The Engineer shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the Engineer requests, the Contractor shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the contract documents. Should the work thus exposed or examined prove acceptable, the uncovering or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering or removing, and the replacing of the covering or making good of the parts removed, will be at no additional cost to the Department.

105.13 Verification of Lines, Grades, Elevations, and Dimensions

All lines, grades, elevations, and dimensions associated with each part or detail of the work shall be subject at all times to inspection and verification by the Engineer. Such verification may include review of the construction survey work completed by the Contractor in accordance with Article 105.11. During the performance of the work, the Engineer shall be furnished with such information and assistance by the Contractor as is required to make such inspections and to verify the lines, grades, elevations, and dimensions associated with each part or detail of the work.

Prior to final acceptance of the work, the Contractor will be required to furnish an as-built survey illustrating all lines, grades, elevations, and dimensions associated with each part or detail of the work, such as-built survey clearly indicating, in red, any deviations from the lines, grades, elevations, and elevations shown in the construction plans.

The cost incurred by the Contractor in complying with the requirements of this Article shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

105.14 Duties of Resident Project Representative

Should a Resident Project Representative be furnished by the Department in accordance with Article 105.02, such Resident Project Representative will assist the Engineer in providing more extensive observation of the work. The Resident Project Representative will act as directed by and under the supervision of the Engineer and will confer with the Engineer regarding his or her actions. The Resident Project Representative's dealings in matters pertaining to the work shall, in general, be with the Engineer and Contractor. The Resident Project Representative's dealings in matters pertaining to the work with subcontractors or suppliers shall be through or with the full knowledge and approval of the Contractor.

During performance of the work, the Resident Project Representative will serve as the Department's liaison with the Contractor, working principally through the Contractor's designated superintendent, providing the Contractor with information regarding the intent of the contract documents and obtaining additional details and information from the Engineer when required for proper execution of the work. The Resident Project Representative will consult with the Engineer when interpretations, clarifications, and explanations of the contract documents are requested by the Contractor. As a result of such consultation, the Engineer will supplement or amend the contract, in accordance with Article 104.02, as necessary to further clarify, detail, and illustrate the work.

The Resident Project Representative will also accept proposed adjustments to the approved schedules, samples, and shop, working, or layout drawings. The Engineer's review and acceptance of such proposed adjustments will be in accordance with the provisions of the contract documents related thereto.

The Resident Project Representative will conduct on-site observations of the Contractor's work to assist the Engineer in determining if the work is, in general, proceeding in accordance with the contract documents. The Resident Project Representative will consult with the Engineer whenever her or she believes that any part of the Contractor's work is defective, or believes that such work will not produce a completed project that conforms to the contract documents or will prejudice the integrity of the completed project as a functioning whole. As a result of such consultation, the Engineer will conduct such inspections as are necessary to evaluate the acceptability of the work in question. The Resident Project Representative will assist the Engineer with such project inspections to determine whether the work has been satisfactorily completed.

The Resident Project Representative will further assist the Engineer during performance of the work by attending meetings with the Contractor, such as the preconstruction meeting and progress meetings, maintaining records for use in preparing project documentation, furnishing periodic reports of the Contractor's progress on the work and his or her compliance with the approved schedules, and drafting and recommending field orders, change orders, and work change directives that he or she believes necessary for proper execution of the work. The Resident Project Representative will also review applications for payment for compliance with the provisions of the contract documents related thereto and will forward such applications, along with his or her recommendations regarding such applications, to the Engineer.

During the performance of the work, the Resident Project Representative shall have the duties and authority described above. In performing such duties, the Resident Project Representative shall not assume any responsibilities of the Contractor or any subcontractors, suppliers, individuals, or entities performing work or labor for or rendering services or supplies to the Contractor. The Resident Project Representative shall not have control or authority over, nor be responsible for, the Contractor's means, methods, techniques, sequences, or procedures of construction, or for the Contractor's safety precautions and programs incident thereto, or for any failure of the Contractor to comply with laws and regulations applicable to the performance of the work. The Resident Project Representative will not be responsible for the Contractor's failure to perform the work in accordance with the contract documents. Any change in or deviation from the contract documents shall only be authorized by the Department in accordance with the provisions of the contract documents related thereto.

105.15 Duties of Inspector
Inspectors will be authorized to inspect all work done and materials furnished. Such inspections may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. Inspectors will not be authorized to alter or waive the provisions of the contract. Inspectors will not be authorized to issue instructions contrary to the plans and specifications, or to act as foreman for the Contractor.

105.16 Duties of Department
Except as otherwise provided in the contract documents, the Department shall issue all communications to the Contractor through the Engineer. During performance of the work, the Department shall furnish required data and information, execute supplements and amendments to the contract documents issued by the Engineer to further clarify, detail, illustrate, or direct the work, and make payments as they are due in accordance with the provisions of the contract documents related thereto.

During the performance of the work, the Department shall have the duties and authority described above and elsewhere in the contract documents. In performing such duties, the Department shall not have control or authority over, nor be responsible for, the Contractor's means, methods, techniques, sequences, or procedures of construction, or for the Contractor's safety precautions and programs incident thereto, or for any failure of the Contractor to comply with laws and regulations applicable to the performance of the work. The Department will not be responsible for the Contractor's failure to perform the work in accordance with the contract documents.

105.17 Substantial Completion
When the Contractor considers the entire project to be complete and ready for its intended use, the Contractor shall notify the Department in writing that the entire work is substantially complete, except for items specifically listed by the Contractor as incomplete, and request that the Department issue a certificate of substantial completion. Promptly after such notification is received by the Department, the Contractor and Engineer shall make an inspection of the work to determine the status of completion. If the Engineer does not consider the work to be substantially complete, the Department will notify the Contractor in writing giving the reasons therefor. If the Engineer does consider the work to be substantially complete, the Department will deliver to the Contractor a certificate of substantial completion. There shall be attached to the certificate a list of items to be completed or corrected before final inspection and payment.

The Department shall have the right to exclude the Contractor from the site after the date of substantial completion subject to allowing the Contractor reasonable access to remove its property and complete or correct items on the list.

105.18 Final Inspection
Upon due notice from the Contractor to the Department of completion of the entire project, the Engineer will make an inspection. If all construction provided for and contemplated by the contract is found satisfactorily completed according to all of the requirements of the contract, the inspection shall constitute the final inspection and the Department will notify the Contractor in writing of the date of the final inspection.

If the inspection discloses any work, in whole or in part as being unsatisfactory, the Department will give the Contractor the necessary instructions for correction of same, and the Contractor shall immediately comply with such instructions. Upon correction of the work, another inspection will be made which shall constitute the final inspection provided the work has been satisfactorily completed. In such event, the Department will notify the Contractor in writing of the date of the final inspection.

105.19 Warranty and Guarantee
The Contractor warrants and guarantees that all work will be in accordance with the contract documents and will not be defective. This warranty shall apply to the work for a period of one year following the date of acceptance of the final application for payment by the Engineer (i.e., final acceptance date). Any part or detail of the work that becomes or is determined to be defective in any manner during such one year warranty period, except for defects resulting from normal wear and tear and force majeure events, and defects determined by the Engineer to have resulted from causes other than the Contractor's failure to perform the work in accordance with the contract documents, shall be removed and replaced by the Contractor at no additional cost to the Department. Such defective work shall be removed and replaced within 30 days of receiving written notice from the Engineer of the need for removal and replacement of such defective work.

Upon final acceptance of the work, the Contractor will be required to furnish a maintenance bond in the penal sum of ten percent (10%) of the full amount of the contract price, on a form approved by the Engineer, executed in accordance with the bidding documents, and issued by a surety acceptable to the Department and authorized to transact business under the laws of the State of Indiana. The Contractor will be required to furnish such maintenance security to the Department within fifteen days of the final acceptance date (i.e., date of acceptance of the final application for payment by the Engineer). The maintenance security shall stand as a guarantee that the Contractor will correct defective work during the one year warranty period.

The maintenance security of the Contractor will be retained until the end of the one year warranty period. If the Contractor fails to remove and replace defective work in accordance with this Article, the Department may consider the Contractor to be in default, and the maintenance security of the Contractor may be forfeited.

SECTION 106
CONTROL OF MATERIALS

106.01 Source of Supply and Quality Requirements

The materials used on the work shall meet all quality requirements of the contract. The Contractor shall notify the Department of the proposed sources of materials prior to delivery. At the option of the Department, materials may be approved at the source of supply before delivery is started. If it is found after trial that sources of supply for previously approved materials do not produce uniform and satisfactory products, or if the product from any source proves unacceptable at any time, the Contractor shall furnish acceptable materials from other sources.

All materials to be permanently incorporated in the work shall be new unless otherwise specifically prescribed in the contract documents.

All iron and steel products, which are to be incorporated into the work shall be domestically manufactured or produced and fabricated. The Contractor shall obtain from the iron or steel producer and/or fabricator, in addition to the mill analysis, a certification that all iron or steel materials meet these domestic source requirements.

The application of all coatings, epoxy, galvanizing, painting, etc., to metal products shall be domestically applied.

106.02 Equivalent Materials

The materials used on the work shall meet all requirements of the contract documents. Whenever a material is specified or described in the contract documents by using the name of a proprietary item or the name of a particular manufacturer and product, the specification or description is intended to establish the type, function, appearance, and quality required and the term “or equal” shall be implied. The naming of a proprietary item or a particular manufacturer and product in the contract documents shall only be construed as indicating the type, function, appearance, and quality or material required on the work and shall not be construed as preventing or restricting the use of another manufacturer’s product on the work, provided that such product has equivalent properties to that named in the contract documents.

Materials other than those specified or described in the contract documents using the name of a proprietary item or the name of a particular manufacturer and product may be submitted to the Department for review and approval. If, in the Engineer’s sole discretion, an item submitted by the Contractor for review is functionally equivalent to that named in the contract documents, it may be approved by the Department as an “or equal” item. Materials may be accepted as “or equal” items provided that the following conditions are met.

(1) The Contractor notifies the Department in advance of his or her intention to use materials other than those specified or described in the contract documents.

(2) Written evidence, including descriptive literature, specifications, shop drawings, and test results, in English, that the proposed material is functionally equivalent to that specified or described in the contract documents, is provided to the Engineer.

(3) When requested by the Engineer, all necessary samples are taken and all necessary tests are completed by a qualified inspector, without charge to the Department, to evaluate the proposed material’s properties and functional equivalency to the material specified or described in the contract documents.

The burden of proof as to the merit of a proposed “or equal” item shall be upon the Contractor. The Department may require the Contractor to furnish data, in addition to that listed above, about the proposed “or equal” item to allow for the Engineer’s review and evaluation of the proposed material. The Contractor shall provide all such data at his or her expense.

The Department shall be allowed a reasonable time within which to evaluate each proposed “or equal” item. In all instances the Engineer shall be the sole judge of the equivalency of a material to that specified or described in the contract documents.

The Contractor shall be responsible for complying with the requirements of this Article so that a proposed “or equal” item can be evaluated prior to the time it is required, and no proposed “or equal” item shall be ordered or incorporated into the work until approval for its use has been obtained from the Department. Any work in which proposed “or equal” items have been used without prior approval of the Department shall be performed at the Contractor’s risk and may be considered as unacceptable or unauthorized, may not be paid for, and may need to be removed and replaced.

106.03 Unacceptable Materials

All materials not conforming to the requirements of the contract at the time they are used will be considered unacceptable and all such materials will be rejected and shall be removed immediately from the site of the work unless otherwise instructed by the Engineer. If in place, they shall be removed and replaced with acceptable materials at no additional cost to the Department. No rejected material, the defects of which have been corrected, shall be used until approval has been given. Upon failure of the Contractor to comply forthwith with any order of the Engineer pursuant to the provisions of this Article, the Department shall have authority to remove and replace defective materials and to deduct the cost of removal and replacement from any monies due or to become due the Contractor.

106.04 Samples, Tests, and Cited Specifications

All materials shall be approved by the Department before incorporation in the work. The Contractor shall provide sufficient advance notice to allow for necessary samples to be taken and necessary tests to be completed by a qualified inspector before the materials are incorporated in the work. All necessary samples shall be taken and all necessary tests shall be completed by a qualified inspector without charge to the Department.

Any work in which untested and unaccepted materials are used without approval or written permission of the Department shall be performed at the Contractor’s risk and may be considered as unacceptable or unauthorized and will not be paid for. Samples shall be taken and tests shall be made by a qualified inspector. Unless otherwise designated, all samples shall be taken and tests will be made by a qualified inspector at the expense of the Contractor. All materials being used are subject to inspection, test, or rejection at any time. When requested by the Department, the Contractor shall furnish a complete written statement of the origin, composition, and manufacture of any or all materials (manufactured, produced, or grown) to be used in the work.

Wherever in the contract an abbreviated citation, from those listed in Article 101.01, is used followed by an appropriate serial designation, it shall be construed to mean the latest test or specification as the case may be, either as standards, tentative standards, interims, revisions, or amendments, in effect on the date of invitation for bids.

106.05 Plant Inspection

The Engineer may undertake the inspection of materials at the source. In the event plant inspection is undertaken, the Engineer shall have the cooperation and assistance of the Contractor and the source with whom the Contractor has contracted for materials, and shall have full entry at all times to such parts of the plant as may concern the manufacture or production of the materials being furnished.

It is understood that the Department reserves the right to request a retest of all materials which have been tested by the source of supply after the same have been delivered, and to reject all materials which, when retested, do not meet the requirements of the contract.

106.06 Source of Materials

The source of supply, of each material used, shall be approved by the Department before delivery is started. If sources previously approved are found to be unacceptable at any time and fail to produce materials satisfactory to the Department, the Contractor shall furnish materials from other approved sources.

If the Contractor decides to investigate new sources of supply, the Contractor shall furnish, without charge, such samples and test results as the Engineer may require. All necessary samples shall be taken and all necessary tests shall be completed by a qualified inspector without charge to the Department, but it is understood that such tests are for informational purposes only and tests shall not be construed as a guarantee of acceptance of any material which may be delivered later for incorporation in the work. Only materials actually delivered for use will be considered, and their acceptance will be based solely upon the results of the tests made on these materials.

If the Contractor installs equipment or apparatus to produce materials from new sources of supply, the Contractor does so at his/her own risk, and the Contractor shall assume full responsibility for the production of uniform and satisfactory materials. In case of failure of a source of supply to produce materials satisfactory to the Department, the Contractor shall indemnify and save harmless the Department from any and all claims for loss or damage of whatever nature which the Contractor may have suffered by reason of the installation of equipment and the operation of such sources of supply.

When materials are furnished to the Contractor by the Department for inclusion in the work, the Contractor's responsibility for all such materials shall be the same as for materials furnished by the Contractor.

106.07 Stored Materials

If it is necessary to store materials, they shall be protected in such a manner as to ensure the preservation of their quality and fitness for the work. All stored materials will be inspected at the time of use in the work, even though they may have been inspected and approved before being placed in storage. The Contractor may use the site for storage of materials, but the stockpiles shall be confined to such areas designated on the plans or approved by the Department. If the Contractor wishes to stockpile materials off site, he or she shall obtain written approval from the property owner and shall present such written approval to the Department prior to doing so. Such additional off site space shall be provided by the Contractor at no additional cost to the Department.

106.08 Handling Materials

All materials shall be handled in such manner as to preserve their quality and fitness for the work. Aggregates shall be transported from the storage sites to the work in tight vehicles so constructed as to prevent loss or segregation of materials after loading and measuring in order to prevent inconsistencies in the quantities of materials intended for incorporation in the work as loaded, and the quantities as actually received at the place of operations.

SECTION 107
LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

107.01 Laws to be Observed

The Contractor shall give all notices required by and shall at all times observe and comply with all Federal and State laws, local laws, ordinances, and regulations which in any manner affect the performance of the work, including the Occupational Safety and Health Act of 1970, as amended, and all such orders or enactments, as exist at the present and which may be enacted later, of legislative bodies or tribunals having legal jurisdiction or affect over the work, and no plea of misunderstanding or ignorance thereof will be considered. Except where expressly required by applicable laws and regulations, the Department shall not be responsible for monitoring the Contractor's compliance with any such law, ordinance, regulation, order, or enactment. The Contractor shall indemnify and save harmless the Department and all of its officers, agents, employees, and servants against any claim or liability arising from or based on the violation of such law, ordinance, regulation, order, or enactment, whether by the Contractor or anyone subject to the control of the Contractor.

If the Contractor performs any work knowing or having reason to know that it is contrary to any applicable laws or regulations, the Contractor shall bear all claims, costs, losses, and damages, including, but not limited to, all fees and charges of engineers, attorneys, and other professionals and all court or arbitration or other dispute resolution costs, arising out of or relating to such work. It shall not be the Contractor's responsibility to make certain that the construction plans are in accordance with all applicable laws and regulations, but this shall not relieve the Contractor of his or her obligations under the contract documents.

107.02 Worker's Compensation Insurance

Upon award of his or her contract by the Department, the Contractor shall furnish to the Department certificates of insurance covering Worker's Compensation, or satisfactory evidence that this liability is otherwise taken care of.

Such insurance, or other means of protection as herein provided, shall be kept in force until all work to be performed under the contract has been completed and accepted by the Department, as described herein, and it is hereby understood and agreed the maintenance of such insurance or other protection, until acceptance of the work by the Department, is a part of the contract. Failure to maintain such insurance or any other act which results in lack of protection may be considered as a breach of the contract.

107.03 Permits and Licenses
Unless otherwise provided for in the contract documents, the Contractor shall obtain and pay for all permits and licenses and give all notices necessary and incident to the due and lawful prosecution of the work. Upon request of the Department, the Contractor shall furnish to the Department satisfactory proof that such permits and licenses have been obtained and are in full force and effect during the performance of the work.

107.04 Patented Devices, Material, and Processes
If any design, device, material, or process covered by letters, patent, or copyright is used by the Contractor, whether required or not, the Contractor shall provide for such use by suitable legal agreement with the patentee or owner, guaranteeing the Department indemnity from and against all claims for infringement, and shall include the cost of such agreement in the price bid for the work. It shall be the duty of the Contractor, if so demanded by the Department, to furnish said Department with a copy of the legal agreement with the patentee or owner, and if such copy is not furnished when demanded, then the Department may, if it so elects, withhold any and all payments to said Contractor until said legal agreement is furnished. If a suitable legal agreement with the patentee or owner is not made as required herein, the Contractor and surety shall indemnify and save harmless the Department from any and all claims for infringement by reason of the use of any such patented design, device, material, or process, or any trademark or copyright in connection with the work agreed to be performed under the contract, and shall indemnify the Department for any cost, expense, and damages which it may be obliged to pay by reason of any such infringement at any time during the prosecution or after the completion of the work.

107.05 Federal Aid Provision
When the United States Government pays all or any portion of the cost of a project, the Federal laws and the rules and regulations made pursuant to such laws must be observed by the Contractor, and the work shall be subject to the inspection of the appropriate Federal agency.

Such inspection shall in no sense make the Federal Government a party to this contract and will in no way interfere with the rights of either party hereunder.

107.06 Sanitary Provisions
The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of the Contractor’s employees and Department representatives as may be necessary to comply with the requirements of the State and Local Boards of Health, or of other authorities having jurisdiction.

107.07 Public Convenience and Safety
The Contractor shall notify the Department at least three days in advance of the starting of any work which might in any way inconvenience or endanger vehicular and pedestrian traffic, so arrangements may be made, if necessary, for closing paths, trails, and roads and providing suitable detours. The Contractor shall at all times conduct the work in such a manner as to ensure the least obstruction to vehicular and pedestrian traffic. The convenience of the general public and residents adjacent to the site shall be provided for in an adequate and satisfactory manner. When directed by the Department, the Contractor shall provide and maintain an acceptable surface aggregate for temporary paths, trails, roads, and approaches for access to driveways, houses, buildings, or other property abutting the site. Unless otherwise provided for in the contract, the cost incurred by the Contractor for providing such temporary paths, trails, roads, and approaches will be paid for as extra work as provided in Article 109.05.

The Department may require the Contractor to finish a section on which work is in progress before work is started on any additional sections if the completion of such section is essential to public convenience.

No broken pavement, open holes, trenches, barricades, cones, or drums will remain on or adjacent to the traveled way and all paths, trails, roads and travel lanes shall be opened to vehicular and pedestrian traffic during any legal holiday period, except where major construction or reconstruction makes it impractical. Such legal holidays will include:

New Year's Day
Easter
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

The length of the holiday period shall vary as follows, depending on the day of the week the legal holiday falls on or is observed.

Day of Holiday	Length of Holiday Period
Sunday	3 p.m. Friday - 12 midnight Sunday
Monday	3 p.m. Friday - 12 midnight Monday
Tuesday	3 p.m. Friday - 12 midnight Tuesday
Wednesday	3 p.m. Tuesday - 12 midnight Wednesday
Thursday	3 p.m. Wednesday - 12 midnight Sunday
Friday	3 p.m. Thursday - 12 midnight Sunday
Saturday	3 p.m. Friday - 12 midnight Sunday

On weekends, excluding holidays, all paths, trails, roads and travel lanes shall be opened to vehicular and pedestrian traffic from 3:00 P.M. Friday to midnight Sunday except where structure construction or major rehabilitation makes it impractical.

When any construction work is performed on structures over paths, trails, roads or travel lanes which are open to vehicular and pedestrian traffic, the Contractor shall protect the traffic from falling objects and/or materials. The Contractor's method of protection shall be subject to the approval of the Department and the cost thereof shall be included in the work involved.

107.08 Work on Navigable Waters
All work on navigable waters shall be so conducted that free navigation of the waterways will not be interfered with and that the existing navigable depths will not be impaired, except as allowed by permit issued by the authority having jurisdiction over the navigable waters.

107.09 Maintenance of Traffic
When work zone traffic control is required near the area under construction, or when any section of road is closed for construction operations of any type, the Contractor shall protect the workers and provide for safe and convenient public travel by providing adequate traffic control. The traffic control shall be subject to the approval of the Department and the cost thereof shall be included in the work involved.

107.10 Dirt on Pavement or Structures
Where equipment or vehicles related to the performance of the work are operated on any portion of the pavement or structures used by traffic on or adjacent to the site, the Contractor shall maintain such pavement free from all dirt and debris at all times. If dirt or debris are carried on to such pavement or structures by equipment or vehicles related to the performance of the work, the Contractor shall immediately clean the pavement of all dirt and debris.

The cost of this work shall be included in the unit prices bid and no additional compensation will be allowed.

107.11 Equipment on Pavement and Structures
The Contractor shall not load nor permit any part of any pavement or structure to be loaded in any manner that will endanger the pavement or structure, nor shall the Contractor subject any part of the work or adjacent property to stresses or pressures that will endanger it. The pavement and structures on or adjacent to the work shall be protected from damage from loading and from damage by lugs or cleats on treads or wheels or equipment. All equipment used in the prosecution of the work shall comply with the legal loading limits established by the statues of the governing state or local entity when moved over or operated on any pavement or structure unless permission in writing has been issued by the governing state or local entity. Before using any equipment which may exceed the legal loading, the Contractor shall secure a permit from the governing state or local entity, allowing ample time for making an analysis of stresses to determine whether or not the proposed loading would be within safe limits. The Department will not be responsible for any delay in construction operations or for any costs incurred by the Contractor as a result of compliance with the above requirements.

107.12 Use of Explosives
The use of explosives is not necessary for the prosecution of the work. Explosives shall not be used on site.

107.13 Use of Fire Hydrants
If the Contractor desires to use water from hydrants, the Contractor shall make application to the proper authorities, and shall conform to the municipal ordinances, rules, or regulations concerning their use.

Fire hydrants shall be accessible at all times to the fire department. No material or other obstructions shall be placed closer to a fire hydrant than permitted by municipal ordinances, rules, or regulations, or within 5 feet of a fire hydrant, in the absence of such ordinances, rules, or regulations.

107.14 Unexpected Regulated Substances
If, during the progress of the work, the Contractor encounters or exposes, or if the Contractor or anyone for whom the Contractor is responsible creates, any abnormal condition which may indicate the presence of a regulated substance, the Contractor shall secure or otherwise isolate such condition, stop all work in connection with such condition and in any area affected thereby, except in an emergency, as defined in Article 107.31, and promptly thereafter notify the Department about such condition. A regulated substance is a hazardous substance, special waste, or petroleum or any fraction thereof, as those terms are defined in applicable statutes.

Abnormal conditions include, but will not be limited to, the following: presence of underground storage tanks or barrels; discolored earth, metal, wood, etc.; visible fumes; obnoxious or unusual odors; excessively hot earth; smoke; or any other condition which appears abnormal and could be a possible indicator of regulated substances. The conditions shall be treated with extraordinary caution. Appropriate action shall be taken to ensure public and employee safety.

Upon receipt of the notification by the Department, the Engineer will review and, if determined to be necessary, evaluate or retain a qualified expert to evaluate such condition or to take corrective action. The Engineer may contact other state and/or federal agencies regarding such condition. Promptly after consulting with any qualified experts, and based on the findings of the Engineer, the Department shall take such actions as are necessary to allow the Contractor to resume the work. The Contractor’s operations shall not resume until so directed by the Department.

If after receipt of such written notice, the Contractor does not agree to resume work based on a reasonable a belief it is unsafe to do so, then the Department may order the portion of the work that is in the area affected by such condition to be deducted from the work according to the provisions of Article 104.03.

Removal and disposal of waste material, if necessary, shall be coordinated with the removal and disposal of contaminated soil, groundwater, and/or an underground storage tank UST and shall be according to applicable statutes. Should the removal and disposition of waste material require special procedures by certified personnel, the Contractor will make arrangements with qualified persons to remove and dispose of the material. If the Department provides for removal and disposal operations by entities other than the Contractor and arranges for the Contractor to pay all costs in connection therewith, the Contractor will be reimbursed according to Article 109.06.

Disposition of the regulated substances shall be made according to the requirements and regulations of other state and/or federal agencies. Any waste generated as a special waste or hazardous waste shall be manifested off-site by a special waste transporter using an appropriate generator number. Any waste generated as a non-special waste may be disposed of off-site at a permitted facility without a manifest, special waste transporter, or generator number.

The Contractor shall not be responsible for any abnormal condition encountered or exposed at the site which was not shown in the construction plans or identified in the contract documents. However, the Contractor shall be responsible for any abnormal condition created by materials or equipment brought to the site by the Contractor, subcontractors, suppliers, or anyone else for whom the Contractor is responsible.

When the Contractor encounters unexpected regulated substances due to the presence of unknown utilities, Article 105.08 shall apply; otherwise, if the Department does not direct a resumption of operations, the provisions of Article 108.10 shall apply. When the Contractor performs necessary work required to dispose of these

materials, payment will be made at the contract unit price for pay items applicable to such work, or payment will be made according to Article 104.03.

107.15 Protection and Restoration of Property

The Contractor shall take all necessary precautions for the protection of public or private property, such as pavement, walls and foundations of buildings, vaults, underground structures of public utilities, underground structures of private utilities, survey markers, overhead structures of public utilities, trees, shrubbery, crops, and fences contiguous to the work, for which the contract does not provide for removal or specify precautions and/or which does not interfere with the work. If public or private property interferes with the work, the Contractor shall notify, in writing, the Department, advising it of the nature of the interference and shall arrange to cooperate with the Department on the protection or disposition of such property, as directed by the Engineer. If the Department determines the protection or disposition of such property will delay the Contractor's work, an appropriate extension of contract time will be granted.

The Contractor shall be responsible for the damage or destruction of property of any character resulting from neglect, misconduct, or omission in his/her manner or method of execution or nonexecution of the work, or caused by defective work or the use of unsatisfactory materials, and such responsibility shall not be released until the work shall have been completed and accepted and the requirements of the Specifications complied with.

Whenever public or private property is so damaged or destroyed, the Contractor shall, at no additional cost to the Department, restore such property to a condition equal to that existing before such damage or injury was done by repairing, rebuilding, or replacing it as may be directed, or the Contractor shall otherwise make good such damage or destruction in an acceptable manner. If the Contractor fails to do so, the Department may, after the expiration of a period of 48 hours after giving the Contractor notice in writing, proceed to repair, rebuild, or otherwise restore such property as may be deemed necessary, and the cost thereof will be deducted from any compensation due, or which may become due, the Contractor under this or any other contract between the Department and the Contractor.

The cost of all materials required and all labor necessary to comply with the above provisions will not be paid for separately, but shall be considered as included in the unit bid prices of the contract, and no additional compensation will be allowed.

107.16 Protection and Preservation of Aboriginal Records and Antiquities

The Contractor shall take reasonable precautions to avoid disturbing aboriginal records and antiquities of archaeological, paleontological, or historical significance. No objects of this nature shall be disturbed without written permission of the Department. When such objects are uncovered unexpectedly, the Contractor shall notify the Department of their presence and shall not disturb them until written permission to do so is granted.

If it is determined by the Department that exploration or excavation of aboriginal records or antiquities the site is necessary to avoid loss, the Contractor shall cooperate in the salvage work attendant to preservation. If the Department determines the salvage work will delay the Contractor's work, an appropriate extension of contract time will be granted.

107.17 Approval of Proposed Borrow Areas, Use Areas, and/or Waste Areas

All proposed borrow areas, use areas, including, but not limited to temporary access roads, detours, runarounds, plant sites, and staging and storage areas, and/or waste areas are to be designated by the Contractor to the Department and approved prior to their use. Such areas shall be evaluated by the Contractor, at no additional cost to the Department, according to those requirements applicable to the site, and approval by the authorities having jurisdiction over such requirements shall be forwarded to the Department prior to the use of such areas.

A location map delineating the proposed borrow area, use area, and/or waste area shall be submitted to the Department for approval along with an agreement from the property owner granting the Contractor permission to enter the property and conduct reconnaissance surveys of the site for archaeological resources, threatened and endangered species or their designated essential habitat, wetlands, and forested areas, prairies, and savannas. The type of location map submitted shall be a 7.5 minute quadrangle map or other location map acceptable to the Department. Submittals shall include the intended use of the site and provide sufficient detail for the Department to review the potential impacts of the proposed borrow area, use area, and/or waste area. At the direction of the Department, the Contractor shall initiate reconnaissance surveys of the site, as necessary, at no cost to the

Department. The Contractor shall advise the Department of the expected time required to complete all reconnaissance surveys and shall share the results of such reconnaissance surveys with the Department.

(a) Archaeological Resources. If the results of the reconnaissance surveys identify the presence of potentially significant archaeological resources on the site, the Contractor shall have the option of choosing another site or paying for additional archaeological testing. If the Contractor chooses the option of additional testing, the Contractor will obtain a time and cost proposal for such additional testing prior to the testing work being done. The archaeological testing may result in two possible conclusions:

(1) Results of the tests show that no further archaeological work is warranted and the site is approved; or,

(2) Results of the tests indicate that data recovery is warranted and the Contractor shall have the option of selecting another location or paying for the salvage operations.

If the area is approved as a borrow area, use area, and/or waste area, the Contractor shall obtain as part of the agreement with the property owner, the release of ownership of any artifacts found on the site. The Contractor shall furnish copies of the proposed and final agreement to the Department for approval.

In the event hydraulic fill or commercial material from rock quarries, waste material, etc., is to be used, a reconnaissance survey for archaeological resources may be conducted only if disturbance of previously undisturbed areas is required to provide such material.

(b) Wetlands. If the results of the reconnaissance surveys indicate the presence of wetlands on the site and that wetlands may be adversely affected by the proposed borrow area, use area, and/or waste area, the Department will not approve the area for use unless the Contractor provides documentation of concurrence with the following:

(1) There is no feasible alternative to the proposed actions which adversely affects wetlands; and,

(2) The proposal for use of the area includes all practicable measures to minimize adverse impacts to the wetland and to provide appropriate compensation for any unavoidable adverse impacts.

In addition, when a proposed borrow area, use area, and/or waste area may adversely affect wetlands, the Department will not approve the area for use unless the Contractor provides evidence of necessary permit approval from the U.S. Army Corps of Engineers, Indiana Department of Environmental Management, or other applicable regulatory authority.

(c) Threatened and Endangered Species. If the results of the reconnaissance survey indicate the presence of threatened or endangered species and that such threatened or endangered species or their designated essential habitat may be adversely affected by the proposed borrow area, use area, and/or waste area, the Department will not approve the area for use unless the Contractor provides evidence of compliance with applicable threatened and endangered species consultation requirements.

(d) Forested Areas, Prairies, and Savannas. If the results of the reconnaissance survey indicate the presence of forested areas, prairies, or savannas and that such forested areas, prairies, or savannas may be adversely affected by the proposed borrow area, use area, and/or waste area, the Contractor shall minimize the impact to such areas by selecting alternative sites, where practical, and by providing replacement plantings of trees, prairie plants, or other vegetation, as appropriate. Such replacement plantings of trees, prairie plants, or other vegetation shall be subject to the approval of the property owner.

107.18 Protection of Streams, Lakes, Natural Areas, Wetlands, Forested Areas, Prairies, Savannas, and Threatened and Endangered Species

The Contractor shall take sufficient precautions to prevent pollution of streams, lakes, wetlands and other natural areas with fuels, oils, or other harmful materials. The Contractor shall conduct and schedule operations so as to avoid or minimize siltation of streams, lakes, wetlands, and other natural areas.

Unless otherwise provided for in the contract documents, the Contractor shall not disturb wetlands, locations where State or Federal-listed threatened or endangered species may be found or are known to occur, areas that

have been designated as essential habitat for such species, or forested areas, prairies, savannas, or other natural areas the Department has committed to protecting. Also, if previously unidentified areas containing or suspected of containing State or Federal-listed threatened or endangered species are identified during construction, the Contractor shall immediately notify the Department. Upon receipt of such notification by the Department, the Engineer will take or will direct the Contractor to take such actions as are determined to be necessary in response to such finding or encounter. If the Engineer determines that additional actions are necessary to mitigate the effects of the project on such unidentified or previously unidentified areas containing or suspected of containing State or Federal-listed threatened or endangered species, the Contractor shall cooperate in accomplishing these actions.

The cost incurred by the Contractor in complying with the requirements of this Article shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

107.19 Indemnification

The Contractor shall be responsible for any and all injuries to persons or damages to property due to the activities of the Contractor, subcontractors, suppliers, agents, or anyone else for whom the Contractor is responsible, arising out of or resulting from performance of the contract, or any activity in connection therewith. To the fullest extent permitted by law, the Contractor shall indemnify, save harmless and defend the Department, its agents, servants, and employees and each of them against any and all lawsuits, claims, demands, liabilities, losses, and expenses, including court costs and attorney's fees, for or on account of any injury to any person, or any death at any time resulting from such injury, or any damage to any property, which may arise or which may be alleged to have arisen out of or in connection with the work covered by this contract. The foregoing indemnity shall apply except if such injury, death or damage is cause directly by the willful and wanton conduct of the Department, its agents, servants, or employees or any other person indemnified hereunder.

In claims against the Department or any individual indemnified under this Article by an employee of the Contractor, a subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification herein shall not be limited by a limitation on amount or type of damages payable by or for the Contractor or subcontractor under any employee benefits act.

In the event any such claim, lawsuit, or action is asserted, any such money due the Contractor under and by virtue of the contract as shall be deemed necessary by the Department for the payment thereof, may be retained by the Department for said purpose, or in case no money or insufficient money is due to satisfy such claim, lawsuit, or action, the Contractor's insurance provider shall remain liable for any payment therefore until any such lawsuit, action, or claim has been settled or has been fully judicially determined and satisfied.

No inspection or action by the Department, its employees or agents, shall be deemed a waiver by the Department of full compliance with the requirements of the contract. This indemnification shall not be limited by the required minimum insurance coverages provided in the contract.

107.20 Insurance

The Contractor shall obtain and thereafter keep in force the following insurance coverages provided by insurance companies acceptable to the Department and authorized to transact business under the laws of the State of Indiana. Coverage limits shall be written at not less than the minimum specified in this Article. Higher minimum limits and additional coverage may be specified elsewhere in the contract documents. Whether stated in this Article or elsewhere in the contract documents, the Department does not warrant the adequacy of the types of insurance coverage or the limits of liability specified.

(1) Indemnify, Hold Harmless, and Defend Clause. The Contractor and his or her insurance provider, to the fullest extent permitted by law, shall indemnify, save harmless, and defend the Department, its agents, servants, and employees and each of them against any and all lawsuits, claims, demands, liabilities, losses, and expenses, including court costs and attorney's fees, for or on account of any injury to any person, or any death at any time resulting from such injury, or any damage to any property, which may arise or which may be alleged to have arisen out of or in connection with the work covered by this contract. The foregoing indemnity shall apply except if such injury, death or damage is cause directly by the willful and wanton conduct of the Department, its agents, servants, or employees or any other person indemnified hereunder.

(2) Liability Insurance Coverages. The Contractor shall purchase from and maintain in a company or companies acceptable to the Department, such company or companies lawfully authorized to do business in the state of Indiana, such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations under the contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

(a) Commercial General Liability Insurance. Commercial general liability insurance in a broad form on an on occurrence basis shall be maintained, to include, but not be limited to, coverage for the following where exposure exists: premises/operations; products/completed operations; contractual liability; and coverage to respond to claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees, as well as claims for damages insured by usual personal injury liability coverage which are sustained: (1) by a person as a result of an offense directly or indirectly related to employment of such person by the contractor; or, (2) by another person and claims for damages, other than to the work itself, because of injury to or destruction of tangible property, including loss of use there from.

(b) Worker's Compensation Insurance. Worker's compensation insurance shall be maintained covering all liability of the Contractor arising under all applicable worker's compensation statutes in accordance with the laws of the State of Indiana.

(c) Employer's Liability Insurance. Employer's liability insurance shall be maintained to respond to claims for damages because of bodily injury, occupational sickness, or disease or death of the Contractor's employees.

(d) Automobile Liability Insurance. Automobile liability insurance shall be maintained to respond to claims for damages because of bodily injury, death of a person, or property damage arising out of ownership, maintenance, or use of a motor vehicle. This policy shall be written to cover any auto whether owned, leased, hired, or borrowed.

(3) Liability Insurance Limits. The Contractor's liability insurance, as required above, shall be written with limits of insurance not less than the following.

(a) Commercial General Liability Insurance

*General Aggregate Limit	$1,000,000
Damage to Rented Premises Limit	$ 100,000
Products/Completed Operations Limit	$1,000,000
Personal and Advertising Injury Limit	$1,000,000
Each Occurrence Limit	$1,000,000

** The policy shall be endorsed for the General Aggregate Limit to apply on a "Per Project" basis.*

(b) Employer's Liability Insurance

Bodily Injury by Accident (Each Accident)	$ 500,000
Bodily Injury by Disease (Each Employee)	$ 500,000
Bodily Injury by Disease (Policy Limit)	$ 500,000

(c) Automobile Liability Insurance

Combined Single Limit (Each Accident)	$1,000,000

(4) Liability Insurance Conditions. The Department, its agents, officers, and employees shall be named as additional insured under ISO additional insured endorsement CG 20 26, edition date 10/93 or its equivalent. The Contractor's insurance shall be primary and non-contributory. Such contractual liability insurance coverage shall be broad enough to respond to the liability assumed by the Contractor in the indemnify, hold harmless, and defend clause described herein.

(5) Certificates of Insurance. Certificates of insurance acceptable to the Department, complete with the required endorsements, shall be filed with the Department upon award of the contract. The Department shall be provided with a 30-day written notice of the cancellation or non-renewal of any insurance policy or any material change within an endorsement. Certificates evidencing renewal or replacement of such insurance policies or endorsements shall be provided to the Department at least fifteen days prior to the expiration, cancellation, or non-renewal of such policies or endorsements.

(6) Duration of Insurance Coverage. The insurance described herein shall be maintained for the duration of the contract and shall remain in force during the period covering occurrences happening on or after the effective date of the agreement, during performance of the work, and at all times thereafter when the Contractor may be correcting, removing, or replacing defective work.

(7) Failure to Comply. In the event the Contractor fails to obtain or maintain any insurance coverage required under this contract, the Department may purchase such insurance coverage and charge the expense thereof to the Contractor.

The cost incurred by the Contractor in complying with the requirements of this Article shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

107.21 Contractor Safety Responsibility

The Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to: all persons on the site who may be affected by the work; all of the work and materials and equipment to be incorporated therein, whether in storage on or off the site; and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, structures, and utilities not designated for adjustment in the course of the work.

Nothing in this contract or the contracts between the Department and any engineering consultant(s) is intended or shall be construed, unless otherwise expressly stated, to reduce the responsibility of the Contractor, a subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, from full and complete supervision and achievement of work place safety. Any inspection of the work conducted by the Department, the construction engineering consultant(s), and the officers and employees of any of them, whether notice of the results thereof is provided to anyone or not provided to anyone, shall neither establish any duty on their parts nor create any expectation of a duty to anyone, including but not limited to third parties, regarding work place safety.

In order to ensure this and other duties of the Contractor certain indemnification and insurance is required by the contract. Additionally, the Contractor guarantees to the Department a safe work place shall be provided for all employees of the Contractor and each of its subcontractors. There shall be no violation by the Contractor, a subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable of the applicable standards of the Occupational Safety and Health Act, any other work place safety act of this State, or other work place safety requirement of the Federal Highway Administration if the contract is funded in part with federal funds. The Contractor agrees to require this work place safety guarantee of all subcontractors according to Article 108.01, and expressly to require the Department to be a third party beneficiary of each guarantee.

107.22 Opening of Section of Work

The work under construction shall not be opened until authorized by the Department in writing. The Department reserves the right to use and to open any portion of the work before completion of the entire work when the Engineer determines that an early opening is in the interest of the public or when the Contractor has failed to prosecute the work continuously and efficiently. Such opening shall not be construed as an acceptance of the work, or any part of it, or cause for the Department to incur any liability to the Contractor for any additional costs, except as provided in Article 107.23 or otherwise expressly provided in the contract.

Whenever the Contractor is required to open all of the work or any portion thereof according to the authorization of the Engineer given herein, the Contractor shall conduct the remainder of the construction operations so as to cause the least obstruction to vehicular and pedestrian traffic and according to the traffic control plan approved by the Engineer.

107.23 Contractor's Responsibility for Work

The Contractor shall be solely responsible for performing and completing the work in accordance with the contract documents. He or she shall assume full responsibility for all of the labor, tools, equipment, and other incidental items employed and provided on the work and for all of the means, methods, techniques, sequences, and procedures used in accomplishing the construction. Nothing in this contract or the contracts between the Department and any consultant(s) is intended or shall be construed, unless expressly stated, to reduce the responsibility of the Contractor thereto.

Except as otherwise provided in this Article, all work of the contract, including work added to the contract, shall be under the charge and care of the Contractor. The Contractor shall protect and maintain the work until the date of final inspection, as defined in Article 105.18. The Contractor shall assume the sole responsibility for risk of loss to the work from or by any cause whatsoever, without regard to its state of completion. The Contractor shall rebuild, repair, restore, replace, and make good all lost, destroyed, or damaged work to the condition required by the contract and shall bear all the expense and costs to do so, except when the Engineer determines the loss, destruction or damage to the work to be caused by a cataclysmic event, an act of the public enemy, or an act of a governmental authority. This exception shall not apply should the Engineer determine that the loss, destruction, or damage resulted from the Contractor's failure to take reasonable precautions or to exercise sound engineering and construction practices while conducting the work. The Contractor and Department understand and agree that the definition of what constitutes a cataclysmic event cannot be written with precision, and that application of this exception can be the subject of dispute. Therefore, the Contractor and Department agree that the Engineer will determine the occurrence of a cataclysmic event, the eligibility for reimbursement, and the expenses and costs to be reimbursed in accordance with this exception to the Contractor's responsibility for the work. All determinations of the Engineer shall be final. The Contractor shall have no entitlement to reimbursement, under this or any other article or provision of the contract, for any or all expenses or costs in the absence of the affirmative determination by the Engineer as to coverage by this exception and the amounts eligible for reimbursement, and the Contractor agrees that the application or denial of the application of this exception shall not be cause for action in the court and hereby waives the same.

The Contractor may request in writing that the Department assume responsibility to protect and maintain any portion of the work that has been completed in all respects with the requirements of the contract, subject to the approval of the Engineer.

Any approval granted may alter or limit the part of the work subject to the approval. After the date of written approval, the Contractor shall be relieved of the responsibility to protect and maintain the work subject to the approval and shall not be responsible for the correction of any damage or the performance of any maintenance work in the areas subject to the approval, except that caused in whole or in part by Contractor operations within the limits of the project or negligence. When damage to the work subject to the approval occurs and it is determined the Contractor is not responsible, the Department may order repairs to the work by the Contractor and payment will be made according to Article 109.05. Any approval granted under this Article shall neither constitute final acceptance of any of the work nor be construed to be substantial completion thereof, and the work covered by any approval shall continue to be subject to final inspection and acceptance in accordance with the terms of the contract. Repairs to work subject to the approval required due to defective materials or workmanship or caused in whole or in part by Contractor operations or negligence, shall be performed at no additional cost to the Department.

During periods of suspension in accordance with Article 108.10 or other discontinuance of work from any cause whatever, the Contractor shall continue to be responsible for the work as provided in this Article and shall take such precautions as may be necessary to prevent damage to the work, provide for normal drainage, and shall erect any necessary temporary structures, signs, or other facilities at his/her expense, except as otherwise provided in Article 108.10. During such period of suspension or discontinuance of work, the Contractor shall properly and continuously maintain, in an acceptable growing condition, all living material in newly established plantings, seedings, and soddings furnished under his/her contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

107.24 Contractor's Responsibility for Utility Property and Services

At points where the Contractor's operations are adjacent to properties or facilities of utility companies, or are adjacent to other property, damage to which might result in considerable expense, loss, or inconvenience, work shall not be commenced until all arrangements necessary for the protection thereof have been made.

The Contractor shall cooperate with the owners of any utilities in their removal and rearrangement operations so work may progress in a reasonable manner, duplication of rearrangement work may be reduced to a minimum, and services rendered by those parties will not be unnecessarily interrupted. In the event or interruption of utility services as a result of accidental breakage or as a result of being exposed or unsupported, the Contractor shall immediately notify the utility owner and Department. Arrangements will be made to restore such services to a condition equal to that existing before any such damage or destruction was done. If water service is interrupted, repair work shall be continuous until the service is restored. The cost of such restoration shall be the sole

responsibility of the Contractor. No work shall be undertaken around fire hydrants until provisions for continued service have been approved by the local fire authority.

Within the State of Indiana, a statewide one call notice system has been established for notifying utility companies about locating their facilities. The system is known as Indiana 811. All utility companies and municipalities that have buried utility facilities in the State of Indiana are part of this system.

The Contractor shall request all utility owners to locate their facilities by contacting Indiana 811 at (800) 382-5544 or 811 at least 48 hours prior to the start of the work. The political name of the township where the work is located, as provided in the contract documents, along with other location information such as section and quarter section shall be given to Indiana 811. For utilities which are not members of Indiana 811, the Contractor shall contact the utility owners directly. The construction plans will indicate which utilities, if any, are not members of Indiana 811.

The Contractor shall be responsible for maintaining all markers or excavations provided by the utility owners. The type of utility and color typically used for marking such utility are shown in the following table.

Utility Service	Color
Electric Power, Distribution, and Transmission	Safety Red
Municipal Electric Systems	Safety Red
Gas Distribution and Transmission	High Visibility Safety Yellow
Oil Distribution and Transmission	High Visibility Safety Yellow
Telephone and Telegraph System	Safety Alert Orange
Community Antenna Television Systems	Safety Alert Orange
Water Systems	Safety Precaution Blue
Sewer Systems	Safety Green
Non-Potable Water and Slurry Lines	Safety Purple
Temporary Survey	Safety Pink
Proposed Excavation	Safety White

107.25 Furnishing of Site

The Department shall furnish the site prior to the start of work. The Department will obtain in a timely manner and, if necessary, pay for all easements and landowner agreements necessary for the performance of the work. The Department will notify the Contractor of any encumbrances or restrictions not of general application but specifically related to use of the site with which Contractor must comply in performing the work. Upon reasonable written request, the Department shall furnish the Contractor with a current statement of legal title and legal description of the lands upon which the work is to be performed.

If a delay in the Department's furnishing the site or a part thereof should occur, and such delay is of such a nature as to require a change in the contract, an equitable adjustment to the contract price or contract times will be made and the contract amended according to the provisions of Article 104.02.

107.26 Personal Liability of Public Officials

In carrying out any of the provisions of this contract or in exercising any power or authority granted to the Engineer thereby, there shall be no personal liability upon the Engineer or his or her authorized representative. By entering into this contract with the Department, the Contractor covenants and agrees it shall neither commence nor prosecute any action or suit whatsoever against the officers or employees of the Department for any action or omission done or not done in the course of their administration of this contract. The Contractor agrees to pay all attorney fees and all costs incurred by the Department, its officers, and employees on account of action or suit in violation of this Article.

107.27 No Waiver of Legal Rights

The Department shall not be precluded or estopped by final acceptance or final payment, or any measurement, estimate, or certificate made either before or after the completion and acceptance of the work and payment therefore, from showing the true amount and character of the work performed and materials furnished by the Contractor, nor from showing any such measurement, estimate, or certificate is untrue or is incorrectly made; nor from showing the work or materials do not in fact conform to the contract. The Department shall not be precluded or estopped, by final acceptance, final payment, or any measurement, estimate, or certificate and payment in

accordance therewith, from recovering from the Contractor or its sureties, or both, such overpayment and damage as it may sustain by reason of the Contractor's failure to comply with the terms of the contract.

A waiver on the part of the Department of any right under the contract or of a breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach or right to enforce any provision of the contract.

107.28 Construction Noise Restrictions

All engines and engine driven equipment used for hauling or construction shall be equipped with an adequate muffler in constant operation and properly maintained to prevent excessive or unusual noise. Any machine or device or part thereof which is regulated by or becomes regulated by Federal or State of Indiana noise standards shall conform to those standards. Such equipment shall be operated as designated below.

Construction within 1,000 feet of an occupied residence, motel, hospital, or similar receptor shall be confined to the period between the hours of 7:00 AM and 7:00 PM on weekdays and between the hours of 8:00 AM and 6:00 PM on Saturdays. No construction within such proximity to such facilities shall be performed outside of these working hours or any legal holiday without prior written approval from the Department. These time regulations shall not apply to construction of an emergency nature.

Requests to modify or deviate from these requirements shall be submitted in writing by the Contractor and must be approved in writing by the Department.

107.29 Dust Control

The Contractor shall be responsible for controlling the dust and air-borne dirt generated by his or her construction activities.

The Department may require the implementation of dust control procedures if wind and dry soil conditions reduce visibility on adjacent roads and property. Concerns for health and safety to the public using adjacent facilities will be grounds for the Department to request implementation of a dust control plan.

When circumstances warrant, a specific dust control plan shall be developed. The Contractor and the Engineer shall meet to review the nature and extent of dust generating activities and cooperatively develop specific types of control techniques appropriate to that specific situation. Sample techniques that may warrant consideration include the following measures.

(a) Minimize track out of soil onto nearby publicly traveled roads.

(b) Reduce vehicle speed on unpaved surfaces.

(c) Cover haul vehicles.

(d) Apply chemical dust suppressants or water to exposed surfaces, particularly to surfaces on which construction vehicles travel.

Dust control measures as indicated in the dust control plan, or as directed by the Engineer, shall be readily available for use on the project site.

The cost of this work shall be included in the unit prices bid and no additional compensation will be allowed.

107.30 Taxes

All applicable sales, use, payroll, and other similar taxes required to be paid during the performance of the work shall be considered during the preparation of bids. Bidders are hereby advised that Owner is exempt from Indiana state sales taxes on materials to be incorporated into the work and such exemption shall be considered during the preparation of bids. Owner will furnish evidence of such exemption to successful bidder, if necessary, for use in purchasing materials to be incorporated into the work. Owner's exemption does not apply to construction supplies, tools, machinery, equipment, or other property purchased or leased by successful bidder, or to materials not incorporated into the work.

107.31 Emergencies

In an emergency affecting the safety or protection of persons or the work or the site or property adjacent thereto, the Contractor is obligated to act to prevent threatened damage, injury, or loss. The Contractor shall give the Department prompt written notice if he or she believes that any significant changes in the work or variations from the contract documents have been caused thereby or are required as a result thereof. If the Department determines that a change in the contract documents is required because of any action taken by the Contractor in response to such an emergency, an equitable adjustment to the contract price or contract times will be made and the contract amended according to the provisions of Article 104.02.

SECTION 108
PROSECUTION AND PROGRESS

108.01 Subcontracting

The Contractor shall not subcontract, sell, transfer, assign, or otherwise dispose of the contract or any portion thereof, or of his or her right, title, or interest therein, without written consent of the Department. Notwithstanding consent to subcontract issued by the Department, the Contractor shall perform with the Contractor's own organization, work amounting to not less than 50 percent (50%) of the total contract cost, and with materials purchased or produced by the Contractor. Items designated in the contract as "specialty items" may be performed by subcontract and the cost of any such specialty items so performed by subcontract may be deducted from the total cost before computing the amount of work required to be performed by the Contractor with his or her own organization. "Specialty items" will be those items so designated on the construction plans or in the contract documents.

Upon the request of the Department, the Contractor shall submit to the Department a list of the subcontractors, suppliers, individuals, or entities that will perform work or labor for or render services or supplies to the Contractor in an amount in excess of ten percent (10%) of the contract price. The Department's acceptance of such list, either in writing, or by failing to make written objection thereto, may be revoked at any time on the basis of reasonable objection after due investigation. In order to conduct such investigation, the Department may request the Contractor to provide proof that any subcontractor, supplier, individual or entity has the experience, ability, and equipment the work requires.

If the Department, after due investigation, has reasonable objection to any subcontractor, supplier, individual, or entity, the Department may request the Contractor to submit a replacement. If such replacement has an effect on the contract price or contract times, the contract documents may require modification. The need for such modifications will be evaluated by the Department and, if necessary, will be made in accordance with Article 104.02. The Contractor shall not otherwise substitute, delete, or add to the accepted list of subcontractors, suppliers, individuals, or entities without written approval of the Department.

During performance of the work, the Department may order the Contractor to remove a subcontractor who, in the opinion of the Engineer, does not perform satisfactory work. The Contractor shall comply at once and shall not employ the subcontractor for any further work under this contract. Should the Contractor fail to remove such subcontractor as required above, or fail to furnish a suitable replacement subcontractor or suitable and sufficient personnel for the proper prosecution of the work, the Department may suspend the work by written notice, in accordance with Article 108.10, until such orders are complied with.

The Contractor shall be fully responsible to the Department for all acts and omissions of the subcontractors, suppliers, individuals, or entities that performing work or labor for or rendering services or supplies to the Contractor, just as the Contractor is responsible for the Contractor's own acts and omissions. Nothing in the contract documents shall create, for the benefit of any subcontractor, supplier, or any other individual or entity, any contractual relationship between the Department and any such subcontractor, supplier, or other individual or entity, nor any obligation on the part of the Department to pay or to see to the payment of any moneys due any such subcontractor, supplier, or any other individual or entity, except as may be required by laws and regulations.

For each subcontract, the Contractor shall submit to the Department a certification that a subcontract agreement exists in writing, that the subcontract incorporates by reference the terms and conditions of this contract, and that the subcontract incorporates fully therein the provisions related to employment practices contained in the contract documents. The Contractor shall permit the Department or State or Federal representatives to examine the

subcontract agreements upon notice. No subcontracts shall in any case release the Contractor or his or her surety of liability or any portion thereof under the contract and contract security.

The Contractor shall be solely responsible for scheduling and coordinating the work of subcontractors, suppliers, and other individuals or entities performing or furnishing any of the work under a direct or indirect contract with the Contractor. The Contractor shall require all subcontractors, suppliers, and such other individuals or entities performing or furnishing any of the work to communicate with the Department through the Contractor. The Contractor's superintendent shall be on the site at all times when any subcontract work is being performed.

108.02 Progress Schedule

After the award of the contract and prior to starting work, and within ten (10) days after the effective date of the agreement, the Contractor shall submit to the Department for timely review:

(1) Project Schedule. The Contractor shall submit a preliminary project schedule which shall show the proposed sequence of work and indicating the times for starting and completing the various items of work, including any milestones specified in the contract documents, according to the contract times stated in the agreement. This schedule shall be used as a basis for establishing the controlling item of construction activities during the performance of the work and for checking progress of the work. The controlling item shall be defined as the item which must be completed either partially or completely to permit continuation of progress on the work. It shall be the responsibility of the Contractor to show the intended rate of production for each controlling item listed on the schedule during the period that such item is controlling.

(2) Schedule of Submittals. The Contractor shall submit a preliminary schedule of submittals which shall show any submittals required to support the performance of the work and the time requirements associated with the review and approval or acceptance of such submittals.

(3) Schedule of Values. The Contractor shall submit a preliminary schedule of values that contains values for the entire work, including quantities and prices of items which, when added together, equal the contract price and that subdivides the work into component parts in sufficient detail to serve as the basis for progress payments during performance of the work (i.e., basis of bid form).

Unless otherwise specified in the contract documents, at least one week prior to the start of work, a preconstruction conference, as described in Article 108.03, attended by the Department, Contractor, Engineer, and others, as appropriate, shall be held, among other reasons, to review, for acceptability, as provided below, the schedules described above. The Contractor shall be responsible for scheduling such conference and for notifying the Department, Engineer, and others as appropriate of the conference at least one week prior to the scheduled date of such conference. After such conference, the Contractor shall have an additional ten days to make corrections and adjustments and to complete and resubmit the schedules. Payments may be withheld until satisfactory schedules have been submitted to and approved by the Department.

(4) Acceptability of Progress Schedule. The Contractor's progress schedule will be acceptable to the Department if it provides an orderly progression of the work to completion within the contract times. Such acceptance will not impose on the Department responsibility for the progress schedule, for sequencing, scheduling, or performing the work, nor interfere with or relieve the Contractor from the Contractor's full responsibility therefor.

(5) Acceptability of Schedule of Submittals. The Contractor's schedule of submittals will be acceptable to the Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

(6) Acceptability of Schedule of Values. The Contractor's schedule of values will be acceptable to the Engineer as to form and substance if it provides a reasonable allocation of the contract price to component parts of the work.

During performance of the work, the Contractor shall adhere to the approved schedules. The Contractor shall confer with the Department at regular intervals and at progress meetings, as described in Article 108.08, in regard to the prosecution of the work according to the approved schedules. Such schedules may be adjusted from time to time, as provided below.

The Contractor shall submit to the Department, for review and acceptance, proposed adjustments to the approved schedules that will not result in changes to the contract price or contract times. Such adjustments shall comply

with all applicable provisions of the contract documents. If a proposed adjustment to the approved schedules has an effect on the contract price or contract times, the contract documents may require modification. The need for such modifications will be evaluated by the Department and, if necessary, will be made in accordance with Article 104.02.

108.03 Preconstruction Conference

Unless otherwise specified in the contract documents, at least one week prior to the start of work, a preconstruction conference attended by the Department, Contractor, Engineer, and others, as appropriate, will be held to establish a working understanding among the parties as to the work and to discuss the schedules described in Article 108.02, procedures for handling samples, shop, working, and layout drawings and other submittals, processing applications for payment, and maintaining required records. The Contractor shall be responsible for scheduling the preconstruction conference and for notifying the Department, Engineer, and others, as appropriate, of the preconstruction conference at least one week prior to the scheduled date of such conference.

At the preconstruction conference, the Department and Contractor each shall confirm or designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the contract, and otherwise act on behalf of each respective party. At this conference, the Contractor shall also designate, in writing, the superintendent referred to in Article 105.07, who shall be on the work at all times.

108.04 Prosecution of the Work

The Contractor shall begin the work to be performed under the contract as soon as possible following the effective date of the agreement. The work shall begin no later than thirty days after the effective date of the agreement or, if a notice to proceed is given, on the day indicated in the notice to proceed. A notice to proceed may be given at any time within 30 days after the effective date of the agreement. In no event shall the work begin later than the thirtieth day after the effective date of the agreement, unless otherwise provided for in the contract or otherwise approved by the Department. No work shall be performed under the contract documents prior to the effective date of agreement.

The work shall be prosecuted in such a manner and with such a supply of materials, equipment, and labor as is considered necessary to ensure its completion according to the contract times specified in the contract documents. Once the work begins, the Contractor shall work continuously until the work has been substantially completed, unless otherwise directed by the Department. The Contractor shall notify the Department at least 24 hours in advance of either discontinuing or resuming construction activities.

108.05 Working Days

When the contract provides a specified number of working days, the charging of working days will start when the Contractor begins actual performance of the work, and in no case later than 30 days after the effective date of the agreement, unless otherwise provided for in the contract or otherwise approved by the Department.

A working day shall be defined as any calendar day inclusive, except Saturdays, Sundays, or legal holidays observed by the Contractor’s entire work force in Indiana. The length of a working day will be determined by the Department from the number of working hours established by actual job practice by the Contractor for the current controlling item, except not less than eight hours will be considered in the determination.

A full working day will be charged for any day described in the foregoing on which conditions are such that the Contractor could be expected to do a full day’s work on the controlling item. A full working day will be charged on days when the Contractor could be working on a controlling item, but elects not to work, or elects to work elsewhere.

No allowance will be made for delay or suspension of the work due to the fault of the Contractor.

The Engineer will determine which days are workable. One copy of the “Weekly Working Days Report of the Engineer” will be mailed to the Contractor on a weekly basis. Any disagreement with the working day charges stated in such report must be filed in writing with the Department within seven days of receipt of such report giving detailed reasons for the disagreement. The receipt of such report by the Department shall be, for purposes of the contract, deemed to occur three days after the date of such report, as indicated on the report. The final resolution of such disagreement will be made by the Department. By not filing a detailed disagreement within the seven day period, the Contractor will be deemed to have accepted the report as correct and no further challenge will be allowed.

The basis for charging working days shall be as follows.

(a) A partial working day of one-quarter, one-half, or three-quarters will be charged under the following conditions.

(1) When weather conditions do not permit the completion of a full day's work on the controlling item.

(2) When job conditions due to recent weather do not permit full efficiency of the men or equipment which are working on the controlling item.

(3) A shortage of help which is beyond the Contractor's control prevents reasonable progress on a controlling item.

(4) When any condition over which the Contractor has no control prevents completing a full day's production on the controlling item.

(b) No working day will be charged under the following conditions.

(1) When adverse weather prevents work on the controlling item.

(2) When job conditions due to recent weather prevent work on the controlling item.

(3) When work has been suspended by an act or an omission of the Department.

(4) When strikes, lock-outs, extraordinary delays caused by utility work, extraordinary delays in transportation, or inability to procure critical materials suspend work on the controlling item, as long as these delays are not due to any fault of the Contractor.

(5) When any condition over which the Contractor has no control causes suspension of work on the controlling item.

108.06 Completion Date and Completion Date Plus Working Days

When the contract provides a specified completion date or a specified completion date plus working days, such terms shall be interpreted as follows.

(a) Completion Date. When a completion date is specified, the Contractor shall complete all work subject to the date on or before the specified date.

(b) Completion Date Plus Working Days. When a completion date plus working days is specified, the Contractor shall complete the major items of work as specified in the contract, on or before the completion date. The Contractor shall complete the miscellaneous items of work within the specified number of working days after the completion date.

108.07 Labor, Methods, and Equipment

The Contractor shall, at all times, employ and provide sufficient labor, tools, equipment, and other incidental items for prosecuting the work to full completion in the manner and time required by the contract. The Contractor shall assume full responsibility for all labor, tools, equipment, and other incidental items employed and provided on the work.

All workers shall have sufficient skills and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform all work properly and satisfactorily.

Any person employed by the Contractor or by any subcontractor who, in the opinion of the Engineer, does not perform work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the Department, be removed at once by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without the approval of the Department.

Should the Contractor fail to remove such person or persons as required above, or fail to furnish suitable and sufficient personnel for the proper prosecution of the work, the Department may suspend the work by written notice until such orders are complied with.

All equipment which is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on

any portion of the project shall be such that no damage to the site, adjacent property, or other properties will result from its use.

The Contractor shall assume full responsibility for the equipment, means, methods, techniques, sequences, and procedures used in accomplishing the construction. Unless the methods and equipment to be used by the Contractor in accomplishing the construction are prescribed in the contract, the Contractor is free to use any methods or equipment that can be demonstrated to the Department as satisfactory to accomplish the contract work in conformity with the requirements of the contract.

When the contract specifies that the construction be performed by the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the Department. If the Contractor desires to use a method or type of equipment other than specified in the contract, he or she may request authority from the Department to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed to be used and an explanation of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing construction work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the Department determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining construction with the specified methods and equipment. The Contractor shall remove the deficient work and replace it with work of specified quality, or take such other corrective action as the Department may direct. No change will be made in basis of payment for the construction items involved nor in contract time as a result of authorizing a change in methods or equipment under these contract documents.

108.08 Progress Meetings

Unless otherwise specified in the contract documents, the Contractor shall confer with the Department, Engineer, and others, as appropriate, at regularly scheduled progress meetings in regard to the prosecution of the work according to the schedules described in Article 108.02. Such progress meetings shall be held on site on a weekly basis. The Contractor shall be responsible for scheduling such progress meetings and for notifying the Department, and others, as appropriate, of the schedule for such meetings at least one week prior to the scheduled date of the first such meeting.

The Contractor's superintendent shall attend the progress meetings and shall review with the Department, Engineer, and others, as appropriate, items such as completed and planned work, soil and material stockpile locations, material and equipment storage locations, construction access locations, use of site, change orders, field orders, items requiring written interpretation or clarification, items requiring the Department's approval, payment requests, and any other concerns affecting the prosecution of the work.

108.09 Certified Payroll Reports

For all projects with contracts valued at $500,000 or more, the Contractor and each subcontractor shall submit weekly, in person, by mail, or electronically, a certified payroll report to the Department, utilizing the Federal form known as Form WH-347. Such certified payroll reports shall identify the classification (i.e., trade and title) of all operators, laborers, mechanics, and other workers performing work on the project (e.g., electrician, journeyman; electrician, apprentice). The full social security number and home address of each worker performing work on the project shall not be included on the certified payroll reports; instead; the certified payroll reports shall include an identification number for each worker (e.g., the last four digits of the employee's social security number). Such certified payroll reports shall consist of a complete record of all operators, laborers, mechanics, and other workers performing work on the project. Each certified payroll report shall be accompanied by an affidavit signed by the Contractor or subcontractor which avers that: (1) such report is true and accurate; (2) the hourly rate paid to each worker performing work on the project is accurately shown on the report; and, (3) the Contractor or subcontractor is aware that filing a certified payroll report that he or she knows to be false is a Class B misdemeanor.
In the event the Contractor or any subcontractor uses independent contractors to perform work on the project, such independent contractors must be included on the certified payroll reports. The same information as is required for other operators, laborers, mechanics, and other workers shall be provided for independent contractors performing work on the project.

If it so elects, the Department may withhold any and all payments to the Contractor for work performed by the Contractor if the Contractor fails to submit its certified payroll reports in a timely manner until said certified payroll reports are submitted to the Department. If it so elects, the Department may also withhold any and all payments to any subcontractor for work performed by such subcontractor if such subcontractor fails to submit its certified

payroll reports in a timely manner until said certified payroll reports are submitted to the Department. The Department shall not withhold payments to the Contractor for work performed by the Contractor or for work performed by subcontractors who have submitted their certified payroll reports in a timely manner because one or more other subcontractors have failed to submit their certified payroll reports in a timely manner.

108.10 Suspension of Work

The Department shall have authority to suspend the work, in whole or in part, when unsuitable severe weather conditions or other conditions at the site make for circumstances beyond the Contractor's control, which are unfavorable for the satisfactory performance of the work, and when the Contractor does not comply with the contract or orders of the Engineer. Orders to suspend or resume work shall be complied with immediately. If it becomes necessary to stop work for an indefinite period of time, the Contractor shall store all materials in such manner that they will not unreasonably encumber the site or become damaged in any way, take every precaution to prevent damage or deterioration of the work performed, and install temporary structures, including suitable soil erosion and sediment control devices, where necessary. The Contractor shall not suspend work without written authority from the Department.

The period of suspension shall not count against the time of performance established in the contract unless the suspension is ordered due to the acts or omissions of the Contractor. Extensions of time will be evaluated according to Article 108.11. Except as provided herein below for suspension of an unreasonable duration, the Contractor shall not be paid additional compensation on account of any suspension ordered pursuant to this Article.

If the performance of all or any portion of the work is suspended or delayed by the Department in writing for an unreasonable period of time and the Contractor believes that additional compensation or an extension of the contract times is due as a result of such suspension or delay, the Contractor shall submit to the Department, in writing, a request for adjustment in the contract price and/or contract times within seven days of receipt of the notice to resume work issued by the Department. The request shall set forth the reasons and support for such adjustment.

Upon receipt of such request by the Department, the Engineer will evaluate the Contractor's request. If the Engineer agrees that the period of suspension was unreasonable and that contract price and/or contract times should be adjusted as a result of such suspension, the Department will make an adjustment, excluding profit, and modify the contract in writing accordingly. In no case shall a suspension of less than seven days be considered unreasonable. No adjustment will be made for a suspension of any duration if the suspension was caused by the acts or omissions of the Contractor, his or her subcontractors or suppliers, or the weather. The Department will notify the Contractor of his or her determination whether or not an adjustment of the contract is warranted.

No contract adjustment will be allowed unless the Contractor has submitted a request for adjustment within the time prescribed. No contract adjustment will be allowed under this Article to the extent that performance would have been suspended or delayed by any other cause, or for which and adjustment is provided for or excluded under any other term or condition of this contract.

108.11 Determination and Extension of Contract Times

Determination and extension of contract times shall be as follows.

(a) Working Days. When the contract provides a specified number of working days, it is understood that completion of the work within the specified number of working days is an essential part of the contract. The Contractor's plea that insufficient time was specified is not a valid reason for extension of time.

A request for an extension of the contract times may be initiated by either the Department or the Contractor. If the Department finds that the quantities of work done, or to be done, are in excess of the estimated quantities by an amount sufficient to warrant additional time, it may grant an extension of the contract times for completion which appears reasonable and proper. The extended number of working days for completion shall then be considered as in effect the same as if it were the original time for completion.

(b) Completion Date. When a completion date is specified, it is understood that time is of the essence of the contract and that completion of the work by that date is an essential part of the contract. The Contractor's plea that insufficient time was specified is not a valid reason for extension of the contract times.

In the event of delay in the work beyond the reasonable control of the Contractor resulting from:

(1) Conduct or lack of conduct by the Department or its consultants, representatives, officers, agents, or employees; or delay by the Department in making the site available; or in furnishing any items required to be furnished to the Contractor by the Department;

(2) Extraordinary conditions of weather for the area and time of year with the understanding that the completion time contemplated by this contract anticipates a certain number of lost days due to normal weather conditions, therefore only unusual or extreme weather conditions for the time of year will be considered as justification for a delay in completion of the work;

(3) War, national conflicts, terrorist acts, or priorities arising therefrom, including restrictions of the ability to procure critical materials;

(4) Fires;

(5) Epidemics;

(6) Strikes or other labor disruptions extending in duration more than five calendar days;

(7) Utility or railroad adjustments;

(8) Material delivery delay caused by strikes, lockouts, wrecks, or freight embargoes;

(9) Subject to compliance with the requirements of Article 105.09, the operations of other contractors working within the limits of the contractor coordinated contracts; or,

(10) Cataclysmic events.

And for no other cause or causes, the Contractor shall be entitled to a reasonable extension of the contract times only by the amount of time the Contractor is actually delayed thereby in the performance of the work, provided notice requesting an adjustment to the completion date is given as herein provided. Contractor shall not be entitled to any extension of the contract times unless the Contractor notifies the Department in writing within 21 days of the commencement of each such delay; requests an adjustment within 21 days of the conclusion of such delay; and failure of the Contractor to request an adjustment in conformity with this Article shall be deemed a waiver of the same. Interim completion dates incorporated into a contract subject to a final completion date, and completion date plus working days contracts shall be governed by these provisions.

The Contractor recognizes it is imperative that the work proceed uninterrupted and shall endeavor to prevent and shall promptly cure any work stoppage caused by any labor or jurisdictional disputes arising out of the assignment of work to be performed by the Contractor or its subcontractors or subcontractors of any tier.

After the Contractor has filed a request for an extension of the contract times, the Department will notify the Contractor, in writing, whether or not such extension will be approved. The Engineer will consider how timely the Contractor prosecuted the work up to the point of the delay according to the progress schedule approved according to Article 108.02 when considering the request. No extension of the contract times will be granted unless the delay in completion of the work was caused specifically by a delay in a portion of the work that was on the critical path of the progress schedule, and that was otherwise on schedule. If approved, the extended date for completion shall then be considered as in effect the same as if it were the original date for completion.

Regardless of whether the contract is governed by (a) or (b) of this Article, extensions of the contract times granted for reasons or events beyond the reasonable control of the Department shall be the exclusive relief provided, and no additional compensation or claim for damages will be paid or awarded under this or any other provision of the Contract unless the allowance of additional compensation or relief from damages is expressly allowed by a provision of the contract. An extension of the contract times will be granted only by a change order or a work change directive issued by the Engineer.

108.12 Failure to Complete the Work on Time

Time is of the essence to the contract. Should the Contractor fail to complete the work within the working days stipulated in the contract or on or before the completion date stipulated in the contract or within such extended time as may have been allowed, the Contractor shall be liable and shall pay to the Department the amount shown in the following schedule of deductions, not as a penalty, but as liquidated damages, for each day of overrun in the contract times or such extended times as may have been allowed. The liquidated damages appearing in the schedule of deductions are approximate, due to the impracticality of calculating and proving actual delay costs. Consequently, the schedule of deductions establishes the cost of delay to account for administration, engineering, inspection, and supervision during periods of extended and delayed performance. The costs of delay represented by this schedule are understood to be a fair and reasonable estimate of the costs that will be borne by the Department during extended and delayed performance by the Contractor of the work, remaining incidental work, correction of work improperly completed, or repair of work damaged as a result of the Contractor. The liquidated damage amount specified will accrue and be assessed until final completion of the total work of the contract even though the work may be substantially complete. The Department will deduct these liquidated damages from any monies due or to become due to the Contractor from the Department.

Schedule of Deductions for Each Day of Overrun in Contract Times			
Original Contract Amount		Daily Charges	
From More Than	To and Including	Calendar Day	Working Day
$ 0	$ 100,000	$ 475	$ 675
$ 100,000	$ 500,000	$ 750	$ 1,050
$ 500,000	$ 1,000,000	$ 1,025	$ 1,425
$ 1,000,000	And over	$ 1,275	$ 1,725

When a completion date is specified, the daily charge will be made for every day shown on the calendar beyond the specified completion date. When the time limit is specified as working days, the daily charge will be made for each additional working day, computed as specified in Article 108.05. Interim completion dates incorporated into a contract subject to a final completion date shall also be governed by these provisions.

108.13 Default on Contract

If the Contractor fails to begin the work under contract within the time specified, or fails to perform the work with sufficient workers and equipment or with sufficient materials to ensure the completion of said work within the specified time, or shall perform the work unsuitably, as determined by the Engineer, or shall neglect or refuse to remove materials or perform anew such work as shall be rejected as defective and unsuitable, or shall discontinue the prosecution of the work, or if the Contractor shall become insolvent or be declared bankrupt, or shall commit any act of bankruptcy, or insolvency, or shall make an assignment for the benefit of creditors, or from any other cause whatsoever shall not carry on the work in a manner consistent with the contract documents or otherwise approved by the Engineer, the Engineer will give notice, in writing, to the Contractor and the Contractor's surety, of such delinquency, said notice to specify the corrective measures required. If the Contractor, within a period of ten (10) days after said notice, shall not proceed according to said notice, the Department shall, upon written certification from the Engineer of the fact of such delinquency and the Contractor's failure to comply with said notice, have full power and authority to forfeit the rights of the Contractor and, at its option, to call upon the surety to complete the work according to the terms of the contract, or it may take over the work, including all materials and equipment on the ground as may be suitable and acceptable, and may complete the work with its own forces, or use such other methods as, in its opinion, shall be required for the completion of said contract in an acceptable manner.

When the Department calls upon the surety to complete, the surety shall enter upon the premises and take possession of all materials, tools, and appliances for the purpose of completing the work under the contract and employ by contract or otherwise any person or persons satisfactory to the Department to finish the work without termination of the contract. Such employment shall not relieve the surety of its obligations under the contract and the contract security. Payments on estimates covering work subsequent to the transfer shall be made to the extent permitted under law to the surety or its agent without any right of the Contractor to make any claim.

The Contractor shall bear any extra expenses incurred by the Department in completing the work, including all increased cost for completing the work, and all damages sustained, or which may be sustained, by the Department by reason of such breach refusal, neglect, failure, or discontinuance of work by the Contractor. After

all of the work contemplated by the contract has been completed, the Engineer will calculate the total expenses and damages for the completed work. If the total expenses and damages are less than any unpaid balance due the Contractor, the excess will be paid by the Department to the surety or the Contractor. If the total expenses and damages exceed the unpaid balance, the Contractor and the surety shall be jointly and severally liable to the Department and shall pay the difference to the Department on demand.

If a notice of termination for default has been issued and it is later determined for any reason that the Contractor was not in default, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to a termination for public convenience according to the provisions of Article 108.14.

108.14 Termination of the Contractor's Responsibility
Whenever the improvements called for by the contract has been completely performed on the part of the Contractor and all parts of the work have been approved by the Engineer and accepted by the Department according to the contract, and the final payment made, the Contractor's obligations shall then be considered fulfilled, except those obligations which by their nature extend beyond the completion of work including, but not limited to, those described in Articles 105.19, 107.23, and 107.27.

108.15 Termination for Public Convenience
The Department may, by written order, terminate the contract or any portion thereof after determining that, for reasons beyond either Department or Contractor control, the Contractor is prevented from proceeding with or completing the work as originally contracted for, and that termination would, therefore, be in the public interest. Such reasons for termination may include, but need not be necessarily limited to, Executive Orders relating to prosecution of war or national defense, national emergency which creates a serious shortage of materials, orders from duly constituted authorities relating to energy conservation, and restraining orders or injunctions obtained by third-party citizen action resulting from national or local environmental protection laws or where the issuance of such order or injunction is primarily caused by acts or omissions of persons or agencies other than the Contractor.

When a contract, or any portion thereof, is definitely terminated or cancelled, and the Contractor released before all items of work included in his or her contract have been completed, payment will be made for the actual number of units of items of work completed at contract unit prices, or as specified in Article 109.07 for partially completed items, and no claims for loss of anticipated profits will be considered. Reimbursement for organization of the work and moving equipment to and from the job will be considered where the volume of the work completed is too small to compensate the Contractor for these expenses under the contract unit prices, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained by the Contractor for the work, that have been inspected, tested and accepted by the Engineer, and that are not incorporated in the work may, at the option of the Engineer, be purchased from the Contractor at actual costs as shown by receipted bills and actual cost records at such points of delivery as may be designated by the Engineer.

Termination of a contract, as stated above, will not relieve the Contractor or his or her surety of the responsibility of replacing defective work as required by the contract.

SECTION 109
MEASUREMENT AND PAYMENT

109.01 Measurement of Quantities
Completed work, which is to be measured for payment, will be measured by the Contractor and Engineer according to the United States standard measures. The units of measure shall be English and shall correspond to the units in the contract.

All measurements for pay lengths will be made linearly unless otherwise specified in the contract documents.

Longitudinal measurements for pay areas will be made linearly along the actual surface of the area. For transverse measurements for pay areas, the dimensions used in calculating the pay area shall be the exact horizontal dimensions shown on the plans or the dimensions ordered in writing by the Department. No deduction will be made for an interruption in a pay area having an area of nine square feet or less.

Longitudinal and transverse measurements for pay volumes will be made along the actual surface of the volume. For depth measurements for pay volumes, the dimensions used in calculating the pay volume shall be the exact vertical dimensions shown on the plans or the dimensions ordered in writing by the Department. No deduction will be made for an interruption in a pay volume having a surface area of nine square feet or less.

All measurements for weight shall be from scales meeting the requirements of the State of Indiana's Weights, Measures, and Metrology Program. The Contractor shall provide accurate weights of materials delivered to the site for incorporation into the work, whether temporary or permanent, for which the basis of payment is by weight. These weights shall be documented on delivery tickets which shall identify the source of the material, type of material, the date and time the material was loaded, the contract number, the net weight, the tare weight when applicable, and the identification of the transporting vehicle.

The Department may conduct random, independent vehicle weight checks for material sources using a qualified inspector.

Should the vehicle weight check for a source result in the net weight of material on the vehicle exceeding the net weight of material shown on the delivery ticket by 0.50 percent (0.50%) or more, the Department will document the independent vehicle weight check and immediately furnish a copy of the results to the Contractor. No adjustment in pay quantity will be made.

Should the vehicle weight check for a source result in the net weight of material shown on the delivery ticket exceeding the net weight of material on the vehicle by 0.50 percent (0.50%) or more, the Department will document the independent vehicle weight check and immediately furnish a copy of the results to the Contractor. The Department will adjust the net weight shown on the delivery ticket to the checked delivered net weight as determined by the independent vehicle weight check.

The Department will also adjust the method of measurement for subsequent deliveries from the source based on the independent weight check. The net weight of all materials delivered to all contracts from this source, for which the basis of payment is by weight, will be adjusted by applying a correction factor "A" as determined by the following formula:

$$\mathrm{A} = 1.0 - \left(\frac{\mathrm{B}-\mathrm{C}}{\mathrm{B}}\right); \text{Where: } \mathrm{A} \leq 1.0 \text{ and } \left(\frac{\mathrm{B}-\mathrm{C}}{\mathrm{B}}\right) > 0.50\%$$

Where:
A = Adjustment factor
B = Net weight shown on delivery ticket
C = Net weight determined from independent weight check

The adjustment factor will be applied as follows:

Adjusted Net Weight = A x Delivery Ticket Net Weight

The adjustment factor will be imposed until the cause of the deficient weight is identified and corrected by the Contractor to the satisfaction of the Department. If the cause of the deficient weight is not identified and corrected within seven days, the source shall cease delivery of all materials for which the basis of payment is by weight.

Should the Contractor elect to challenge the results of the independent weight check, the Department will continue to document the weight of material for which the adjustment factor would be applied. However, provided the Contractor furnishes the Department with written documentation that the source scale has been calibrated within seven days after the date of the independent weight check, adjustments in the weight of material paid for will not be applied unless the scale calibration demonstrates that the source scale was not within acceptable tolerances, as specified in the State of Indiana's Weights, Measures, and Metrology Program, and as regulated by the Indiana State Department of Health.

At the Contractor's option, the vehicle may be weighed on a second independent scale certified by the State of Indiana's Weights, Measures, and Metrology Program to verify the accuracy of the scale used for the independent weight check.

109.02 Determination of Contract Price
Where the contract documents specify that all or part of the work is to be unit price work, initially the contract price will be deemed to include, for all unit price work, an amount equal to the sum of the value of each pay item appearing on the basis of bid or basis of quote form, such values being determined by multiplying the unit price of each pay item by the estimated quantity of each pay item, such unit prices and estimated quantities appearing on such basis of bid or basis of quote form. The quantities of each pay item appearing on the basis of bid or basis of quote form are estimates prepared solely for the purposes of the comparison of bids, the establishment of pay item unit prices, and the determination of an initial contract price. Payment to the Contractor will be made for the actual quantities of work performed in accordance with the contract documents, the acceptance of such work and the determination of such quantities to be made by the Department in accordance with the contract documents, and the scheduled quantities may be increased, decreased, or omitted and the contract price adjusted as provided herein.

109.03 Scope of Payment
The Contractor shall receive and accept the compensation provided herein as full payment for performing all work specified, indicated, or contemplated in the contract documents; for furnishing all materials, labor, tools, and equipment necessary to complete the work; for all loss or damage arising out of the nature of the work and from the action of the elements; for any unforeseen difficulties or obstructions which may arise or be encountered during the prosecution of the work until its final acceptance by the Department; for all risks of every description connected with the prosecution of the work; for all expenses incurred by or in consequence of suspension or discontinuance of such prosecution of the work as herein described; for any infringement of patents, trademarks, or copyrights; and for completing the work in an acceptable manner according to the contract documents.

The payment of any partial payment prior to final acceptance of the work by the Department shall in no way constitute an acknowledgement of the acceptance of the work, nor in any way prejudice or affect the obligation of the Contractor, at his or her own expense, to repair, correct, renew, or replace any defects or imperfections in the construction or in the strength or quality of the materials used in or about the construction of the work under contract and its appurtenances, nor any damage due or attributable to such defects, which defects, imperfections, or damage shall have been discovered on or before the final inspection and acceptance of the work or thereafter, if so specified elsewhere in the contract documents. The Department shall be the sole judge of such defects, imperfections, or damage, and the Contractor shall be liable to the Department for failure to correct the same as provided herein.

109.04 Increased or Decreased Quantities
Whenever the quantity of any pay item as given in the proposal shall be increased or decreased, payment shall be made on the basis of the actual quantity of work performed at the unit price named in the proposed for such pay item, except as otherwise provided in Article 104.03, or in the detailed specifications for each item of work. The quantity of any pay item increased to complete extra work will not be paid for unless such extra work was performed in accordance with Article 109.05. Should any pay items contained in the proposal be found unnecessary for the proper completion of the work, the Department may, upon written order to the Contractor, eliminate such pay items from the contract and such action shall in no way invalidate the contract. When a Contractor is notified of the elimination of pay items, the Contractor will be reimbursed for actual work performed and all costs incurred, including mobilization of materials prior to said notification.

109.05 Payment for Extra Work
Should any extra work result from any of the changes described in Article 104.03, the Department will request from the Contractor a proposal to perform such extra work. Such proposal shall list each and every pay item required to complete such extra work. The proposal shall include a quantity and unit price for each and every pay item listed in the proposal and the proposal shall show the total increase in the contract price required to complete the extra work. Should the proposed extra work require an increase in the contract times, the proposal shall indicate the length of such increase.

Upon receipt, the Department will promptly review such proposal and either: decide to proceed with the extra work as proposed, or, return the proposal to the Contractor indicating in writing the Department’s reasons for refusing to recommend performance of the extra work as proposed. In the latter case, the Contractor may make the necessary corrections and resubmit the proposal. An authorization to proceed with any extra work will be issued by the Department through the issuance of either a change order or a work change directive.

Extra work which results from any of the changes described in Article 104.03 shall not be started until authorization from the Department is received, which authorization shall state the items of work to be performed and the method of payment for each work item. Work performed without such order will not be paid for.

Extra work will be paid for at either established contract prices, a lump sum price, agreed unit prices, or on a force account basis.

(a) Lump Sum Price or Agreed Unit Prices. When extra work is to be paid for at either a lump sum price or agreed unit prices, the lump sum or unit prices shall be agreed upon by the Contractor and the Department.

(b) Force Account Basis. When extra work is to be paid for by force account, the basis for the force account shall be as follows.

(1) Labor. For all labor and foremen in direct charge of the specific operations, the Contractor shall receive the actual normal rate of wage paid for each and every hour that said labor and foremen are actually engaged in such work.

The Contractor shall receive the actual costs paid to, or in behalf or, workers by reasons of subsistence and travel allowances, health and welfare benefits, pension fund benefits, or other benefits, when such amounts are required by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed on the work.

An amount equal to 35 percent (35%) of the sum of the above items will also be paid to the Contractor.

(2) Bond, Insurance, and Tax. For property damage, liability, and workmen's compensation insurance premiums, unemployment insurance contributions, and social security taxes on the force account work, the Contractor shall receive the actual cost, to which ten percent (10%) will be added. The Contractor shall furnish satisfactory evidence of the rate or rates paid for such bond, insurance, and tax.

(3) Materials. For materials accepted by the Department and used, the Contractor shall receive the actual cost of such materials delivered on the work, including transportation charges paid by the Contractor (exclusive of the machinery rentals as hereinafter set forth), to which cost fifteen percent (15%) will be added.

(4) Equipment. Equipment used for extra work shall be authorized by the Department. The equipment shall be specifically described, be of suitable size and capacity for the work to be performed, and be in good operating condition. For such equipment, the Contractor will be paid as follows.

a. Contractor Owned Equipment. Contractor owned equipment will be paid for by the hour using the applicable FHWA hourly rate from the "Equipment Watch Rental Rate Blue Book" (Blue Book) in effect when the force account begins. The FHWA hourly rate is calculated as follows.

FHWA hourly rate = (monthly rate/176) x (model year adj.) x (Indiana adj.) + EOC

Where:

EOC = Estimated Operating Costs per hour (from the Blue Book)

The time allowed will be the actual time the equipment is operating on the extra work. For the time required to move the equipment to and from the site of the extra work and any authorized idle (standby) time, payment will be made at the following hourly rate:

0.5 x (FHWA Hourly Rate - EOC)

All time allowed shall fall within the working hours authorized for the extra work.

The rates above include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs, overhaul, maintenance of any kind, depreciation, storage, overhead, profits, insurance, and all incidentals. The rates do not include labor.

The Contractor shall submit to the Department sufficient information for each piece of equipment and its attachments to enable the Department to determine the proper equipment category. If a

rate is not established in the Blue Book for a particular piece of equipment, the Department will establish a rate for that piece of equipment that is consistent with its cost and use in the industry.

b. Rented Equipment. Whenever it is necessary for the Contractor to rent equipment to perform extra work, the rental and transportation costs of the equipment plus five percent (5%) for overhead will be paid. In no case shall the rental rates exceed those of established distributors or equipment rental agencies.

(5) Miscellaneous. No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.

(6) Work Performed by an Approved Subcontractor. When extra work is performed by an approved subcontractor, the Contractor shall receive, as administrative costs, an amount equal to five percent of the total approved costs of such work with the minimum payment being $100.

(7) Statements. No payment will be made for work performed on a force account basis until the Contractor has furnished the Department with itemized statements of the cost of such force account work. Statements shall be accompanied and supported by invoices for all materials used and transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Department's stock, then in lieu of the invoices, the Department shall furnish an affidavit certifying that such materials were taken from his or her stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

Itemized statements of the cost of force account work shall be detailed as follows.

a. Name, classification, date, daily hours, total hours, rate, and extension for each laborer and foreman. Payrolls shall be submitted to substantiate actual wages paid if so requested by the Engineer.

b. Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.

c. Quantities of materials, prices, and extensions.

d. Transportation of materials.

e. Cost of property damage, liability, and workmen's compensation insurance premiums, unemployment insurance contributions, and social security tax.

All statements of the costs of force account work shall be furnished to the Department not later than 60 days after the completion of such work. If the statement is not received within the specified time frame, all demands for payment for the extra work are waived and the Department is released from any and all such demands. It is the responsibility of the Contractor to ensure that all statements are received within the specified time regardless of the manner or method of delivery.

109.06 Expenses Incurred by the Department

Upon written request of the Department, the Contractor shall pay bills associated with the performance, observation, or inspection of the work which are the responsibility of the Department. The Contractor shall receive as administrative costs an amount equal to five percent (5%) of the first $10,000 and one percent (1%) of any amount over $10,000 of the total actual amount paid per bill with the minimum payment being $100.

109.07 Payment for Items Omitted When Partially Completed

Should the Department cancel or alter any portion of the contract which results in the elimination or noncompletion of any portions of the work that have been partially completed, the Contractor will be allowed a fair and equitable amount covering all items of work incurred prior to the date of cancellation, alteration, or suspension of such work.

The Contractor shall be allowed a profit percentage on the materials used and the construction work actually performed at the rate specified in Article 109.05, but no allowance will be made for any change in anticipated profits. Acceptable materials ordered by the Contractor or delivered on the work prior to the date of its cancellation, alteration, or suspension by the Department will be purchased from the Contractor by the Department at the actual cost and shall thereupon become the property of the Department; or at the option of the

Department, the unused acceptable material shall remain the property of the Contractor, and the Contractor will be paid the actual cost including freight, unloading, and hauling costs less the actual salvage value.

109.08 Partial Payments

Partial payments will be made as follows.

(1) Progress Payments. As the work proceeds, the Contractor may, on approximately a monthly basis, unless otherwise specified in the contract documents, submit to the Engineer, for review, an application for payment filled out and signed by the Contractor covering the work completed as of the date of such application and accompanied by such supporting documentation as is required by the Department to review such application. The schedule of values established in accordance with Article 108.02 shall serve as the basis for such applications for payment and such schedule shall be incorporated into such applications for payment in a form acceptable to Department.

The Engineer will, within ten days after receipt of each application for payment, either: accept the application for payment and subsequently process the application for payment; or, return the application to the Contractor indicating in writing the Engineer's reasons for refusing to recommend payment. In the latter case, the Contractor may make the necessary corrections and resubmit the application.

The Engineer's recommendation of any progress payment will constitute a representation by the Engineer, based on the Engineer's observations of the work; the Engineer's measurements of the quantity of work performed in accordance with the contract documents and the value of such work; and, the Engineer's review of the application for payment and the accompanying supporting documentation, that to the best of the Engineer's knowledge, information, and belief, the work has progressed to the point indicated, the quality of the work is generally in accordance with the contract documents, and the conditions precedent to the Contractor's being entitled to such payment appear to have been fulfilled.

The Engineer may refuse to recommend the whole or any part of any progress payment if, in the Engineer's opinion, it would be incorrect to make the representations stated above. The Engineer may also revise or revoke any such payment recommendation previously made to such extent as may be necessary, in the Engineer's opinion, to protect the Department from loss because subsequently discovered evidence or the results of subsequent inspections or tests reveal that the work is defective, the work has been damaged, requiring correction or replacement, the contract price has been reduced by change orders, the Department has been required to correct defective work or to complete work, or the Department has found the Contractor to be in default of contract as described in Article 108.13.

(2) Material Allowances. At the discretion of the Engineer, payment may be made for materials prior to their use in the work, when satisfactory evidence is presented to the Engineer by the Contractor in an application for payment. Satisfactory evidence includes justification for the allowance (e.g., to expedite the work, meet project schedules, address regional or national material shortages), documentation of material and transportation costs, and evidence that such material is properly stored on the site or at a secure location acceptable and accessible to and agreed to in writing by the Department.

If payment on the basis of materials not incorporated into the work but delivered and suitably stored at the site or at another location agreed to in writing is so requested, the application for payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that the Department will be receiving the materials and equipment free of all liens and evidence that the materials are covered by appropriate property insurance or other arrangements to protect the Department's interest therein, all of which must be satisfactory to the Department.

Material allowances will be considered only for nonperishable materials when the cost of such materials, including transportation, exceeds $10,000 and such materials are not expected to be utilized within 60 days of the request for the allowance. For contracts valued under $500,000, the minimum $10,000 requirement may be met by combining the principal (i.e., material) value of no more than two contract items. An exception to this two item limitation may be considered for any contract regardless of value for items in which materials (i.e., products) are similar, except for type and/or size.

Material allowances shall not exceed the contract value of the pay items in which the materials will be used and shall not include the cost of installation or related markups. Amounts paid by the Department for

material allowances will be deducted from payments due the Contractor as the material is used. Proof of payment for materials and transportation shall be furnished to the Department within 60 days of payment of the allowances or the amounts will be reclaimed by the Department.

30 days after the presentation of an application for partial payment to the Department by the Engineer, along with the Engineer's recommendation for payment, the full amount recommended for payment, less any retainage, will become due and upon becoming due will be paid by Department to Contractor. The amount of retainage withheld from each partial payment will be as stipulated in the contract and such retainage may be withheld by the Department until final acceptance of and final payment for the work.

The failure to perform any requirement, obligation, or term or condition of the contract by the Contractor shall be reason for the Department to withhold any additional part or all of any partial payment until the Department determines that compliance with the contract has been achieved. Furthermore, partial payments may be reduced or withheld if claims have been made against the Department on account of the Contractor's performance of the work or liens have been filed against the Department in connection with the work. If the Department refuses to make payment of the full payment amount requested by the Contractor, the Department will give the Contractor immediate written notice, stating the reasons for such action and will promptly pay the Contractor any amount remaining after deduction of the amount so withheld. The Department shall promptly pay the Contractor the amount so withheld, or any adjustment thereto agreed to by the Department and Contractor, when the Contractor remedies the reasons for such action.

The Contractor warrants and guarantees, at the time of submitting an application for payment, that title to all work, materials, and equipment covered by any application for payment, whether incorporated into the work or not, will pass to the Department no later than the time of payment free and clear of all liens. At the request of the Department, beginning with the first application for payment, each application shall include a Contractor's affidavit and waiver of lien, prepared in accordance with all applicable laws and regulations, stating that all previous payments received on account of the work have been applied on account to discharge the Contractor's legitimate obligations associated with the work and that title to all work, materials, and equipment covered by the payment applied for will pass to the Department free and clear of all liens at the time of payment.

109.09 Acceptance and Final Payment

Whenever all parts of the work specified or indicated in the contract documents have been completed by the Contractor; a definitive certificate of substantial completion has been issued by the Department; the work has undergone a final inspection and has been found, by the Engineer, to be satisfactorily completed; and, all other terms and conditions of the contract documents have been satisfied, the Contractor shall submit to the Department, for review, a final application for payment. The final application for payment shall show the total value of the work completed for which payment has not yet been received and shall be accompanied by such supporting documentation as is required by the Engineer to review such application.

If, on the basis of the Engineer's observation of the work during construction and final inspection; the Engineer's measurements of the quantity of work performed in accordance with the contract documents and the value of such work; and, the Engineer's review of the final application for payment and the accompanying supporting documentation, the Department is satisfied that the work has been completed and that the Contractor's other obligations under the contract documents have been fulfilled, the Department will, within ten days after receipt of the final application for payment, accept the final application for payment. Otherwise, the Department will return the final application for payment to the Contractor, indicating in writing the Department's reasons for refusing to recommend final payment, in which case the Contractor shall make the necessary corrections and resubmit the application.

The Department's recommendation of final payment will constitute a representation by the Department, based on the Department's observations of the work, that, to the best of the Department's knowledge, information, and belief, the work has been found to be satisfactorily completed, all applicable terms and conditions of the contract documents have been satisfied, and the conditions precedent to the Contractor's being entitled to such payment appear to have been fulfilled. The Department may refuse to recommend the whole or any part of a final payment if, in the Department's opinion, it would be incorrect to make the representations stated above. Additionally, all prior measurements of the quantity of work performed, upon which partial payments may have been made, are subject to correction in the final payment.

30 days after the presentation of the final application for payment to the Department, along with the Department's acceptance of such final application for payment, the full amount recommended for payment by the Department, less any sum the Department is entitled to deduct from the final application for payment, including, but not limited to, any liquidated damages, will become due and upon becoming due will be paid by the Department to the Contractor. At such time, any retainage withheld from previous partial payments in accordance with the terms of the contract and not yet paid to the Contractor will also become due and payable to the Contractor.

Final acceptance of the work occurs by the signature of an authorized representative of the Department on his or her written recommendation of final payment and the date of this signature shall constitute the final acceptance date. Final acceptance shall not constitute acceptance of any unauthorized or defective work or material and the Department shall not be barred from requiring the removal, replacement, repair, or disposal of any unauthorized or defective work or material or from recovering damages from any such work or material following final acceptance.

The Contractor warrants and guarantees, at the time of submitting the final application for payment, that title to all work, materials, and equipment covered by any application for payment, whether incorporated into the work or not, will pass to the Department no later than the time of payment free and clear of all liens. The final application for payment shall include a Contractor's affidavit and waiver of lien, prepared in accordance with all applicable laws and regulations, stating that all previous payments received on account of the work have been applied on account to discharge the Contractor's legitimate obligations associated with the work and that title to all work, materials, and equipment covered by the final payment will pass to the Department free and clear of all liens at the time of payment.

The making of final payment by the Department and acceptance of such final payment by the Contractor will constitute a release and waiver of any and all rights and privileges under the terms of the contract, unless otherwise specified in the contract documents, and shall relieve the Department from any and all claims or liabilities for anything done or furnished relative to the work.

109.10 Contract Claims

If the Contractor claims that additional payment is due under the terms of the contract or for any other reason arising out of the performance of the contract and the Department has not agreed, during the ordinary course of contract administration, that payment is due, the Contractor desiring to pursue additional compensation shall file a claim according to the requirements and procedures specified herein. If written notifications are not given, or if the Department is not afforded reasonable access by the Contractor to complete records of actual costs or additional time, or if a claim is not filed according to the procedures and within the time specified herein, then the claim is waived and the Department is released from any and all demands and claims. The fact that the Contractor has provided a proper notification, provided a properly filed claim, or provided the Department access to records of actual cost, shall not in any way be construed as proving or substantiating the validity of the claim. If the claim, after consideration by the Department, is found to have merit, the Department will make an equitable adjustment either in the amount of costs to be paid according to the basis of payment specified herein or in the time required for the work or both. If the Department finds the claim to be without merit, no adjustment will be made.

The Contractor may present a claim made by a subcontractor founded upon the terms of the contract or the actions and orders of the Department without being first required to make payment to the subcontractor provided: the Contractor makes written certification that the subcontractor is entitled to additional compensation; that the subcontractor will be paid in the event of a favorable resolution of the claim; and that the subcontract, releases, and waivers executed by the subcontractor do not bar payment to the subcontractor. The written certification may authorize the subcontractor to present the subcontractor claim directly to the Department. If such authorization is given, the Contractor need not participate in the verbal presentation of the claim. In any event, the submission shall include a copy of the subcontract, and any releases or waivers signed by the subcontractor in favor of the Contractor. The Contractor's interest in the subcontractor's claim shall not be assigned or otherwise disposed of, except as specified in Article 108.01.

(a) Submission of Claim. All claims filed by the Contractor shall be in writing and in sufficient detail to enable the Department to ascertain the basis and amount of the claim. All claims shall be submitted to the Department. As a minimum, the following information must accompany each claim submitted.

(1) A detailed factual statement of the claim for additional compensation and time, if any, providing all necessary dates, locations, and items of work affected by the claim.

(2) The name of any Department official or employee involved in or knowledgeable about the claim.

(3) The specific provisions of the contract which support the claim and a statement of the reasons why such provisions support the claim.

(4) If the claim relates to a decision of the Department which the contract leaves to the Department's discretion or as to which the contract provides that the Department's decision is final, the Contractor shall set out in detail all facts supporting his or her position relating to the decision of the Department.

(5) The identification of any documents and the substance of any oral communications that support the claim.

(6) Copies of any identified documents, other than Department documents and documents previously furnished to the Department by the Contractor, that support the claim, including, but not limited to, manuals which are standard to the industry and used by the Contractor.

(7) If an extension of time is sought, the specific days and dates for which it is sought, he specific reasons the Contractor believes a time extension should be granted, and the specific provisions of Article 108.11 under which it is sought.

(8) If additional compensation is sought, the exact amount sought and a breakdown of that amount into direct labor, direct materials, direct equipment, direct jobsite overhead, and direct offsite overhead.

(9) A statement, certified by a notary public, containing the following language:

This statement is submitted by _____ *(name)*, _____ *(title)* *of* _____ *(company)*, *who certifies under penalty of law that the claim for compensation and time, if any, made herein for work under this contract is a true statement, fully documented, and supported under the contract between the parties.*

Dated: _____ *(month and day)*, _____ *(year)*.

(b) Record Retention. It is the responsibility of the Contractor to keep full and complete records of the costs and additional time incurred for any claim. The Contractor shall permit the Department to have access to those records and any other records as may be required by the Department to determine the facts or contentions involved in the claim. The Contractor shall retain those records according to Article 109.11.

(c) Audit. All claims filed against the Department shall be subject to audit at any time following the filing of the claim. The audit may be performed by employees of the Department or by an auditor under contract with the Department. The audit may begin at any time during the life of the contract, or on twenty (20) days notice to the Contractor or its agents if an audit is to be commenced more than 60 days after the final payment date of the contract. The Contractor, subcontractors, or agents shall provide adequate facilities acceptable to the Department, for the audit during normal business hours. Failure of the Contractor or its agents to maintain and retain sufficient records to allow the auditors to verify all or any portion of the claim or to permit the auditor access to the books and records of the Contractor, subcontractors, or agents shall constitute a waiver of the claim and may bar any recovery of all or any portion thereunder.

The records subject to retention and audit are all books and records including but not limited to the following documents.

(1) Daily time sheets and supervisor's daily reports.

(2) Payroll records including tax, insurance, welfare, and benefits records.

(3) Material invoices and requisitions.

(4) Material cost distribution worksheet.

(5) Equipment records (list of company equipment, rates, etc.).

(6) Vendor's, rental agency's, subcontractor's, and agent's invoices.

(7) Subcontractor's and agent's payment certificates.

(8) Cancelled checks (payroll and vendors).

(9) Job cost report.

(10) Job payroll ledger.

(11) General ledger.

(12) Cash disbursements journal.

(13) Financial statements for all years reflecting the operations on the contract involved.

(14) Depreciation records on all company equipment.

(15) If a source other than depreciation records is used to develop costs for the Contractor's internal purposes in establishing the actual costs of owning and operating the equipment, all such other source documents.

(16) All documents including pricing books and bid documents which relate to each and every claim together with all documents which support the amount of damages as to each claim.

(17) Worksheets used to prepare the claim establishing the cost components for items of the claim including but not limited to labor, benefits and insurance, materials, equipment, subcontractors, and all documents which establish the time periods involved, the hours for the individuals involved, and the rates of such individuals.

(d) Time of Submission. Notice of the intent to file a claim shall be given to the Department within 21 days of the date of the Contractor's final application for payment prepared and submitted according to the provisions of Article 109.09. All claims submitted according to this Article shall be filed not later than six months after such date. Such six month period shall run from the date of the Contractor's final application for payment. The requirement of a general administrative claims cutoff time provided herein shall not constitute a waiver of any notification time requirements stated elsewhere in the contract documents.

(e) Procedure. All claims shall be submitted to the Department. The Department will consider all information submitted with the claim and render a decision on the claim within 90 days after receipt. Claims not conforming to this Article will be returned without consideration. The Department may schedule a claim presentation meeting if, in the Department's judgment, such a meeting would aid in resolution of the claim, otherwise a decision will be made based on the claim documentation submitted.

Full compliance by the Contractor with the provisions specified in this Article is a contractual condition precedent to the Contractor's right to seek relief in the court. The Department's written decision shall be the final administrative action of the Department. Unless the Contractor files a claim for adjudication by the court within 60 days after the date of the Department's written decision, the failure to file shall constitute a release and waiver of the claim.

(f) Basis of Payment. After resolution of a claim in favor of the Contractor, any adjustment in time required for the work will be made according to Article 108.11. Any adjustment in the costs to be paid will be made for direct labor, direct materials, direct equipment, direct jobsite overhead, direct offsite overhead, and other direct costs allowed by the resolution. Adjustments in costs will not be made for interest charges, loss of anticipated profit, lost opportunity, preparation of claim expenses, and other consequential indirect costs regardless of method of calculation.

The above basis of payment is an essential element of the contract and the claim cost recovery of the Contractor shall be so limited.

109.11 Contractor Record Retention

All books and records required to be maintained by the Contractor and subcontractor shall be maintained as provided for elsewhere in the contract. The Contractor and subcontractor shall cooperate fully with any audit and provide full access to all relevant materials. Failure by the Contractor or subcontractor to maintain the books, records, and supporting documents required by this Article shall establish a presumption in favor of the Department for the recovery of any funds paid by the Department under the contract for which adequate books and records are not available. The Contractor and subcontractor shall include the requirements of this Article in all subcontracts.

CONSTRUCTION PLANS

FOR

NORTH STIMSON
DRAIN TILE RECONSTRUCTION

PORTER CO. DEPARTMENT OF DEVELOPMENT & STORM WATER MANAGEMENT
October 15, 2024

The following Construction Plans shall apply to and govern the project designated as **North Stimson - Drain Tile Reconstruction.** Such Construction Plans supplement the specifications contained in the documents listed in the table below and, in case of conflict with any part or parts of said specifications, the Engineer shall determine which specifications shall take precedence and govern. The following hierarchy will be applied by the Engineer in resolving any conflict, error, ambiguity, or discrepancy in or between said specifications.

Specification	**Issuing Agency**	**Adopted/Dated**
Special Provisions for North Stimson – Drain Tile Reconstruction	Porter Co. Department of Development & Storm Water Management	October 15, 2024
Technical Specifications for North Stimson - Drain Tile Reconstruction	Porter Co. Department of Development & Storm Water Management	October 15, 2024
Construction Plans for North Stimson - Drain Tile Reconstruction	Porter Co. Department of Development & Storm Water Management	February 12, 2024
General Specifications to the Construction & Maintenance Services Agreements	Porter Co. Department of Development & Storm Water Management	February 1, 2024

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CLIENT:

PORTER COUNTY DEPARTMENT OF DEVELOPMENT
& STORMWATER MANAGEMENT
155 INDIANA AVE, SUITE 311, VALPARAISO, IN 46383

NORTH STIMSON DRAIN
DRAIN TILE RECONSTRUCTION
PORTER COUNTY, IN
FINAL PLANS

VICINITY MAP NOT TO SCALE

SHEET LIST TABLE

SHEET NUMBER	SHEET TITLE
1	COVER
2	CONSTRUCTION SEQUENCE AND ESC PLAN
3	OVERVIEW
4 - 13	PLAN & PROFILE
14- 16	EROSION AND SEDIMENT CONTROL PLAN
17 - 26	DETAILS

JESSICA A. MCCLORY
REGISTERED
No. 12200391
STATE OF
INDIANA
PROFESSIONAL ENGINEER

PROJECT DESIGN ENGINEER

CONSTRUCTION SEQUENCE AND EROSION AND SEDIMENT CONTROL PLAN

1. EVALUATE THE SITE
   1.1. BEFORE CONSTRUCTION, CONTRACTOR SHALL EVALUATE THE SITE AND MARK VEGETATIVE AREAS AND TREES TO BE PROTECTED, UNIQUE AREAS TO PRESERVE, ON-SITE SEPTIC SYSTEM ABSORPTION FIELDS, AND VEGETATION SUITABLE FOR FILTER STRIPS, ESPECIALLY PERIMETER AREAS.
2. PROTECT TREES AND SENSITIVE AREAS
   2.1. TO PREVENT ROOT DAMAGE, DO NOT GRADE, BURN, PLACE SOIL PILES, OR PARK VEHICLES NEAR TREES OR IN AREAS MARKED FOR PRESERVATION.
   2.2. PLACE PLASTIC MESH OR SNOW FENCE BARRIERS AROUND THE TREES' DRIPLINES TO PROTECT THE AREA BELOW THEIR BRANCHES.
   2.3. PLACE A PHYSICAL BARRIER, SUCH AS PLASTIC FENCING, AROUND THE AREA DESIGNATED FOR A SEPTIC SYSTEM ABSORPTION FIELD (IF APPLICABLE). THE CONTRACTOR SHALL COORDINATE WITH THE OWNER OR ENGINEER TO DETERMINE IF THERE ARE ANY SEPTIC SYSTEM ABSORPTION FIELDS IN THE PROJECT AREA.
3. INSTALL PERIMETER EROSION AND SEDIMENT CONTROLS
   3.1. IDENTIFY THE AREAS WHERE SEDIMENT LADEN RUNOFF COULD LEAVE THE CONSTRUCTION SITE, AND INSTALL PERIMETER CONTROLS TO MINIMIZE THE POTENTIAL FOR OFF-SITE SEDIMENTATION. IT IS IMPORTANT THAT PERIMETER CONTROLS ARE IN PLACE BEFORE ANY EARTH MOVING ACTIVITIES BEGIN.
4. PROTECT DOWN-SLOPE AREAS WITH SILT FENCES AND OTHER APPROPRIATE PRACTICES
   4.1. USE SILT FENCING ALONG THE PERIMETER OF THE LOT'S DOWNSLOPE SIDE(S) TO TRAP SEDIMENT AS SHOWN IN THE PLANS AND IDENTIFIED BY THE ENGINEER IN THE FIELD.
5. INSTALL GRAVEL DRIVE
   5.1. RESTRICT ALL LOT ACCESS TO THIS DRIVE TO PREVENT VEHICLES FROM TRACKING MUD ONTO ROADWAYS. REFER TO GRAVEL CONSTRUCTION ENTRANCES.
6. PROTECT STORM SEWER INLETS
   6.1. PROTECT ON-SITE STORM SEWER DROP INLETS WITH SILT FENCE MATERIAL, OR EQUIVALENT MEASURES.
7. PREPARE THE SITE FOR CONSTRUCTION
   7.1. PREPARE THE SITE FOR CONSTRUCTION AND FOR INSTALLATION OF UTILITIES. MAKE SURE ALL CONTRACTORS (ESPECIALLY THE EXCAVATING CONTRACTOR) ARE AWARE OF AREAS TO BE PROTECTED.
8. SALVAGE AND STOCKPILE TOPSOIL OR SUBSOIL
   8.1. REMOVE TOPSOIL (TYPICALLY THE UPPER FOUR TO SIX INCHES OF THE SOIL MATERIAL) AND STOCKPILE. REMOVE SUBSOIL AND STOCKPILE SEPARATELY FROM THE TOPSOIL.
   8.2. LOCATE THE STOCKPILES AWAY FROM ANY DOWNSLOPE STREET, DRIVEWAY, STREAM, LAKE, WETLAND, DITCH, OR DRAINAGE WAY.
   8.3. IMMEDIATELY AFTER STOCKPILING, TEMPORARY SEED THE STOCKPILES WITH ANNUAL RYE OR WINTER WHEAT AND/OR INSTALL SEDIMENT BARRIERS AROUND THE PERIMETER OF THE PILES.
   8.4. DO NOT PLACE STOCKPILES IN A DRAINAGE EASEMENT.
9. CONSTRUCT THE PROJECT ACCORDING TO THE PLANS AND AS DIRECTED BY THE ENGINEER.
10. MAINTAIN EROSION AND SEDIMENT CONTROL PRACTICES
   10.1. MAINTAIN ALL EROSION AND SEDIMENT CONTROL PRACTICES UNTIL CONSTRUCTION IS COMPLETED AND THE PROJECT AREA HAS BEEN STABILIZED.
   10.2. INSPECT THE CONTROL PRACTICES A MINIMUM OF TWICE A WEEK AND AFTER EACH STORM EVENT, MAKING ANY NEEDED REPAIRS IMMEDIATELY.
   10.3. AT THE END OF EACH WORK DAY, SWEEP OR SCRAPE UP ANY SOIL TRACKED ONTO ROADWAY(S). DO NOT FLUSH AREAS WITH WATER.
11. REVEGETATE THE SITE IMMEDIATELY AFTER CONSTRUCTION ACTIVITIES ARE COMPLETED. STABILIZE THE LOT WITH SEED AND/OR MULCH.
   11.1. SPREAD STOCKPILED SUBSOIL TO ROUGH GRADE.
   11.2. SPREAD THE STOCKPILED TOPSOIL TO A DEPTH OF FOUR TO SIX INCHES OVER ROUGH GRADED AREAS.
   11.3. FERTILIZE AND LIME ACCORDING TO SOIL TEST RESULTS, RECOMMENDATIONS OF A SEED SUPPLIER, OR A PROFESSIONAL LANDSCAPING CONTRACTOR.
   11.4. APPLY TEMPORARY SEED ON BARE AREAS.
   11.5. CONTACT LOCAL SEED SUPPLIERS FOR RECOMMENDED SEEDING MIXTURES AND RATES.
   11.6. WATER NEWLY SEEDED AREAS AS NEEDED TO KEEP THE SOIL MOIST. LESS WATERING IS NEEDED ONCE GRASS IS TWO INCHES TALL.
   11.7. SPREAD STRAW MULCH ON NEWLY SEEDED AREAS.
   11.8. ON FLAT OR GENTLY SLOPING LAND, ANCHOR THE MULCH BY CRIMPING IT TWO TO FOUR INCHES INTO THE FOIL. ON STEEP SLOPES, ANCHOR THE MULCH WITH NETTING OR TACKIFIERS. AN ALTERNATIVE TO MULCH WOULD BE THE USE OF EROSION CONTROL BLANKETS.
12. REMOVE REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.
   12.1. ONCE THE VEGETATION IS WELL ESTABLISHED, REMOVE ANY REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL PRACTICES.

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Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

Client/Project
PORTER COUNTY DEPARTMENT OF DEVELOPMENT & STORMWATER MANAGEMENT
PARKER DITCH HEADWATERS RESTORATION
BETWEEN CR 125 S & SR 49

Title
FINAL PLANS
CONSTRUCTION SEQUENCE AND ESC PLAN

Permit-Seal
JESSICA MCCLORY REGISTERED No. 12200391 STATE OF INDIANA PROFESSIONAL ENGINEER

Project Number: 238102157

File Name: 238102157_Overview_N Stimson Drain.dwg

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Drawing No.

Revision 2

Sheet 2 of 26

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DELINEATED WETLAND AREA

NWI POND AREA

PARCEL LINES

VALPARAISO CITY LIMITS

CONTROL POINT

CONTROL POINTS:

TBM#1:
MAG SPIKE SOUTHEAST FACE OF POWER POLE
N: 2970746.7950
E: 2253278.5130
ELEV.: 739.16 (NAVD88)

CP#1:
ALUMINUM DISC
N: 2253299.3620
E: 2970864.4610
ELEV.: 741.18 (NAVD88)

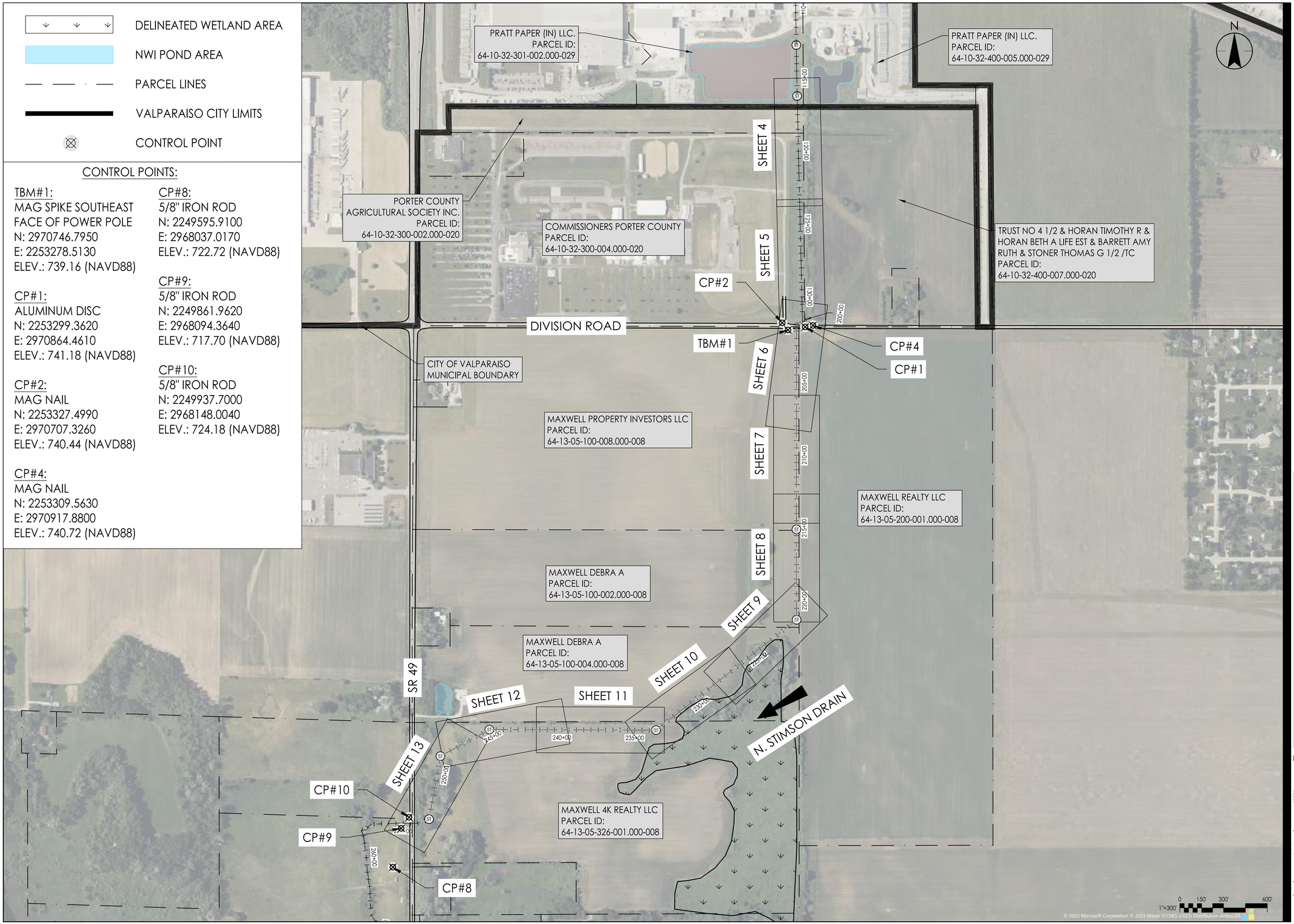
CP#2:
MAG NAIL
N: 2253327.4990
E: 2970707.3260
ELEV.: 740.44 (NAVD88)

CP#4:
MAG NAIL
N: 2253309.5630
E: 2970917.8800
ELEV.: 740.72 (NAVD88)

CP#8:
5/8" IRON ROD
N: 2249595.9100
E: 2968037.0170
ELEV.: 722.72 (NAVD88)

CP#9:
5/8" IRON ROD
N: 2249861.9620
E: 2968094.3640
ELEV.: 717.70 (NAVD88)

CP#10:
5/8" IRON ROD
N: 2249937.7000
E: 2968148.0040
ELEV.: 724.18 (NAVD88)



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Issued	By	Apprd.	YY.MM.DD

Client/Project
PORTER COUNTY DEPARTMENT OF DEVELOPMENT
& STORMWATER MANAGEMENT
PARKER DITCH HEADWATERS RESTORATION
BETWEEN CR 125 S & SR 49

Title
FINAL PLANS
OVERVIEW

Permit-Seal

JESSICA A. MCCLORY
REGISTERED
No. 12200391
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PROFESSIONAL ENGINEER

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JTC	RAS	JTC	24.02.12
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Drawing No.

Revision	Sheet
2	3 of 26

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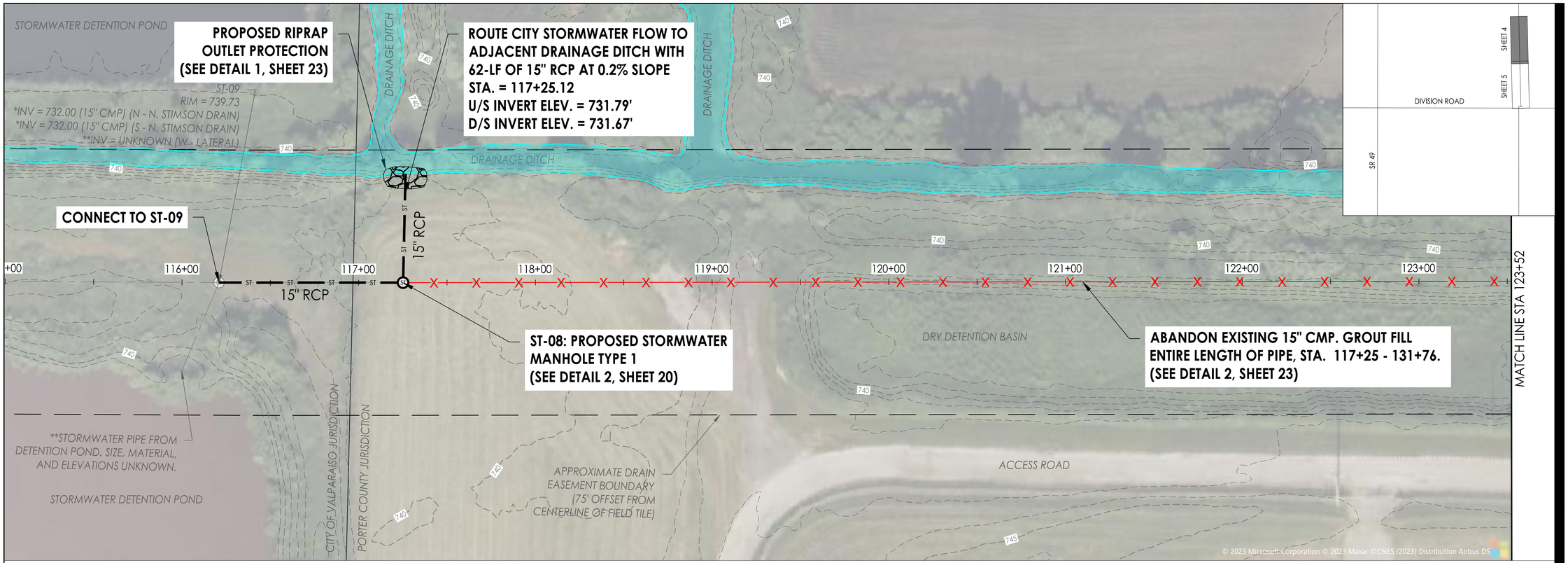


700 EXISTING MAJOR CONTOUR (5')

EXISTING MINOR CONTOUR (1')

100+00 EXISTING CENTERLINE ALIGNMENT

EXISTING STORMWATER LATERALS

APPROXIMATE DRAIN EASEMENT

ST ST ST PROPOSED STORMWATER PIPE REPLACEMENT

PROPOSED ABANDONED PIPE

(ST) PROPOSED NEW MANHOLE LOCATION

(ST) EXISTING STORMWATER MANHOLE

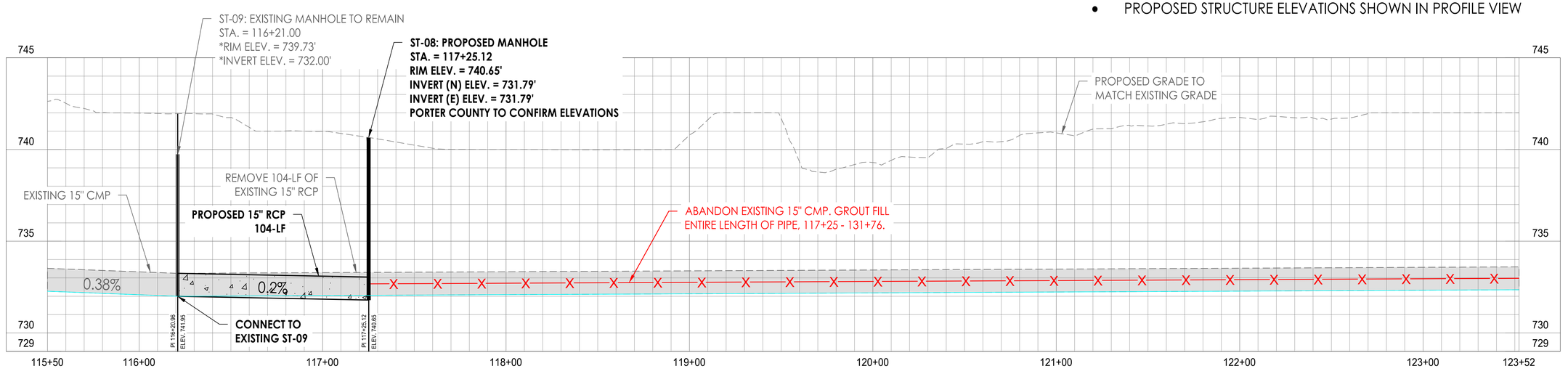
ESTIMATED BASEFLOW CHANNEL

N

0 15' 30' 60'
1"=30'

NOTES:

- *ELEVATION PER RECORDS (AUGUST 2014, NORTH STIMSON DRAIN REPLACEMENT PRATT PAPER MILL)
- A. CONTRACTOR TO FIELD VERIFY RIM AND INVERT ELEVATIONS FOR STRUCTURES BETWEEN STA. 116+21 & 117+25 PRIOR TO SHOP DRAWING REVIEW. REPORT FINDINGS TO ENGINEER FOR ADJUSTMENT OF STRUCTURE ELEVATIONS BASED ON FIELD CONDITIONS.
- **INFORMATION NOT INCLUDED IN AVAILABLE RECORDS
- PROPOSED STRUCTURE ELEVATIONS SHOWN IN PROFILE VIEW



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Revision	By	Apprd.	YY.MM.DD

Issued	By	Apprd.	YY.MM.DD

Client/Project
PORTER COUNTY DEPARTMENT OF DEVELOPMENT & STORMWATER MANAGEMENT
NORTH STIMSON DRAIN DRAIN TILE RECONSTRUCTION
BETWEEN E DIVISION RD & SR 49

Title
FINAL PLANS
NORTH STIMSON DRAIN - PLAN & PROFILE

Permit-Seal
JESSICA MCCLORY REGISTERED No. 12200391 STATE OF INDIANA PROFESSIONAL ENGINEER

Project Number: 238102157

File Name: 238102158_Plans_N Stimson Drain.dwg

JTC	RAS	JTC	24.02.12
Dwn.	Chkd.	Dsgn.	YY.MM.DD

Drawing No.

Revision 2

Sheet 4 of 26

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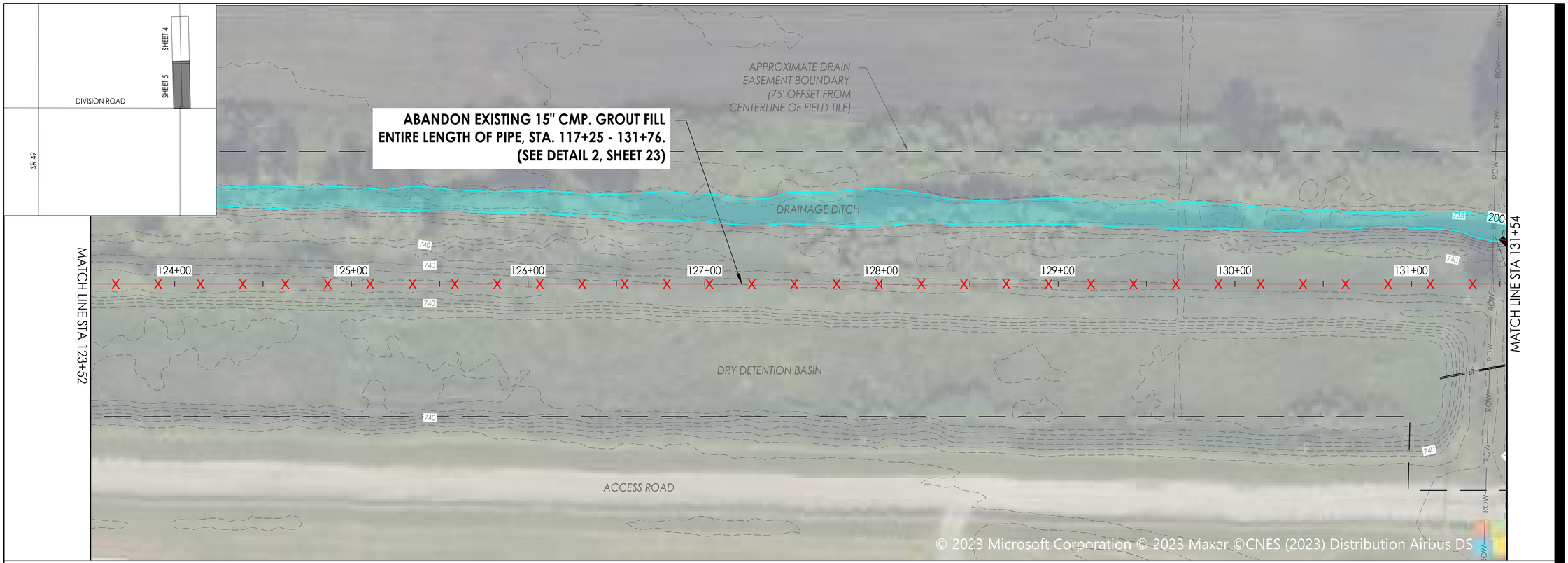


700 EXISTING MAJOR CONTOUR (5')

EXISTING MINOR CONTOUR (1')

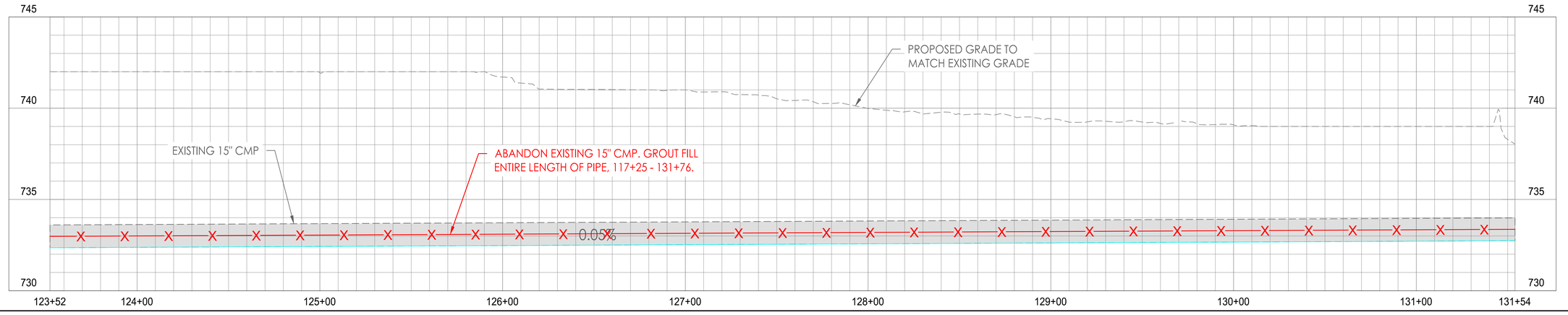
100+00 EXISTING CENTERLINE ALIGNMENT

EXISTING STORMWATER LATERALS

PROPOSED ABANDONED PIPE

APPROXIMATE DRAIN EASEMENT

0 15' 30' 60'
1"=30'



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& STORMWATER MANAGEMENT
NORTH STIMSON DRAIN DRAIN TILE RECONSTRUCTION
BETWEEN E DIVISION RD & SR 49

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Permit-Seal
JESSICA MCCLORY
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No. 12200391
STATE OF
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Project Number: 238102157

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JTC	RAS	JTC	24.02.12
Dwn.	Chkd.	Dsgn.	YY.MM.DD

Drawing No.

Revision	Sheet
2	5 of 26

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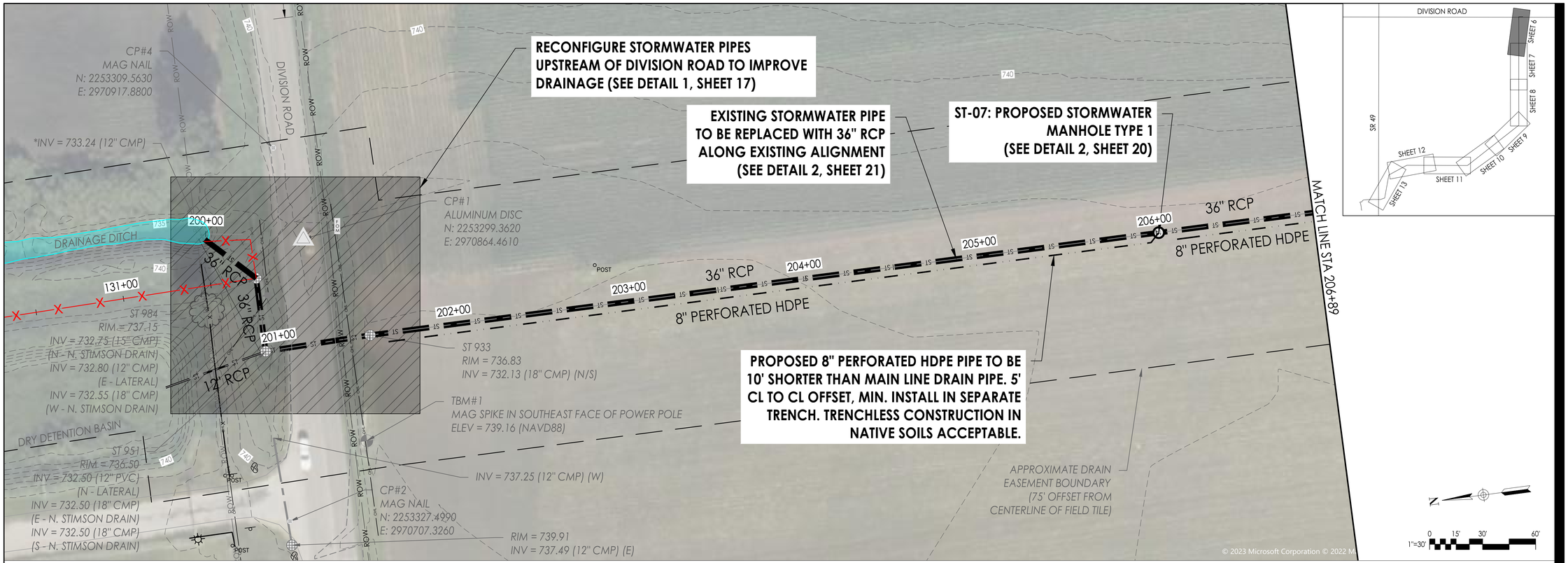
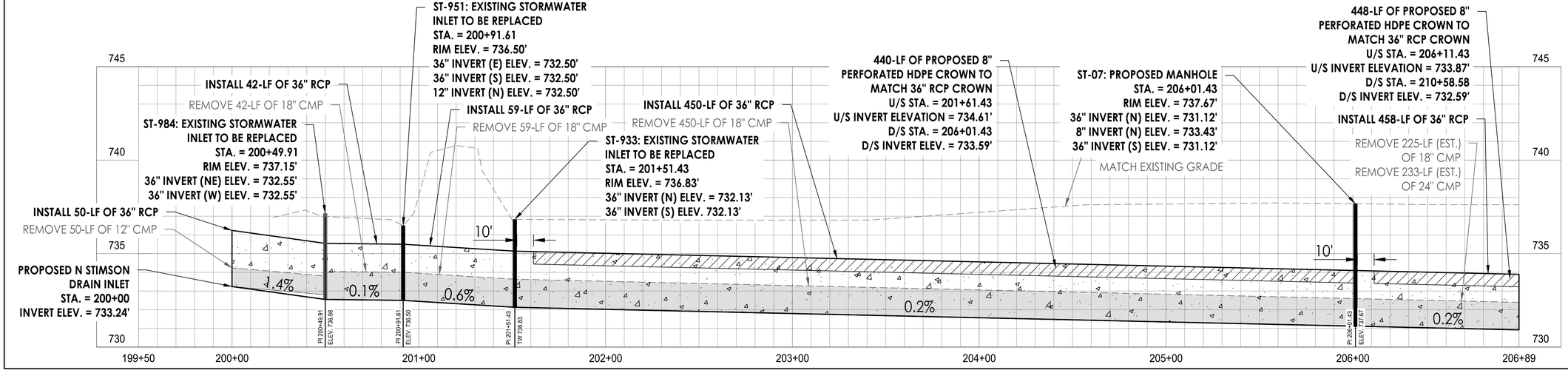


EXISTING MAJOR CONTOUR (5')
EXISTING MINOR CONTOUR (1')
EXISTING CENTERLINE ALIGNMENT
EXISTING STORMWATER LATERALS
EXISTING FENCE
APPROXIMATE DRAIN EASEMENT
EXISTING OVERHEAD POWERLINE
PROPOSED STORMWATER PIPE REPLACEMENT
PROPOSED ABANDONED PIPE
PROPOSED PERFORATED HDPE PIPE
PROPOSED NEW MANHOLE LOCATION
EXISTING TREE
EXISTING STORMWATER MANHOLE
EXISTING STORMWATER INLET
CONTROL POINTS
EXISTING POWERPOLE

NOTES:
- *ELEVATION PER RECORDS (MAY 2012, EXPO POND OUTLET REPAIR)
- PROPOSED STRUCTURE ELEVATIONS SHOWN IN PROFILE VIEW
- SPREAD SPOILS WITHIN EASEMENT IN FARM FIELD TO MAX DEPTH OF 6". TOPSOIL SHALL BE STRIPPED TO MIN. DEPTH OF 6" FROM THE EXISTING SURFACE OF TRENCHES AND OTHER CUT AREAS AND STOCKPILED. ALL CUT AREAS TO BE COVERED WITH MIN. 6" OF TOPSOIL POST DISTURBANCE.



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Client/Project
PORTER COUNTY DEPARTMENT OF DEVELOPMENT & STORMWATER MANAGEMENT
NORTH STIMSON DRAIN DRAIN TILE RECONSTRUCTION
BETWEEN E DIVISION RD & SR 49

Title
FINAL PLANS
NORTH STIMSON DRAIN - PLAN & PROFILE

Permit-Seal
JESSICA MCCLORY
REGISTERED
No. 12200391
STATE OF INDIANA
PROFESSIONAL ENGINEER

Project Number: 238102157
File Name: 238102158_Plans_N Stimson Drain.dwg

JTC	RAS	JTC	24.02.12
Dwn.	Chkd.	Dsgn.	YY.MM.DD

Drawing No.
Revision 2
Sheet 6 of 26

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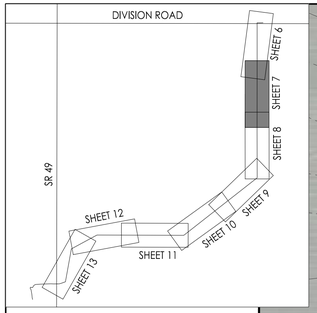
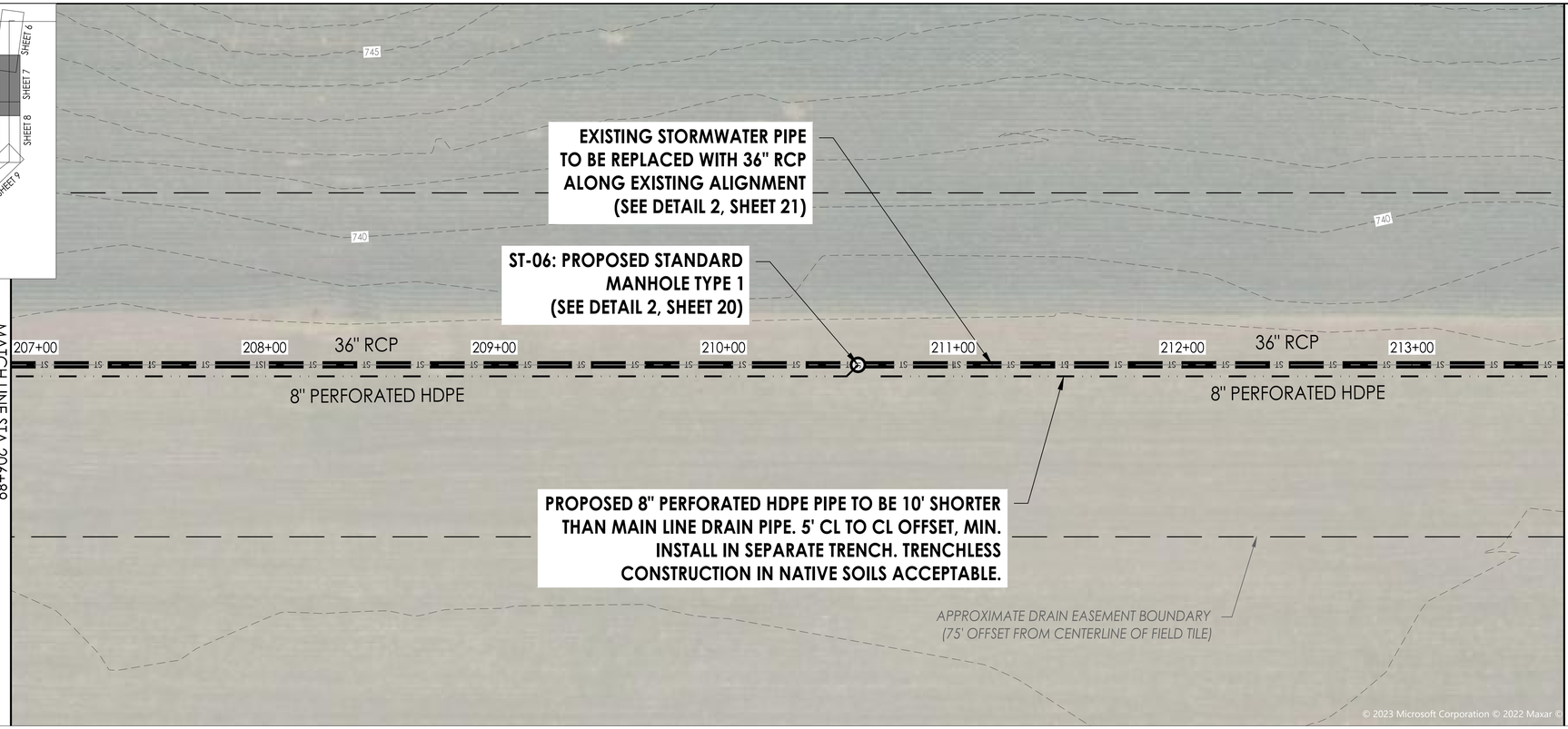




N

1"=30' 0 15' 30' 60'

700 EXISTING MAJOR CONTOUR (5')

EXISTING MINOR CONTOUR (1')

100+00 EXISTING CENTERLINE ALIGNMENT

APPROXIMATE DRAIN EASEMENT

x EXISTING FENCE

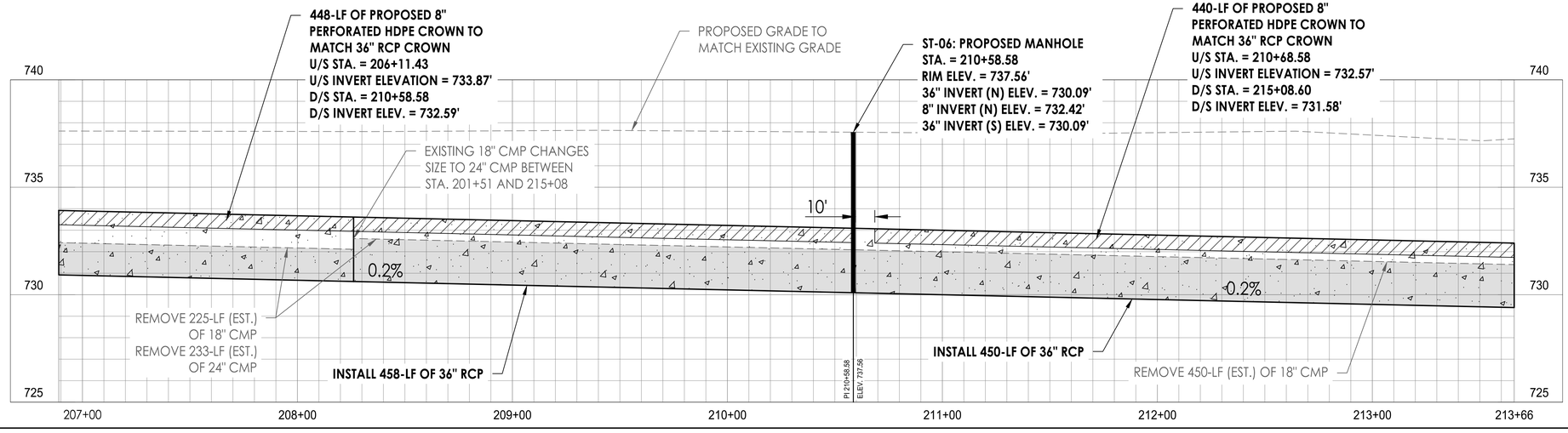
ST PROPOSED STORMWATER PIPE REPLACEMENT

PROPOSED PERFORATED HDPE PIPE

ST PROPOSED NEW MANHOLE LOCATION

NOTES:

- PROPOSED STRUCTURE ELEVATIONS SHOWN IN PROFILE VIEW.
- SPREAD SPOILS WITHIN EASEMENT IN FARM FIELD TO MAX DEPTH OF 6". TOPSOIL SHALL BE STRIPPED TO MIN. DEPTH OF 6" FROM THE EXISTING SURFACE OF TRENCHES AND OTHER CUT AREAS AND STOCKPILED. ALL CUT AREAS TO BE COVERED WITH MIN. 6" OF TOPSOIL POST DISTURBANCE.



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Client/Project
PORTER COUNTY DEPARTMENT OF DEVELOPMENT & STORMWATER MANAGEMENT
NORTH STIMSON DRAIN DRAIN TILE RECONSTRUCTION

BETWEEN E DIVISION RD & SR 49

Title
FINAL PLANS
NORTH STIMSON DRAIN - PLAN & PROFILE

Permit-Seal
JESSICA MCCLORY REGISTERED No. 12200391 STATE OF INDIANA PROFESSIONAL ENGINEER

Project Number: 238102157

File Name: 238102158_Plans_N Stimson Drain.dwg

JTC	RAS	JTC	24.02.12
Dwn.	Chkd.	Dsgn.	YY.MM.DD

Drawing No.

Revision 2

Sheet 7 of 26

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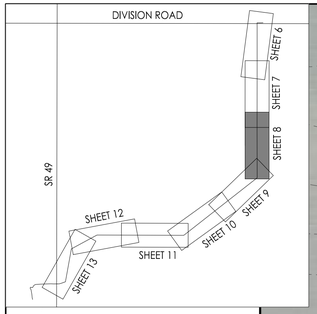

APPROXIMATE DRAIN EASEMENT BOUNDARY
(75' OFFSET FROM CENTERLINE OF FIELD TILE)

EXISTING STORMWATER PIPE TO BE REPLACED WITH 36" RCP ALONG EXISTING ALIGNMENT (SEE DETAIL 2, SHEET 21)

ST 1833
RIM = 737.38
INV = 729.08 (24" CMP) (N - N. STIMSON DRAIN)
INV = 729.13 (12" CMP) (SE - LATERAL)
INV = 729.08 (24" CMP) (S - N. STIMSON DRAIN)
INV = 730.83 (8" CMP) (NW - LATERAL)

ST-05: PROPOSED STORMWATER MANHOLE TYPE 1

POST

12" CMP

8" CMP

MATCH LINE STA 213+66

MATCH LINE STA 220+43

740

735

214+00 | 36" RCP | 215+00 | 216+00 | 36" RCP | 217+00 | 218+00 | 219+00 | 36" RCP | 220+00

8" PERFORATED HDPE | 8" PERFORATED HDPE | 8" PERFORATED HDPE

ST-1833: REPLACE EXISTING MANHOLE WITH STORMWATER MANHOLE TYPE 1. CONNECT ALL LATERALS WITH NEW MANHOLE. (SEE DETAIL 2, SHEET 20)

PROPOSED 8" PERFORATED HDPE PIPE TO BE 10' SHORTER THAN MAIN LINE DRAIN PIPE. 5' CL TO CL OFFSET, MIN. INSTALL IN SEPARATE TRENCH. TRENCHLESS CONSTRUCTION IN NATIVE SOILS ACCEPTABLE.

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1"=30' 0 15' 30' 60'

700 EXISTING MAJOR CONTOUR (5')

EXISTING MINOR CONTOUR (1')

100+00 EXISTING CENTERLINE ALIGNMENT

EXISTING STORMWATER LATERALS

APPROXIMATE DRAIN EASEMENT

x EXISTING FENCE

ST ST ST PROPOSED STORMWATER PIPE REPLACEMENT

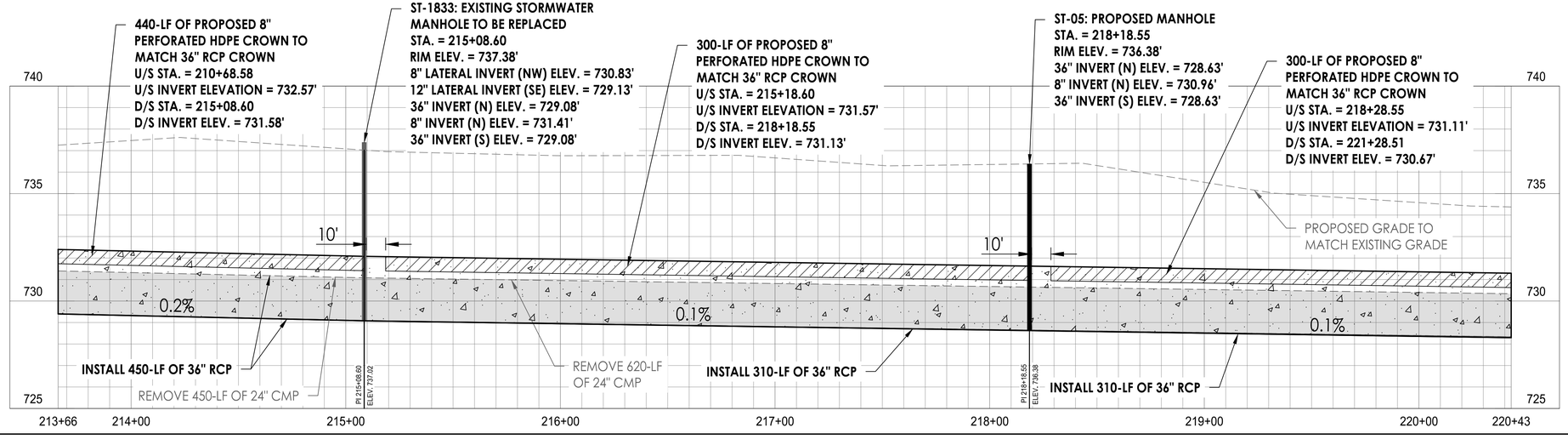
ST EXISTING STORMWATER MANHOLE

PROPOSED PERFORATED HDPE PIPE

ST PROPOSED NEW MANHOLE LOCATION

NOTES:

- PROPOSED STRUCTURE ELEVATIONS SHOWN IN PROFILE VIEW.
- SPREAD SPOILS WITHIN EASEMENT IN FARM FIELD TO MAX DEPTH OF 6". TOPSOIL SHALL BE STRIPPED TO MIN. DEPTH OF 6" FROM THE EXISTING SURFACE OF TRENCHES AND OTHER CUT AREAS AND STOCKPILED. ALL CUT AREAS TO BE COVERED WITH MIN. 6" OF TOPSOIL POST DISTURBANCE.



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Client/Project
PORTER COUNTY DEPARTMENT OF DEVELOPMENT & STORMWATER MANAGEMENT
NORTH STIMSON DRAIN DRAIN TILE RECONSTRUCTION

BETWEEN E DIVISION RD & SR 49

Title
FINAL PLANS
NORTH STIMSON DRAIN - PLAN & PROFILE

Permit-Seal
JESSICA MCCLORY REGISTERED No. 12200391 STATE OF INDIANA PROFESSIONAL ENGINEER

Project Number: 238102157

File Name: 238102158_Plans_N Stimson Drain.dwg

JTC	RAS	JTC	24.02.12
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Drawing No.

Revision 2

Sheet 8 of 26

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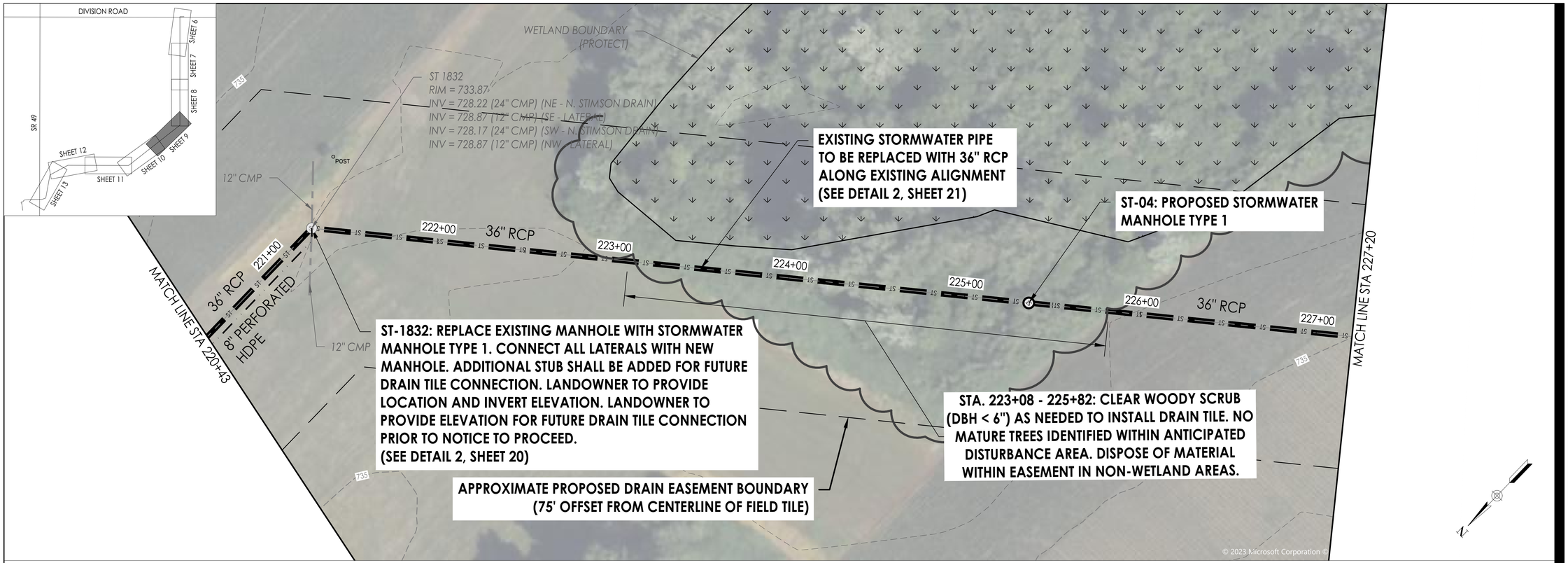


700 EXISTING MAJOR CONTOUR

EXISTING MINOR CONTOUR

100+00 EXISTING CENTERLINE ALIGNMENT

EXISTING STORMWATER LATERALS

APPROXIMATE DRAIN EASEMENT

x EXISTING FENCE

ST PROPOSED STORMWATER PIPE REPLACEMENT

ST EXISTING STORMWATER MANHOLE

EXISTING TREE LINE

EXISTING WETLAND BOUNDARY

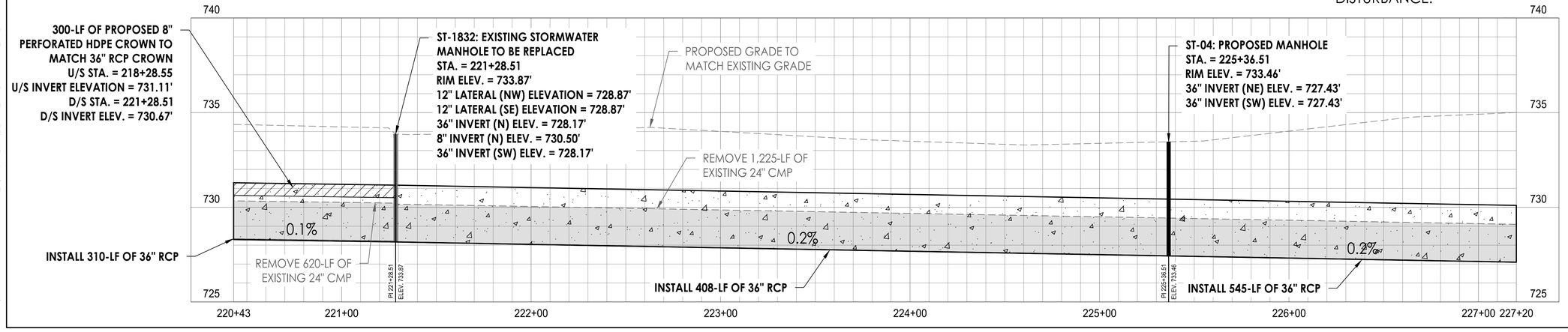
PROPOSED PERFORATED HDPE PIPE

ST PROPOSED NEW MANHOLE LOCATION

0 15' 30' 60'
1"=30'

NOTES:

- PROPOSED STRUCTURE ELEVATIONS SHOWN IN PROFILE VIEW.
- AVOID IMPACTS TO EXISTING WETLAND.
- SPREAD SPOILS WITHIN EASEMENT IN FARM FIELD TO MAX DEPTH OF 6". TOPSOIL SHALL BE STRIPPED TO MIN. DEPTH OF 6" FROM THE EXISTING SURFACE OF TRENCHES AND OTHER CUT AREAS AND STOCKPILED. ALL CUT AREAS TO BE COVERED WITH MIN. 6" OF TOPSOIL POST DISTURBANCE.



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PORTER COUNTY DEPARTMENT OF DEVELOPMENT & STORMWATER MANAGEMENT
NORTH STIMSON DRAIN DRAIN TILE RECONSTRUCTION

BETWEEN E DIVISION RD & SR 49

Title
FINAL PLANS
NORTH STIMSON DRAIN - PLAN & PROFILE

Permit-Seal
JESSICA MCCLORY REGISTERED No. 12200391 STATE OF INDIANA PROFESSIONAL ENGINEER

Project Number: 238102157

File Name: 238102158_Plans_N Stimson Drain.dwg

JTC	RAS	JTC	24.02.12
Dwn.	Chkd.	Dsgn.	YY.MM.DD

Drawing No.

Revision 2

Sheet 9 of 26

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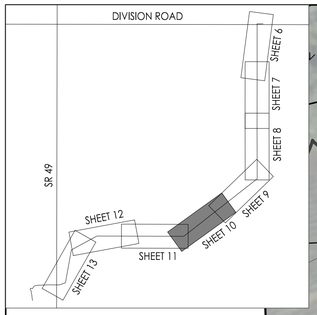


APPROXIMATE PROPOSED DRAIN EASEMENT BOUNDARY (75' OFFSET FROM CENTERLINE OF FIELD TILE)

EXISTING STORMWATER PIPE TO BE REPLACED WITH 36" RCP ALONG EXISTING ALIGNMENT (SEE DETAIL 2, SHEET 21)

REMOVE AND RESET 30-FT OF FENCE. MINIMIZE LAND CLEARING AND TREE REMOVAL TO THE MAXIMUM EXTENT PRACTICAL.

ST-03: PROPOSED STORMWATER MANHOLE TYPE 1 (SEE DETAIL 2, SHEET 20)

ST-1828: REPLACE EXISTING MANHOLE WITH STORMWATER MANHOLE TYPE 1. CONNECT ALL LATERALS WITH NEW MANHOLE.

ST 1828
RIM = 733.51
INV = 727.21 (12" CMP) (N - LATERAL)
INV = 725.95 (24" CMP) (NE - N. STIMSON DRAIN)
INV = 727.21 (12" CMP) (S - LATERAL)
INV = 725.95 (24" CMP) (W - N. STIMSON DRAIN)

WETLAND BOUNDARY (PROTECT)

36" RCP

12" CMP

EXISTING FENCE

MATCH LINE STA 227+20

MATCH LINE STA 233+97

228+00 229+00 230+00 231+00 232+00 233+00

735 740

1"=30' 0 15' 30' 60'

700 EXISTING MAJOR CONTOUR (5')

EXISTING MINOR CONTOUR (1')

100+00 EXISTING CENTERLINE ALIGNMENT

EXISTING TREE LINE

APPROXIMATE DRAIN EASEMENT

PROPOSED PERFORATED HDPE PIPE

EXISTING STORMWATER LATERALS

ST PROPOSED STORMWATER PIPE REPLACEMENT

x EXISTING FENCE

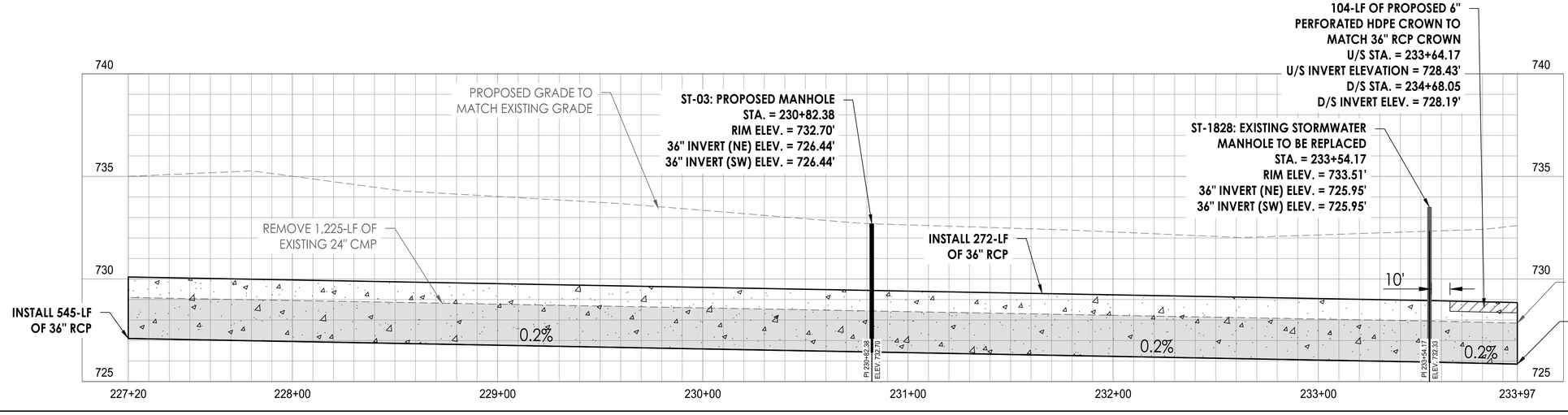
ST EXISTING STORMWATER MANHOLE

EXISTING WETLAND BOUNDARY

ST PROPOSED NEW MANHOLE LOCATION

NOTES:

- PROPOSED STRUCTURE ELEVATIONS SHOWN IN PROFILE VIEW.
- AVOID IMPACTS TO EXISTING WETLAND.
- SPREAD SPOILS WITHIN EASEMENT IN FARM FIELD TO MAX DEPTH OF 6". TOPSOIL SHALL BE STRIPPED TO MIN. DEPTH OF 6" FROM THE EXISTING SURFACE OF TRENCHES AND OTHER CUT AREAS AND STOCKPILED. ALL CUT AREAS TO BE COVERED WITH MIN. 6" OF TOPSOIL POST DISTURBANCE.



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Client/Project
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NORTH STIMSON DRAIN DRAIN TILE RECONSTRUCTION
BETWEEN E DIVISION RD & SR 49

Title
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NORTH STIMSON DRAIN - PLAN & PROFILE

Permit-Seal
JESSICA MCCLORY REGISTERED No. 12200391 STATE OF INDIANA PROFESSIONAL ENGINEER

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Drawing No.
Revision 2
Sheet 10 of 26

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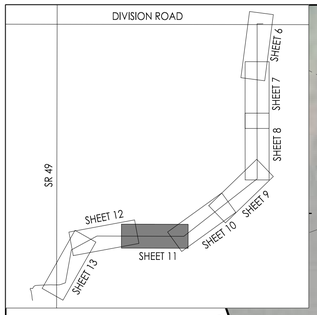

APPROXIMATE DRAIN EASEMENT BOUNDARY
(75' OFFSET FROM CENTERLINE OF FIELD TILE)

EXISTING STORMWATER PIPE TO BE REPLACED WITH 36" RCP ALONG EXISTING ALIGNMENT (SEE DETAIL 2, SHEET 21)

ST-01: PROPOSED STORMWATER MANHOLE TYPE 1 (SEE DETAIL 2, SHEET 20)

MATCH LINE STA 233+97

234+00 235+00 236+00 237+00 238+00 239+00 240+00

36" RCP 36" RCP

6" PERFORATED HDPE 6" PERFORATED HDPE

MATCH LINE STA 240+74

ST-02: PROPOSED STORMWATER MANHOLE TYPE 1 (SEE DETAIL 2, SHEET 20)

EXISTING FENCE (PROTECT)

PROPOSED 6" PERFORATED HDPE PIPE TO BE 10' SHORTER THAN MAIN LINE DRAIN PIPE. 5' CL TO CL OFFSET, MIN. INSTALL IN SEPARATE TRENCH. TRENCHLESS CONSTRUCTION IN NATIVE SOILS ACCEPTABLE.

N

1"=30' 0 15' 30' 60'

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700 EXISTING MAJOR CONTOUR (5')

EXISTING MINOR CONTOUR (1')

100+00 EXISTING CENTERLINE ALIGNMENT

ST PROPOSED STORMWATER PIPE REPLACEMENT

x EXISTING FENCE

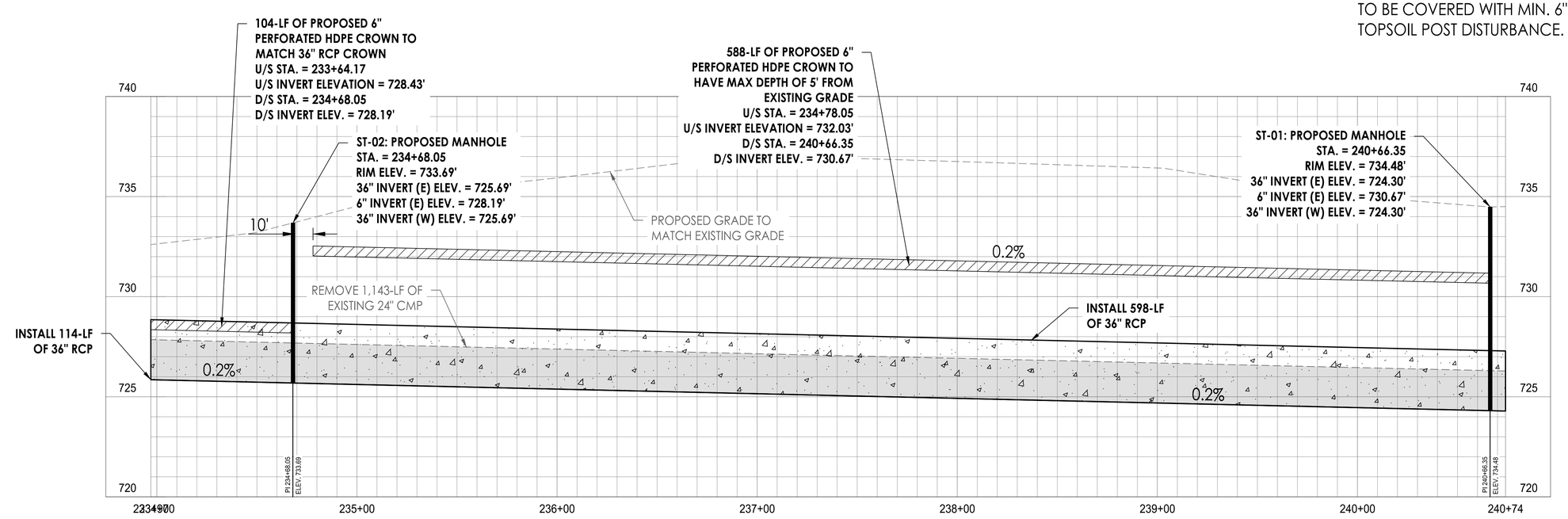
APPROXIMATE DRAIN EASEMENT

PROPOSED PERFORATED HDPE PIPE

(ST) PROPOSED NEW MANHOLE LOCATION

NOTES:

- PROPOSED STRUCTURE ELEVATIONS SHOWN IN PROFILE VIEW.
- SPREAD SPOILS WITHIN EASEMENT IN FARM FIELD TO MAX DEPTH OF 6". TOPSOIL SHALL BE STRIPPED TO MIN. DEPTH OF 6" FROM THE EXISTING SURFACE OF TRENCHES AND OTHER CUT AREAS AND STOCKPILED. ALL CUT AREAS TO BE COVERED WITH MIN. 6" OF TOPSOIL POST DISTURBANCE.



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BETWEEN E DIVISION RD & SR 49

Title
FINAL PLANS
NORTH STIMSON DRAIN - PLAN & PROFILE

Permit-Seal
JESSICA MCCLORY REGISTERED No. 12200391 STATE OF INDIANA PROFESSIONAL ENGINEER

Project Number: 238102157

File Name: 238102158_Plans_N Stimson Drain.dwg

JTC	RAS	JTC	24.02.12
Dwn.	Chkd.	Dsgn.	YY.MM.DD

Drawing No.

Revision 2 Sheet 11 of 26

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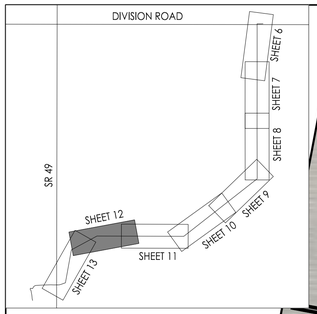


EXISTING STORMWATER PIPE TO BE REPLACED WITH 36" RCP ALONG EXISTING ALIGNMENT (SEE DETAIL 2, SHEET 21)

ST-1827: REPLACE EXISTING MANHOLE WITH STORMWATER MANHOLE TYPE 1. CONNECT ALL LATERALS WITH NEW MANHOLE. (SEE DETAIL 2, SHEET 20)

REMOVE AND RESET TWO 30-FT SECTIONS OF FENCE.

APPROXIMATE DRAIN EASEMENT BOUNDARY (75' OFFSET FROM CENTERLINE OF FIELD TILE)

MATCH LINE STA 240+74

MATCH LINE STA 247+51

241+00 242+00 243+00 244+00 245+00 246+00 247+00

36" RCP

6" PERFORATED HDPE

36" RCP

6" PERFORATED HDPE

12" CMP

CONCRETE PAD (PROTECT)

EXISTING FENCE

ST 1827
RIM = 736.61
INV = 724.31 (12" CMP) (NW - LATERAL)
INV = 723.31 (24" CMP) (E - N. STIMSON DRAIN)
INV = 723.31 (24" CMP) (SW - N. STIMSON DRAIN)

PROPOSED 8" PERFORATED HDPE PIPE TO BE 10' SHORTER THAN MAIN LINE DRAIN PIPE. 5' CL TO CL OFFSET, MIN. INSTALL IN SEPARATE TRENCH. TRENCHLESS CONSTRUCTION IN NATIVE SOILS ACCEPTABLE.

N

0 15' 30' 60'
1"=30'

NOTES:

- PROPOSED STRUCTURE ELEVATIONS SHOWN IN PROFILE VIEW.
- SPREAD SPOILS WITHIN EASEMENT IN FARM FIELD TO MAX DEPTH OF 6". TOPSOIL SHALL BE STRIPPED TO MIN. DEPTH OF 6" FROM THE EXISTING SURFACE OF TRENCHES AND OTHER CUT AREAS AND STOCKPILED. ALL CUT AREAS TO BE COVERED WITH MIN. 6" OF TOPSOIL POST DISTURBANCE.

700 EXISTING MAJOR CONTOUR

EXISTING MINOR CONTOUR

100+00 EXISTING CENTERLINE ALIGNMENT

APPROXIMATE DRAIN EASEMENT

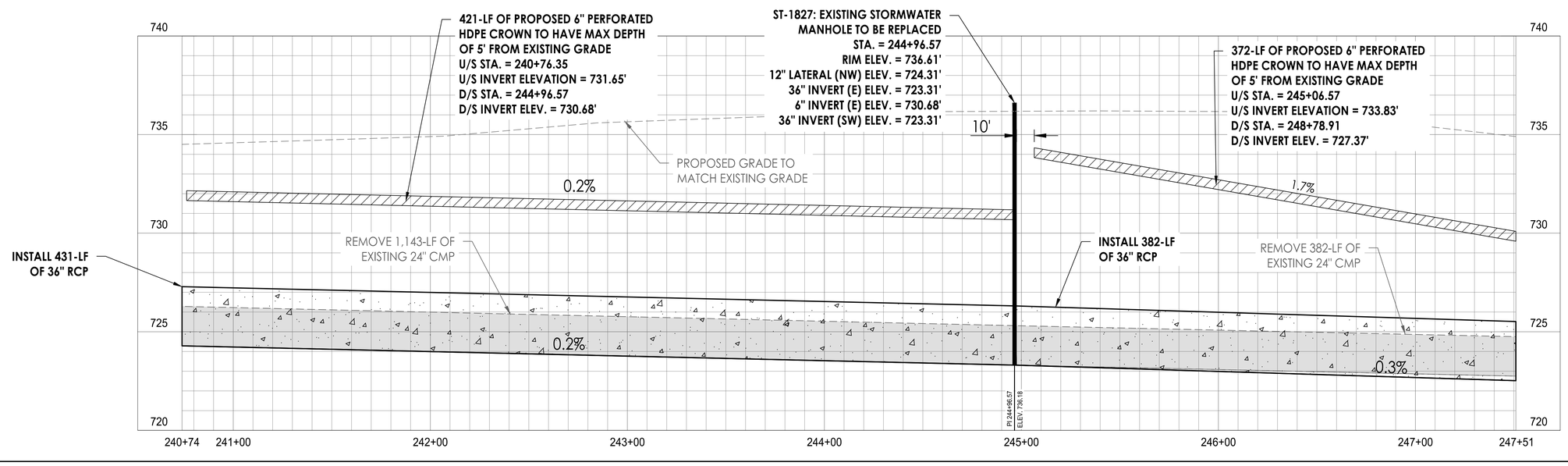
EXISTING STORMWATER LATERALS

x EXISTING FENCE

ST EXISTING STORMWATER MANHOLE

ST PROPOSED STORMWATER PIPE REPLACEMENT

PROPOSED PERFORATED HDPE PIPE



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Client/Project
PORTER COUNTY DEPARTMENT OF DEVELOPMENT & STORMWATER MANAGEMENT
NORTH STIMSON DRAIN DRAIN TILE RECONSTRUCTION
BETWEEN E DIVISION RD & SR 49

Title
FINAL PLANS
NORTH STIMSON DRAIN - PLAN & PROFILE

Permit-Seal
JESSICA MCCLORY REGISTERED No. 12200391 STATE OF INDIANA PROFESSIONAL ENGINEER

Project Number: 238102157

File Name: 238102158_Plans_N Stimson Drain.dwg

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Drawing No.
Revision 2
Sheet 12 of 26

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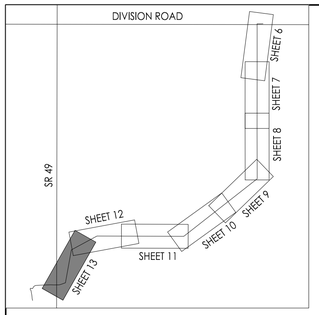


NOTES:

- PROPOSED STRUCTURE ELEVATIONS SHOWN IN PROFILE VIEW.
- SPREAD SPOILS WITHIN EASEMENT IN FARM FIELD TO MAX DEPTH OF 6". TOPSOIL SHALL BE STRIPPED TO MIN. DEPTH OF 6" FROM THE EXISTING SURFACE OF TRENCHES AND OTHER CUT AREAS AND STOCKPILED. ALL CUT AREAS TO BE COVERED WITH MIN. 6" OF TOPSOIL POST DISTURBANCE.

ST-1825: REPLACE EXISTING MANHOLE WITH STORMWATER MANHOLE TYPE 1.

APPROXIMATE PROPOSED DRAIN EASEMENT BOUNDARY (75' OFFSET FROM CENTERLINE OF FIELD TILE)

EXISTING STORMWATER PIPE TO BE REPLACED WITH 36" RCP ALONG EXISTING ALIGNMENT (SEE DETAIL 2, SHEET 21)

REMOVE AND RESET 50-FT OF FENCE

PROPOSED RIPRAP OUTLET PROTECTION (SEE DETAIL 1, SHEET 23)

PROPOSED 8" PERFORATED HDPE PIPE TO BE 10' SHORTER THAN MAIN LINE DRAIN PIPE. 5' CL TO CL OFFSET, MIN. INSTALL IN SEPARATE TRENCH. TRENCHLESS CONSTRUCTION IN NATIVE SOILS ACCEPTABLE.

ST-1826: REPLACE EXISTING MANHOLE WITH STORMWATER MANHOLE TYPE 1. (SEE DETAIL 2, SHEET 20)

ST 1825
RIM = 722.20
INV = 715.60 (24" CMP) (N - N. STIMSON DRAIN)
INV = 715.54 (24" CMP) (SW - N. STIMSON DRAIN)
INV = 714.80 (24" CMP - N. STIMSON DRAIN)

ST 1826
RIM = 728.87
INV = 722.47 (24" CMP) (NE - N. STIMSON DRAIN)
INV = 722.12 (24" CMP) (S - N. STIMSON DRAIN)

CP#10
5/8" IRON ROD
N: 2249937.7000
E: 2968148.0040

SR 49
INV = 713.62 (3' CMP)

MATCH LINE STA 247+51

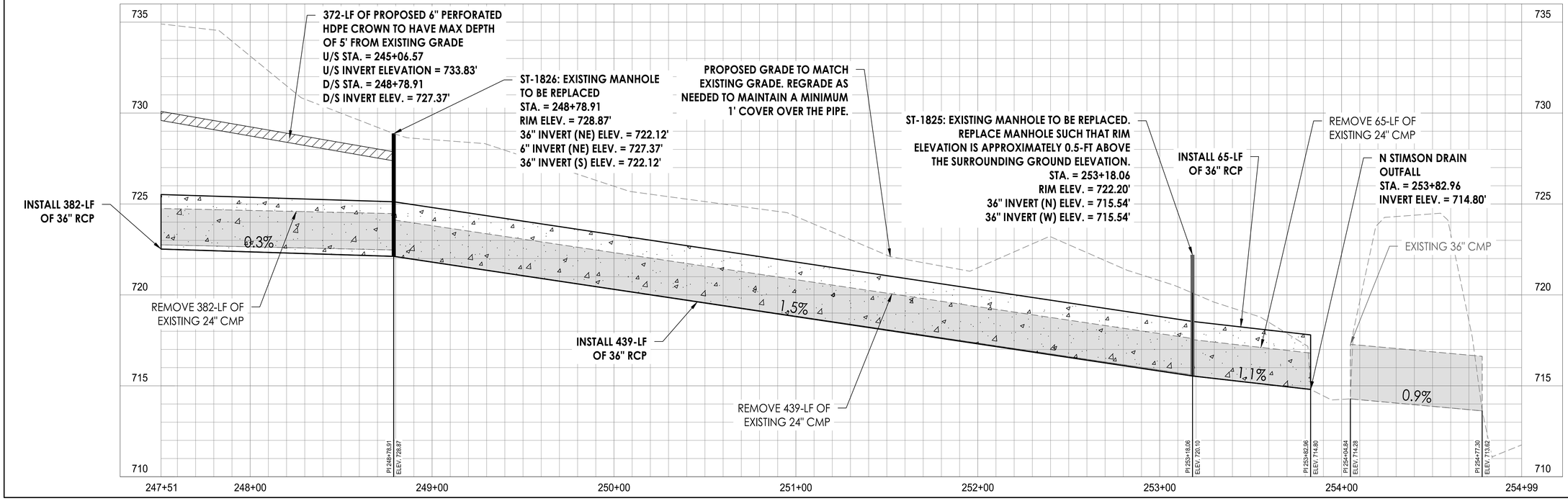
MATCH LINE STA 254+99

36" RCP
6" PERFORATED HDPE
36" RCP
36" RCP

247+51 248+00 249+00 250+00 251+00 252+00 253+00 254+00

0 15' 30' 60'
1"=30'

700 EXISTING MAJOR CONTOUR
EXISTING MINOR CONTOUR
100+00 EXISTING CENTERLINE ALIGNMENT
x EXISTING FENCE
OHL EXISTING OVERHEAD POWERLINE
ST PROPOSED STORMWATER PIPE REPLACEMENT
PROPOSED PERFORATED HDPE PIPE
APPROXIMATE DRAIN EASEMENT



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Client/Project
PORTER COUNTY DEPARTMENT OF DEVELOPMENT & STORMWATER MANAGEMENT
NORTH STIMSON DRAIN DRAIN TILE RECONSTRUCTION
BETWEEN E DIVISION RD & SR 49

Title
FINAL PLANS
NORTH STIMSON DRAIN - PLAN & PROFILE

Permit-Seal
JESSICA MCCLORY REGISTERED No. 12200391 STATE OF INDIANA PROFESSIONAL ENGINEER

Project Number: 238102157
File Name: 238102158_Plans_N Stimson Drain.dwg

JTC	RAS	JTC	24.02.12
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Drawing No.
Revision 2
Sheet 13 of 26

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PRATT PAPER (IN) LLC.
PARCEL ID:
64-10-32-301-002.000-029

STORMWATER DETENTION POND

PRATT PAPER (IN) LLC.
PARCEL ID:
64-10-32-400-005.000-029

PORTER COUNTY
AGRICULTURAL SOCIETY INC.
PARCEL ID:
64-10-32-300-002.000-020

DRAINAGE DITCH

STORMWATER DETENTION POND

TEMPORARY STAGING
AND STOCKPILE AREA

LIMIT OF DISTURBANCE

TEMPORARY STONE
CONSTRUCTION ENTRANCE
(SEE DETAIL 1, SHEET 22)

DRAINAGE DITCH

120+00

N STIMSON DRAIN

TRUST NO 4 1/2 & HORAN TIMOTHY R &
HORAN BETH A LIFE EST & BARRETT AMY
RUTH & STONER THOMAS G 1/2 /TC
PARCEL ID:
64-10-32-400-007.000-020

COMMISSIONERS PORTER COUNTY
PARCEL ID:
64-10-32-300-004.000-020

125+00

USE EXISTING PORTER COUNTY
ACCESS ROAD TO ACCESS SITE
NORTH OF DIVISION ROAD

DRY DETENTION BASIN

DRAINAGE DITCH

130+00

TEMPORARY GEOTEXTILE
DROP INLET PROTECTION
(SEE DETAIL 2, SHEET 22)

200+00

DIVISION ROAD

MAXWELL PROPERTY INVESTORS LLC
PARCEL ID:
64-13-05-100-008.000-008

TEMPORARY STAGING
AND STOCKPILE AREA

TEMPORARY STONE
CONSTRUCTION ENTRANCE

MAXWELL REALTY LLC
PARCEL ID:
64-13-05-200-001.000-008

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N

700 EXISTING MAJOR CONTOUR (10')

EXISTING MINOR CONTOUR (2')

100+00 EXISTING CENTERLINE ALIGNMENT

EXISTING PARCEL LINE

ST ST ST PROPOSED STORMWATER PIPE REPLACEMENT

PROPOSED 6" PERFORATED PIPE

ST EXISTING STORMWATER MANHOLE

EXISTING STORMWATER INLET

ST PROPOSED NEW MANHOLE LOCATION

TEMPORARY ACCESS ROUTE

LOD LOD LIMIT OF DISTURBANCE

TEMPORARY STONE CONSTRUCTION ENTRANCE

TEMPORARY STAGING AND STOCKPILE AREA

0 25' 50' 100'
1"=50'

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Client/Project
PORTER COUNTY DEPARTMENT OF DEVELOPMENT
& STORMWATER MANAGEMENT
NORTH STIMSON DRAIN DRAIN TILE RECONSTRUCTION
BETWEEN E DIVISION RD & SR 49

Title
FINAL PLANS
ESC PLANS

Permit-Seal
JESSICA MCCLORY REGISTERED No. 12200391 STATE OF INDIANA PROFESSIONAL ENGINEER

Project Number: 238102157

File Name: 238102158_ESC_N Stimson Drain.dwg

JTC	RAS	JTC	24.02.12
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Drawing No.
Revision 2
Sheet 14 of 26

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MAXWELL PROPERTY INVESTORS LLC
PARCEL ID:
64-13-05-100-008.000-008

MAXWELL REALTY LLC
PARCEL ID:
64-13-05-200-001.000-008

MAXWELL DEBRA A
PARCEL ID:
64-13-05-100-002.000-008

LIMIT OF DISTURBANCE

TEMPORARY CONSTRUCTION ACCESS

205+00

210+00

215+00

740

720

730

N

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700 EXISTING MAJOR CONTOUR (10')

EXISTING MINOR CONTOUR (2')

100+00 EXISTING CENTERLINE ALIGNMENT

EXISTING PARCEL LINE

ST ST ST PROPOSED STORMWATER PIPE REPLACEMENT

PROPOSED 6" PERFORATED PIPE

(ST) EXISTING STORMWATER MANHOLE

EXISTING STORMWATER INLET

(ST) PROPOSED NEW MANHOLE LOCATION

TEMPORARY ACCESS ROUTE

LOD LOD LIMIT OF DISTURBANCE

TEMPORARY STONE CONSTRUCTION ENTRANCE

TEMPORARY STAGING AND STOCKPILE AREA

1"=50' 0 25' 50' 100'

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Client/Project
PORTER COUNTY DEPARTMENT OF DEVELOPMENT & STORMWATER MANAGEMENT
NORTH STIMSON DRAIN DRAIN TILE RECONSTRUCTION
BETWEEN E DIVISION RD & SR 49

Title
FINAL PLANS
ESC PLANS

Permit-Seal
JESSICA MCCLORY REGISTERED No. 12200391 STATE OF INDIANA PROFESSIONAL ENGINEER

Project Number: 238102157

File Name: 238102158_ESC_N Stimson Drain.dwg

JTC	RAS	JTC	24.02.12
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Drawing No.

Revision 2

Sheet 15 of 26

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MAXWELL DEBRA A
PARCEL ID:
64-13-05-100-002.000-008

MAXWELL DEBRA A
PARCEL ID:
64-13-05-100-004.000-008

TEMPORARY CONSTRUCTION ACCESS

TEMPORARY SILT FENCE ALONG UPSLOPE SIDE OF WETLAND (SEE DETAIL 1, SHEET 25)

LIMIT OF DISTURBANCE

EXISTING FENCE

MAXWELL REALTY LLC
PARCEL ID:
64-13-05-200-001.000-008

MAXWELL 4K REALTY LLC
PARCEL ID:
64-13-05-326-001.000-008

NOTE:
- NO EQUIPMENT MAY BE PLACED IN WETLANDS.

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EXISTING MAJOR CONTOUR (10')	PROPOSED 6" PERFORATED PIPE
EXISTING MINOR CONTOUR (2')	EXISTING STORMWATER MANHOLE
EXISTING CENTERLINE ALIGNMENT	EXISTING STORMWATER INLET
EXISTING PARCEL LINE	PROPOSED NEW MANHOLE LOCATION
PROPOSED STORMWATER PIPE REPLACEMENT	EXISTING POWERPOLE
TEMPORARY ACCESS ROUTE	
LIMIT OF DISTURBANCE	
TEMPORARY STONE CONSTRUCTION ENTRANCE	
TEMPORARY STAGING AND STOCKPILE AREA	
TEMPORARY SILT FENCE	

1"=50'

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NORTH STIMSON DRAIN DRAIN TILE RECONSTRUCTION
BETWEEN E DIVISION RD & SR 49

Title
FINAL PLANS
ESC PLANS

Permit-Seal
JESSICA M. CLOUD
REGISTERED
No. 12200391
STATE OF INDIANA
PROFESSIONAL ENGINEER

Project Number: 238102157
File Name: 238102158_ESC_N Stimson Drain.dwg

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Dwn.	Chkd.	Dsgn.	YY.MM.DD

Drawing No.
Revision 2
Sheet 16 of 26

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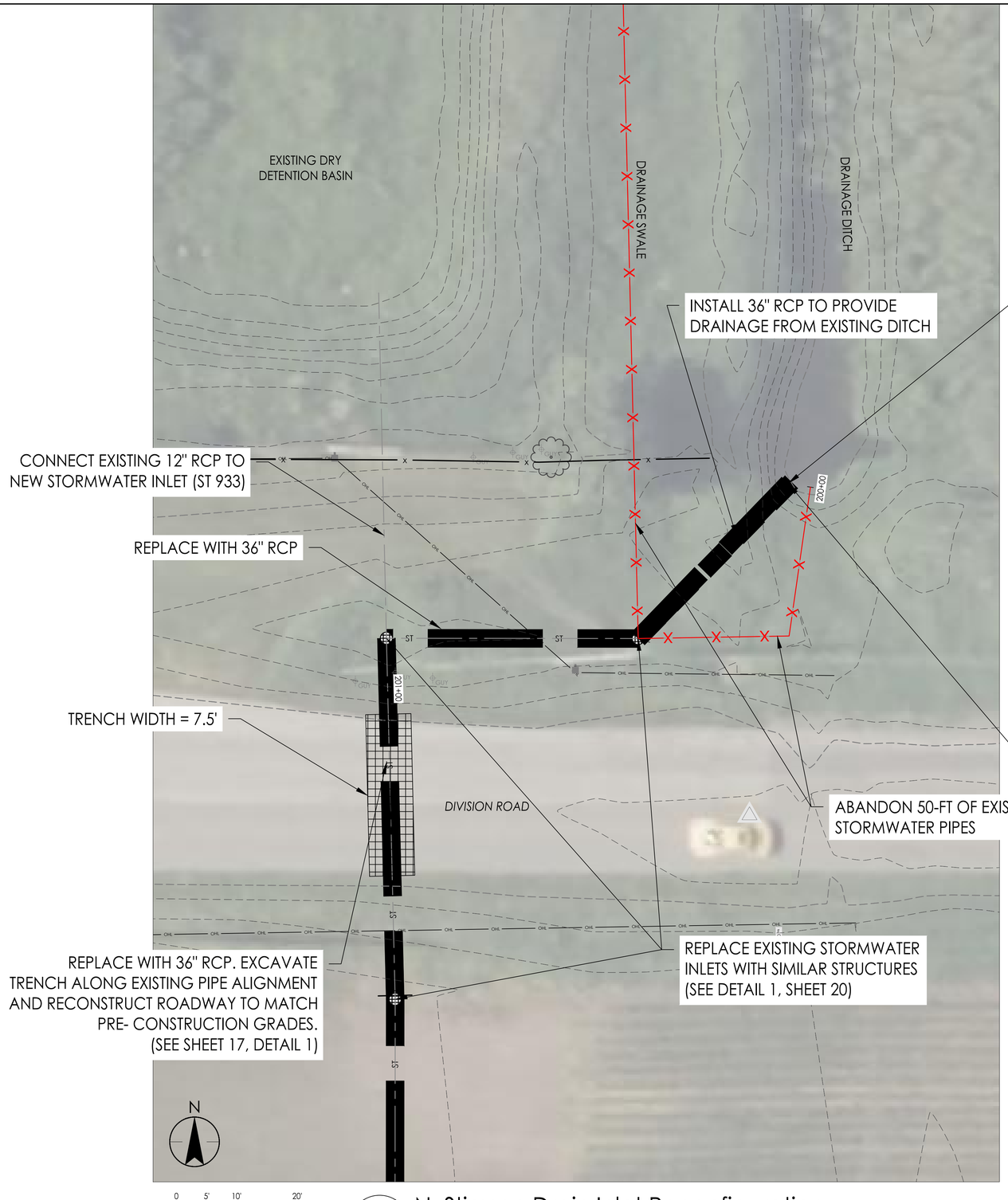

1/17 N. Stimson Drain Inlet Reconfiguration

Not to Scale

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PORTER COUNTY DEPARTMENT OF DEVELOPMENT & STORMWATER MANAGEMENT
NORTH STIMSON DRAIN DRAIN TILE RECONSTRUCTION
BETWEEN E DIVISION RD & SR 49

Title
FINAL PLANS
DETAILS

Permit-Seal
JESSICA MCCLOR REGISTERED No. 12200391 STATE OF INDIANA PROFESSIONAL ENGINEER

Project Number: 238102157

File Name: 238102157_Details_N Stimson Drain.dwg

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Drawing No.
Revision 2
Sheet 17 of 26

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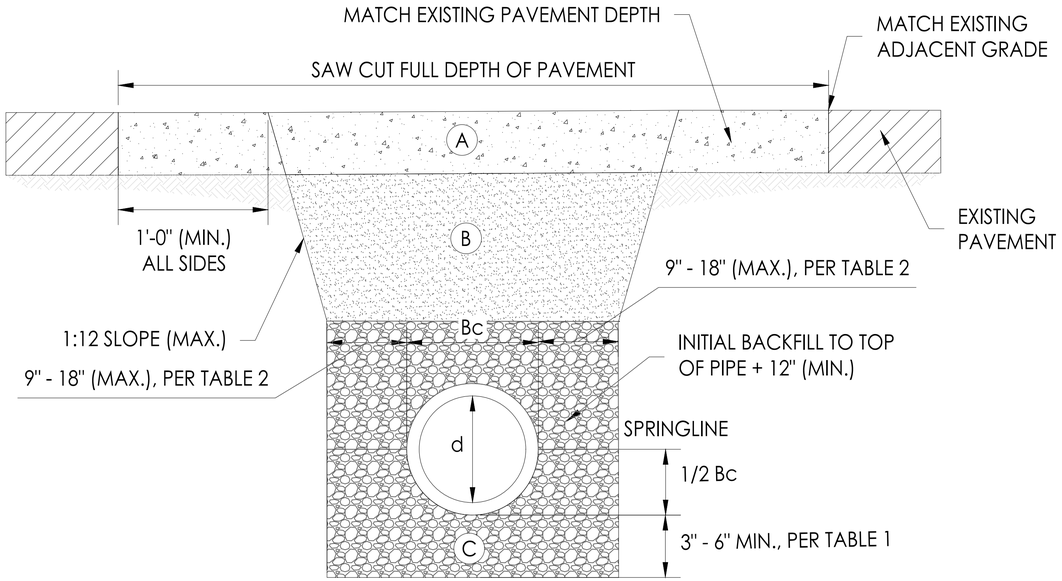


LEGEND

Ⓐ FULL DEPTH HMA REPAIR, SEE DETAIL.

Ⓑ TRENCH BACKFILL. BACKFILL IN 8" LIFTS (MAX.) & COMPACT IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS.

Ⓒ CRUSHED STONE OR GRAVEL INDOT NO. 5, NO. 8, OR NO. 9 COARSE AGGREGATE WITH A 50% MECHANICAL CRUSH COUNT.

Bc PIPE OUTSIDE DIAMETER

NOTES:

1. ALL BEDDING, INITIAL BACKFILL, & FINAL BACKFILL SHALL BE INSTALLED IN 8" LIFTS (MAX.) & COMPACTED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS. BEDDING & INITIAL BACKFILL MATERIAL SHALL BE HAND PLACED AROUND THE HAUNCH AND SIDES OF THE PIPE TO ENSURE PROPER COMPACTION AND COMPLETE FILLING OF ALL VOIDS.

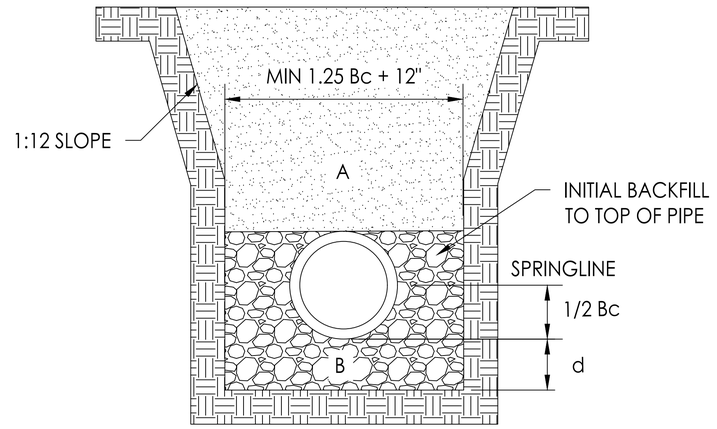
TABLE 1

DEPTH OF BEDDING BELOW PIPE	
D	BEDDING (MIN.)
D < 24IN.	3 IN.
24 IN. ≤ D ≤ 60 IN.	4 IN.
D > 60 IN.	6 IN.

TABLE 2

WIDTH OF TRENCH, EACH SIDE OF PIPE	
D	WIDTH (MAX.)
D < 24IN.	9 IN.
24 IN. ≤ D ≤ 60 IN.	12 IN.
D > 60 IN.	18 IN.

1 / 18 ROAD CUT AND REPAIR
Not to Scale



DEPTH OF BEDDING MATERIAL BELOW PIPE	
Bc	d (MIN. IN.)
D ≤ 24"	3"
24" ≤ D ≤ 60"	4"
D ≥ 60"	6"

*PORTER COUNTY TYPICAL FOR DRAIN TILE PROJECTS, ESPECIALLY RCP DRAIN TILE.

LEGEND:

A. FOR BACKFILL IN EASEMENTS OR OPEN AREAS, NATIVE MATERIAL WILL BE ACCEPTABLE. BACKFILL IN 12" LAYERS SOLIDLY TAMPED. FOR AREAS UNDER PROPOSED OR NEAR PROPOSED OR EXISTING PAVEMENT USE INDOT NO. 53 OR NO. 73 COMPACTED AGGREGATE (NO SLAG).

B. CRUSHED STONE OR GRAVEL INDOT NO. 8, NO. 9, OR NO. 73 COMPACTED AGGREGATE WITH A 50% MECHANICAL CRUSH COUNT.

NOTES:

1. ALL BEDDING AND INITIAL BACKFILL SHALL BE INSTALLED IN 4" TO 6" BALANCED LIFTS AND MECHANICALLY TAMPED. BEDDING MATERIAL SHALL BE HAND PLACED AROUND THE HAUNCH AND SIDES OF THE PIPE TO ENSURE PROPER COMPACTION AND COMPLETE FILLING OF ALL VOIDS.
2. SEE PORTER COUNTY STANDARD DRAWINGS VII-A4 AND VII-A5 FOR ADDITIONAL REQUIREMENTS WHEN PIPE IS INSTALLED UNDER PROPOSED PAVEMENT OR NEAR PROPOSED OR EXISTING PAVEMENT.

2 / 18 PIPE BEDDING AND BACKFILL
Not to Scale - PORTER COUNTY STANDARD DRAWING VII-A3

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No.	Issued	By	Appd.	YY.MM.DD

Client/Project
PORTER COUNTY DEPARTMENT OF DEVELOPMENT & STORMWATER MANAGEMENT
NORTH STIMSON DRAIN DRAIN TILE RECONSTRUCTION
BETWEEN E DIVISION RD & SR 49

Title
FINAL PLANS
DETAILS

Permit-Seal
JESSICA MCCLORY REGISTERED No. 12200391 STATE OF INDIANA PROFESSIONAL ENGINEER

Project Number: 238102157
File Name: 238102157_Details_N Stimson Drain.dwg

JTC	RAS	JTC	24.02.12
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Drawing No.
Revision 2
Sheet 18 of 26

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TABLE 1: PIPE REMOVAL/ABANDONMENT

START STA.	END STA.	LENGTH	DIAMETER	MATERIAL	SHEET	APPROACH
FT	FT	FT	IN			
116+21	117+25	104	15	CMP	4	REMOVE
117+25	131+76	1,451	15	CMP	4 & 5	ABANDON (GROUT FILL)
200+00	200+50	50	12	CMP	6	REMOVE
200+50	200+92	42	18	CMP	6	REMOVE
200+92	201+51	59	18	CMP	6	REMOVE
201+51	206+01	450	18	CMP	6	REMOVE
206+01	208+26	225	18	CMP	6 & 7	REMOVE
208+26	210+59	233	24	CMP	7	REMOVE
210+59	215+09	450	24	CMP	7 & 8	REMOVE
215+09	221+29	620	24	CMP	8 & 9	REMOVE
221+29	233+54	1,225	24	CMP	9 & 10	REMOVE
233+54	244+97	1,143	24	CMP	10 & 11	REMOVE
244+97	248+79	382	24	CMP	12 & 13	REMOVE
248+79	253+18	439	24	CMP	13	REMOVE
253+18	253+83	65	24	CMP	13	REMOVE

TABLE 2: PIPE INSTALLATION

START STA.	END STA.	LENGTH	DIAMETER	MATERIAL	SHEET
FT	FT	FT	IN		
116+21	117+25	104	15	RCP	4
STA 117+25, REROUTE TO ADJACENT DITCH		62	15	RCP	4
200+00	200+50	50	36	RCP	6
200+50	200+92	42	36	RCP	6
200+92	201+51	59	36	RCP	6
STA 200+92, REPLACE PIPE FROM DRY DETENTION BASIN		60	12	RCP	6
201+51	206+01	450	36	RCP	6
201+61	206+01	440	8	HDPE	6
206+01	210+59	458	36	RCP	6 & 7
206+11	210+59	448	8	HDPE	6 & 7
210+59	215+09	450	36	RCP	7 & 8
210+69	215+09	440	8	HDPE	7 & 8
215+09	218+19	310	36	RCP	8
215+19	218+19	300	8	HDPE	8
218+19	221+29	310	36	RCP	8 & 9
218+29	221+29	300	8	HDPE	8 & 9
221+29	225+37	408	36	RCP	9
225+37	230+82	545	36	RCP	9 & 10
230+82	233+54	272	36	RCP	10
233+54	234+68	114	36	RCP	10 & 11
233+64	234+68	104	6	HDPE	10 & 11
234+68	240+66	598	36	RCP	11
234+78	240+66	588	6	HDPE	11
240+66	244+97	431	36	RCP	11 & 12
240+76	244+97	421	6	HDPE	12
244+97	248+79	382	36	RCP	12 & 13
245+07	248+79	372	6	HDPE	12 & 13
248+79	253+18	439	36	RCP	13
253+18	253+83	65	36	RCP	13

TABLE 3: PIPE INSTALLATION / REMOVAL SUMMARY

PIPE SIZE AND ACTIVITY	TOTAL LENGTH
15" RCP INSTALL	166 FT
36" RCP INSTALL	5,383 FT
6" HDPE INSTALL	1,485 FT
8" HDPE INSTALL	1,928 FT
12" CMP REMOVAL	60 FT
15" CMP REMOVAL	104 FT
15" CMP GROUT FILL	1,451 FT
18" CMP REMOVAL	776 FT
24" CMP REMOVAL	4,557 FT

1/19 PIPE REMOVAL AND INSTALLATION TABLES
Not to Scale

TABLE 1: STORMWATER STRUCTURE INSTALLATION/REPLACEMENT

STRUCTURE ID	STATION	INVERT ELEV.	RIM ELEV.	TYPE	SHEET
ST-09	116+21.00	732.00*	739.73*	MANHOLE	4
ST-08	117+25.12	731.79	740.65	MANHOLE	4
ST-984	200+49.91	732.55	737.15	iNLET	6
ST-951	200+91.61	732.50	736.50	INLET	6
ST-933	201+51.43	732.13	736.83	INLET	6
ST-07	206+01.43	731.12	737.67	MANHOLE	6
ST-06	210+58.58	730.09	737.56	MANHOLE	7
ST-1833	215+08.60	729.08	737.38	MANHOLE	8
ST-05	218+18.55	728.63	736.38	MANHOLE	8
ST-1832	221+28.51	728.17	733.87	MANHOLE	9
ST-04	225+36.51	727.43	733.46	MANHOLE	9
ST-03	230+82.38	726.44	732.70	MANHOLE	10
ST-1828	233+54.17	725.95	733.51	MANHOLE	10
ST-02	234+68.05	725.69	733.69	MANHOLE	11
ST-01	240+66.35	724.30	734.48	MANHOLE	11
ST-1827	244+96.57	723.31	736.61	MANHOLE	12
ST-1826	248+78.97	722.12	728.87	MANHOLE	13
ST-1825	253+18.06	715.54	722.20	MANHOLE	13

*ELEVATION PER RECORDS (AUGUST 2014, NORTH STIMSON DRAIN REPLACEMENT PRATT PAPER MILL)

2/19 STORMWATER STRUCTURE INSTALLATION TABLE
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BETWEEN E DIVISION RD & SR 49

Title
FINAL PLANS
DETAILS

Permit-Seal
JESSICA A. MCCLOY REGISTERED No. 12200391 STATE OF INDIANA PROFESSIONAL ENGINEER

Project Number: 238102157

File Name: 238102157_Details_N Stimson Drain.dwg

Dwn.	Chkd.	Dsgn.	YY.MM.DD
JTC	RAS	JTC	24.02.12

Drawing No.
Revision 2
Sheet 19 of 26

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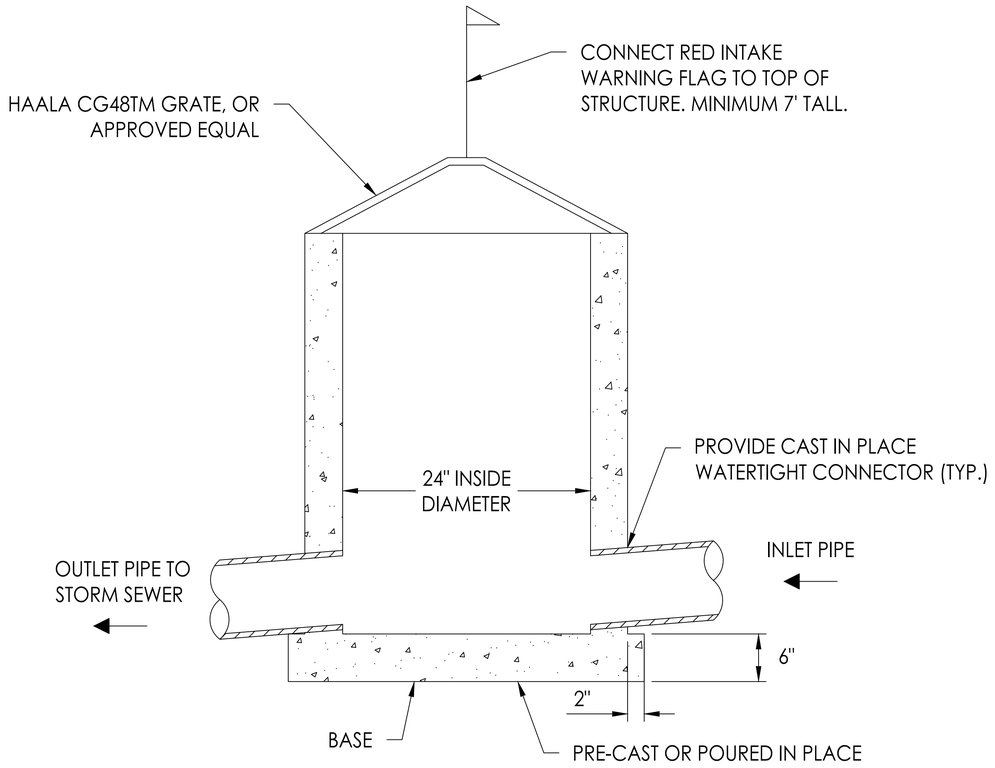
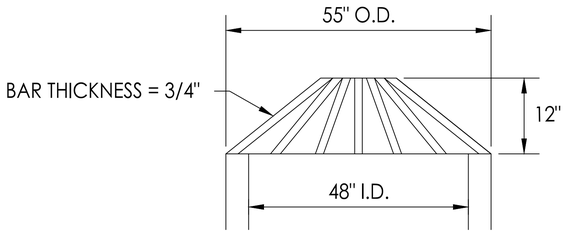


CATCH BASIN

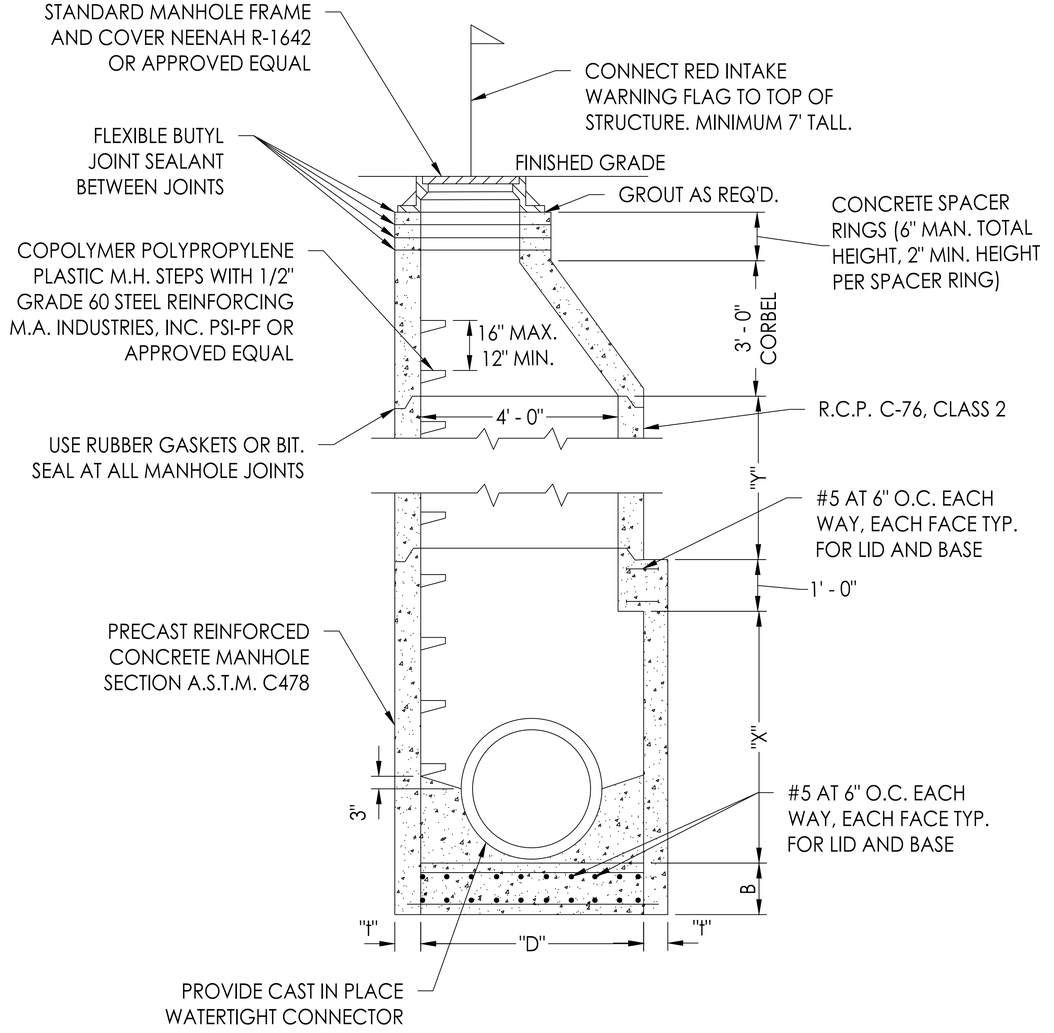
NOTE:
MINIMUM OF 1/2" CEMENT MASTIC SHALL BE UTILIZED TO SEAL EACH JOINT BETWEEN FRAME AND MANHOLE CASTING OR RISERS. (TYPICAL ON ALL MANHOLES AND INLETS).



HAALA CG48TM - SECTION VIEW

HAALA CG48TM - ISOMETRIC VIEW

1/20 STORMWATER INLET
Not to Scale



NOTE:
THE WEEP HOLE SHALL BE PLUGGED WITH CONCRETE GROUT AFTER THE COMPACTION FOR THE TRENCH BACKFILL MATERIAL HAS BEEN COMPLETED.
ALL PIPES SHALL HAVE A SMOOTH FINISH.

"d"	"D"	"t"	"X"	"Y"	B
36"	60"	6"	60"	AS REQUIRED	8"

2/20 STORM MANHOLE TYPE 1
Not to Scale - PORTER COUNTY STANDARD DRAWING VII-B7

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Permit-Seal
JESSICA MCCLORY REGISTERED No. 12200391 STATE OF INDIANA PROFESSIONAL ENGINEER

Project Number: 238102157
File Name: 238102157_Details_N Stimson Drain.dwg

JTC	RAS	JTC	24.02.12
Dwn.	Chkd.	Dsgn.	YY.MM.DD

Drawing No.
Revision 2
Sheet 20 of 26

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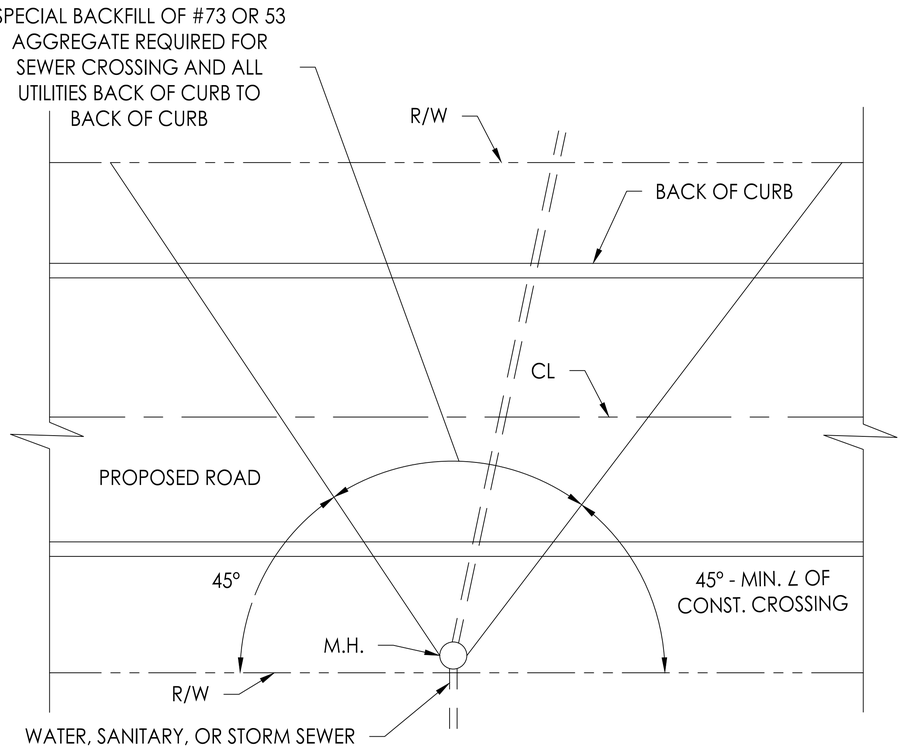
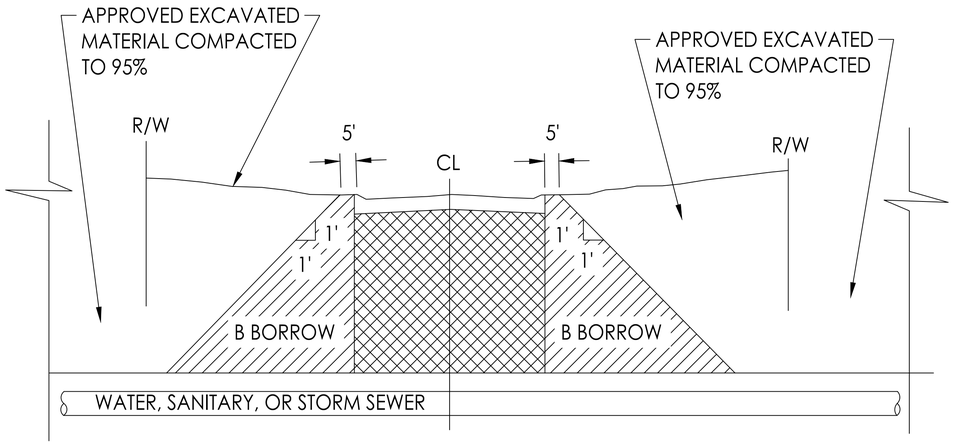
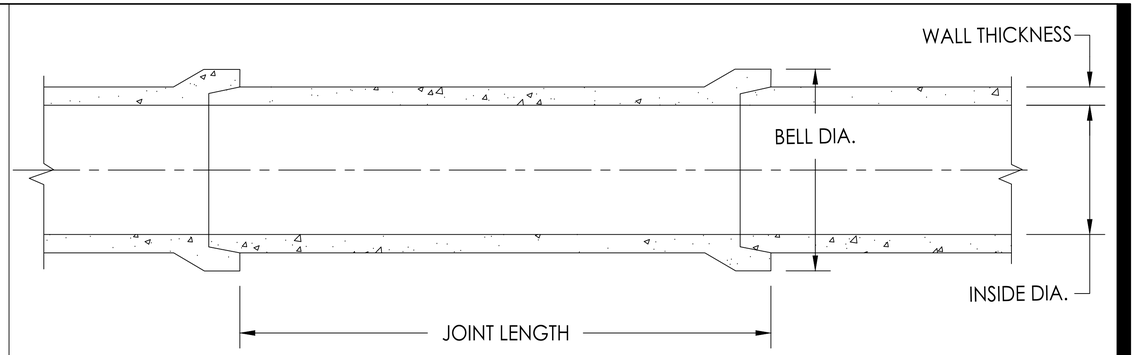




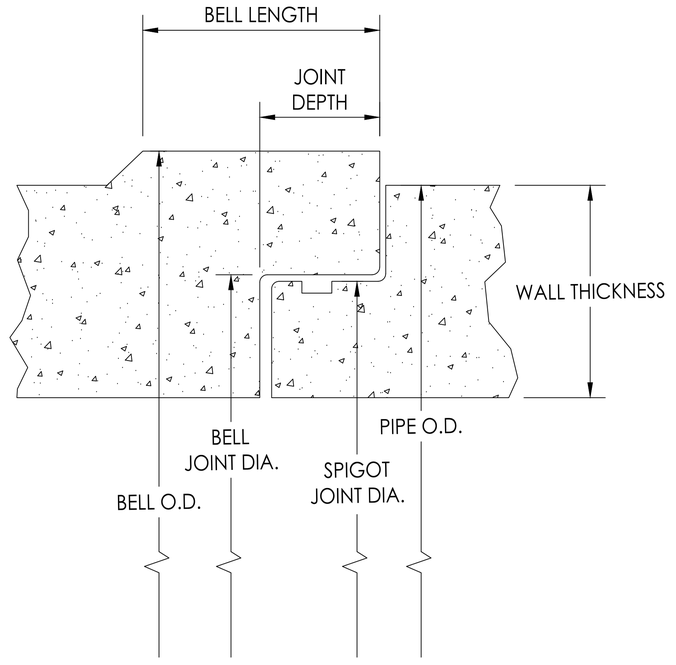
1 / 21 BACKFILL REQUIREMENTS

Not to Scale - PORTER COUNTY STANDARD DRAWING VII-A5



ASSEMBLED CROSS SECTION

INSIDE DIA. (IN.)	BELL DIA. (IN.)	WALL THICKNESS (IN.)	JOINT LENGTH (FT.)	WEIGHT PER FOOT (LBS./FT.)
12"	20"	2.75"	7.5'	135 LBS.
36"	45.5"	4"	8'	548 LBS.



CONCRETE PIPE WITH BELL - O-RING JOINT

INSIDE DIA. (IN.)	GASKET TYPE	WALL THICKNESS (IN.)	PIPE O.D. (IN.)	BELL O.D. (IN.)	SPIGOT JOINT DIA. (IN.)	BELL JOINT DIA (IN.)	JOINT DEPTH (IN.)	BELL LENGTH (IN.)
12"	125-4G	2.75"	17.5"	20"	15.23"	15.251"	3.563"	5"
36"	HK135TSS	4"	44"	45.5"	39.479"	40"	4"	6"

2 / 21 REINFORCED CONCRETE PIPE WITH O-RING JOINT

Not to Scale - AASHTO M 170

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NORTH STIMSON DRAIN DRAIN TILE RECONSTRUCTION
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Permit-Seal
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Project Number: 238102157

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JTC	RAS	JTC	24.02.12
Dwn.	Chkd.	Dsgn.	YY.MM.DD

Drawing No.
Revision 2
Sheet 21 of 26

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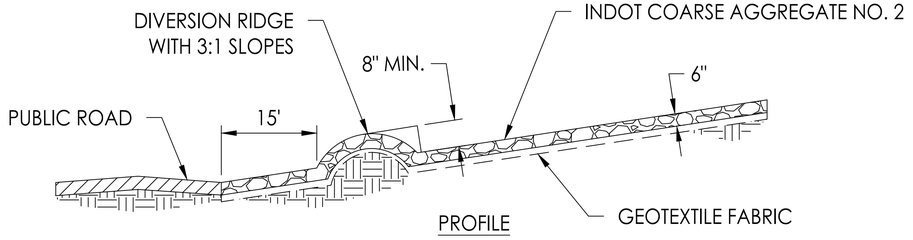
REQUIREMENTS:

- MATERIAL: 1 - 2.5 IN. WASHED STONE (INDOT CA NO. 2) OVER A STABLE FOUNDATION.
- THICKNESS: 6 IN. MINIMUM,
- WIDTH: 12 FT. MINIMUM OR FULL WIDTH OF ENTRANCE/EXIT ROADWAY, WHICHEVER IS GREATER.
- LENGTH: 50 FT. MINIMUM OR OF SUFFICIENT LENGTH TO PREVENT TRACKING.

INSTALLATION:

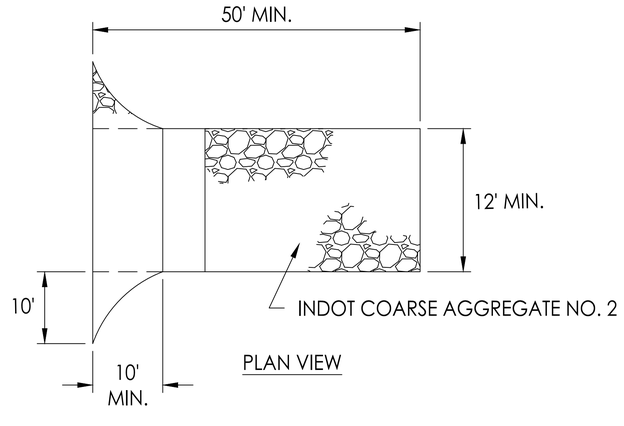
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES IN PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA, AND GRADE AND CROWN FOR POSITIVE DRAINAGE.
3. IF SLOPE TOWARDS THE ROAD EXCEEDS 2%, CONSTRUCT A 6 - 8 IN. HIGH WATER BAR (RIDGE) WITH 3:1 SIDE SLOPES ACROSS THE FOUNDATION AREA ABOUT 15 FT. FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE ROAD (SEE PROFILE).
4. PLACE STONE TO DIMENSIONS AND GRADE SHOWN IN THE EROSION/SEDIMENT CONTROL PLAN, LEAVING THE SURFACE SMOOTH AND SLOPED FOR DRAINAGE.



PROFILE

MAINTENANCE:

- INSPECT ENTRANCE PAD, SEDIMENT DISPOSAL AREA, AND ALL OTHER EROSION CONTROL MEASURES WEEKLY AND AFTER STORM EVENTS OR HEAVY USE. REQUIRED REPAIRS SHOULD BE COMPLETED IMMEDIATELY.
- RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.
- TOP DRESS WITH CLEAN STONE AS NEEDED.
- IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING.
- REPAIR ANY PROKEN ROAD PAVEMENT IMMEDIATELY.



PLAN VIEW

1 / 22 TEMPORARY STONE CONSTRUCTION ENTRANCE

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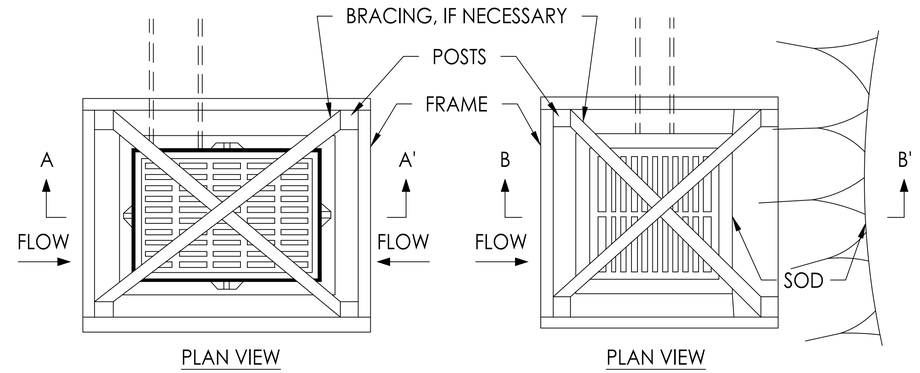
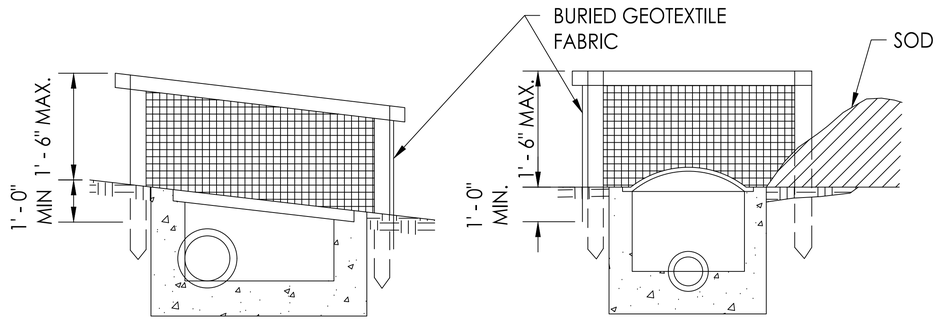
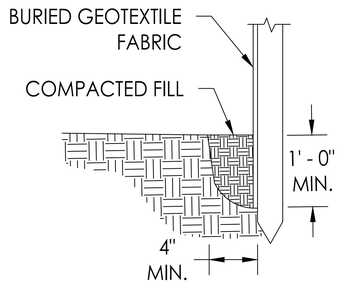


PLAN VIEW PLAN VIEW



SECTION A - A' SECTION B - B'



TRENCH DETAIL

INSTALLATION:

1. DIG A 12-INCH DEEP, 4-INCH WIDE TRENCH AROUND THE PERIMETER OF THE INLET.
2. IF USING PRE-ASSEMBLED GEOTEXTILE FABRIC AND POSTS, DRIVE THE POSTS INTO THE SOIL, TIGHTLY STRETCHING THE GEOTEXTILE FABRIC BETWEEN POSTS AS EACH IS DRIVEN. (POSTS MUST BE PLACED ON THE INLET SIDE OF THE ANCHOR TRENCH WIHT THE GEOTEXTILE FABRIC ON THE SIDE OF THE TRENCH FARTHEST FROM THE INLET.)
3. THE FRAM SHALL BE WRAPPED WITH ONE CONTINUOUS PIECE OF GEOTEXTILE FABRIC, AND A 2' - 0" OVERLAP SHALL BE PROVIDED.
4. PLACE THE BOTTOM 16-INCHES OF GEOTEXTILE FABRIC INTO THE 12-INCH DEEP TRENCH AND EXTENDING AWAY FROM THE INLET.
5. BACKFILL THE TRENCH WITH SOIL MATERIAL AND COMPACT IT IN PLACE.
6. BRACE THE POSTS BY NAILING BRACES INTO EACH CORNER POST OR UTILIZE RIGID PANELS TO SUPPORT FABRIC.

MAINTENANCE:

1. INSPECT DAILY. MAKE NEEDED REPAIRS TO GEOTEXTILE FABRIC IMMEDIATELY.
2. REMOVE SEDIMENT FROM POOL AREA TO PROVIDE STORAGE FOR THE NEXT STORM EVENT. AVOID DAMAGING OR UNDERCUTTING FABRIC DURING SEDIMENT REMOVAL.
3. WHEN CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE SEDIMENT, PROPERLY DISPOSE OF ALL CONSTRUCTION MATERIAL, GRADE AREA TO THE ELEVATION OF THE STORM DRAIN INLET TOP, THEN STABILIZE IMMEDIATELY.

2 / 22 GEOTEXTILE DROP INLET PROTECTION

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BETWEEN E DIVISION RD & SR 49

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DETAILS

Permit-Seal

JESSICA MCCLORY REGISTERED No. 12200391 STATE OF INDIANA PROFESSIONAL ENGINEER

Project Number: 238102157

File Name: 238102157_Details_N Stimson Drain.dwg

JTC	RAS	JTC	24.02.12
Dwn.	Chkd.	Dsgn.	YY.MM.DD

Drawing No.

Revision	Sheet
2	22 of 26

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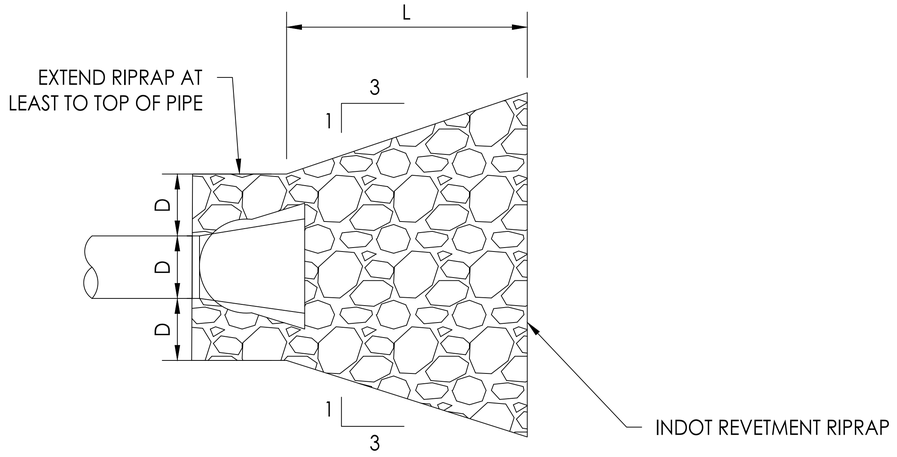
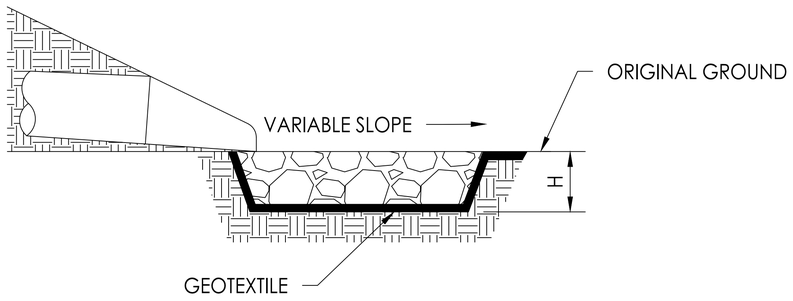


PLAN VIEW



PROFILE VIEW

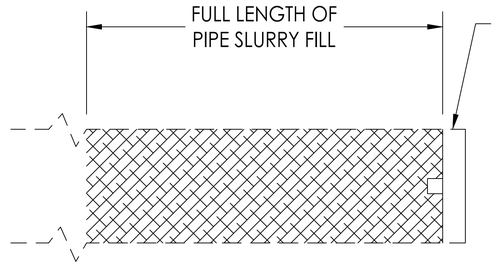
D	L	H
15"	60"	0.5'
36"	144"	0.5'

INSTALLATION:

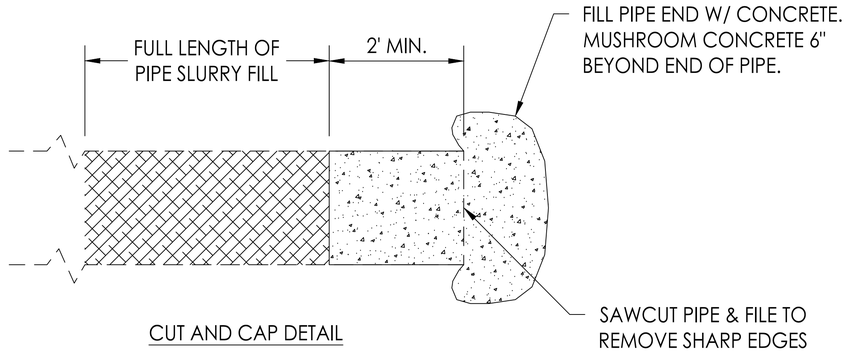
- EXCAVATE THE APRON AREA SUBGRADE BELOW DESIGN ELEVATION TO ALLOW FOR THE THICKNESS OF FILTER AND RIPRAP.
- COMPACT FILL USED IN THE SUBGRADE TO THE DENSITY OF THE SURROUNDING UNDISTURBED MATERIAL. SMOOTH SUBGRADE ENOUGH TO PROTECT FABRIC FROM TEARING.
- PLACE GEOTEXTILE FABRIC ON THE FOUNDATION. IF MORE THAN ONE PIECE OF FABRIC IS NEEDED, THEN UPSTREAM PIECESHOULD OVERLAP THE DOWNSTREAM PIECE BY AT LEAST ONE FOOT.
- INSTALL RIPRAP TO THE LINES AND ELEVATIONS SHOWN IN THE DESIGN.
- MAKE SURE THE TOP OF THE APRON IS LEVEL WITH OR SLIGHTLY BELOW THE RECEIVING STREAM.
- BLEND THE RIPRAP SMOOTHLY TO THE SURROUNDING GRADE.
- STABILIZE ALL DISTURBED AREAS IMMEDIATELY FOLLOWING INSTALLATION.

1/23 RIPRAP OUTLET PROTECTION

Not to Scale



PLUG DETAIL



CUT AND CAP DETAIL

NOTES:

- STORMWATER PIPE SHALL BE ABANDONED AS SHOWN IN THE PLANS BY COMPLETELY FILLING THE PIPE WITH CONCRETE.
- THE CONTRACTOR SHALL IDENTIFY THEIR PREFERRED APPROACH FOR ABANDONING THE STORMWATER PIPE SHOWN IN THE PLANS PRIOR TO INITIATING CONSTRUCTION.

FILL MATERIAL:

- MATERIALS FOR FILLING ABANDONED PIPE SHALL BE 25 PCF WET CAST DENSITY CELLULAR CONCRETE WITH AN AVERAGE COMPRESSIVE STRENGTH OF 70 PSI AT 28 DAYS.
- IT SHALL HAVE HIGH FLOWABILITY CHARACTERISTICS AND BETWEEN 20-25% AIR CONTENT.
- IT SHALL CONSIST OF PORTLAND CEMENT, WATER, AND AN ADDITIVE TO PRODUCE THE AIR CONTENT.
- IT SHALL HAVE A 0.5 WATER:CEMENT RATIO.
- NO AGGREGATE, FLY ASH, OR SLAG SHALL BE ADDED. IT SHALL BE PUMPED FROM THE LOW POINT TO THE HIGH POINT AFTER ADJACENT STRUCTURES HAVE BEEN CONSTRUCTED.

2/23 STORMWATER PIPE ABANDONMENT

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Permit-Seal
JESSICA MCCLOR
REGISTERED
No. 12200391
STATE OF
INDIANA
PROFESSIONAL ENGINEER

Project Number: 238102157

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Revision 2

Sheet 23 of 26

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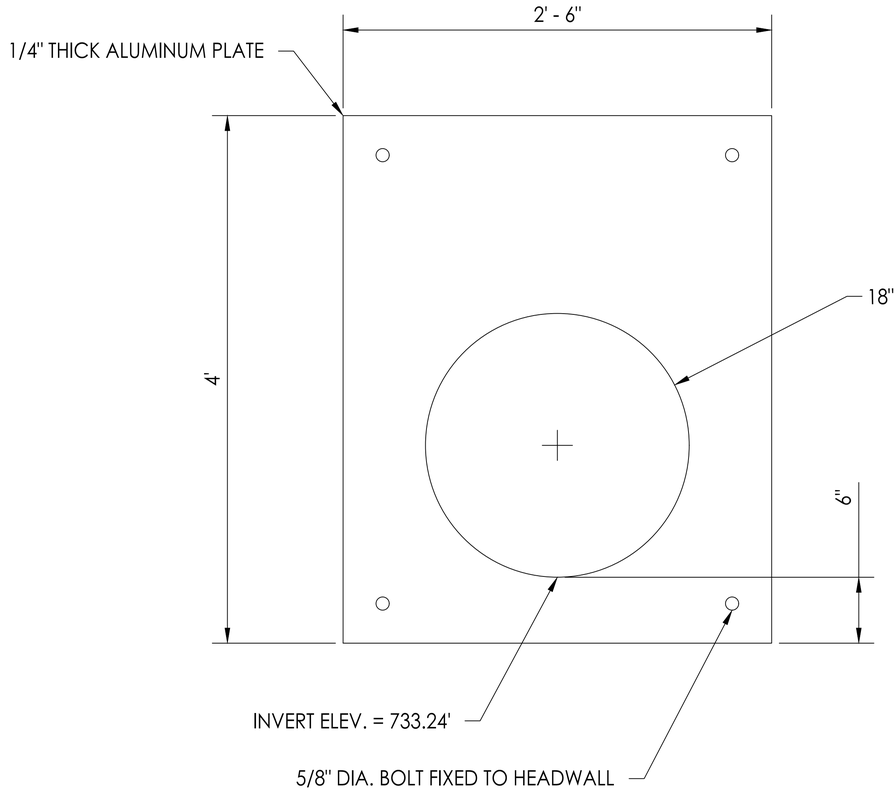
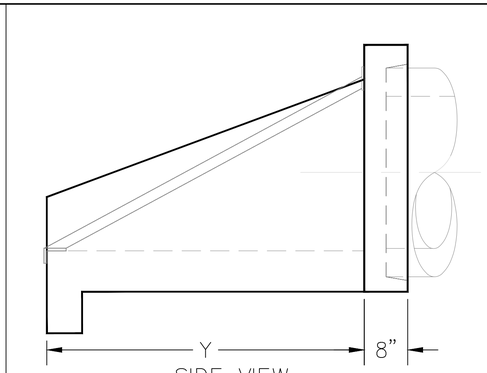
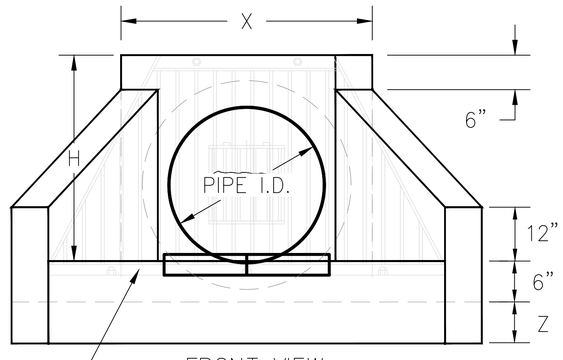


NOTE:
INSTALL ALUMINUM PLATE WITH 18" DIA. ORIFICE ON CONCRETE HEADWALL TO RESTRICT INFLOW FROM CITY OF VALPARAISO DRAINAGE AREA. USE ORIFICE PLATE (AA-S145) FROM E.C. BABBERT, INC. OR SIMILAR APPROVED PRODUCT.

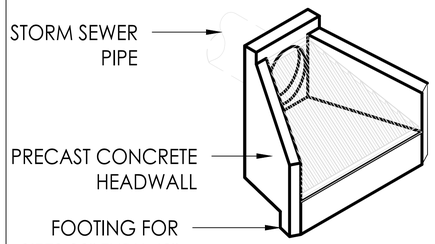
1 / 24 HEADWALL FLOW RESTRICTOR PLATE
Not to Scale

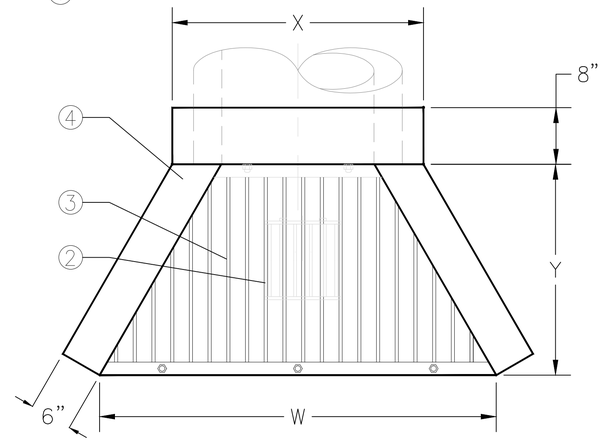


SIDE VIEW



FRONT VIEW





TOP VIEW

MODEL	PIPE DIA	DIMENSIONS					
		H	W	X	Y	Z	WEIGHT (LBS)
DSA-36	36"	4' - 1"	9' - 3"	4' - 8"	5' - 0"	9"	8,100

KEYED NOTES		
MARK	QTY	DESCRIPTION
1	1	1 - 1/2" X 1/4" GALVANIZED ANGLE BOLTED TO CONCRETE WITH 1/2" ANCHOR BOLTS
2	1	12" X 12" HINGED CLEAN OUT GRATE
3	1	GALVANIZED STEEL DEBRIS GRATE, 1 - 1/2" X 3/16" BARS @ 2" O.C. 1" CLEAR OPENING
4	1	DRAINAGE EXIT STRUCTURE MFG: PARK USA 888-611-PARK WWW.PARKUSA.COM MODEL: DSA-1

SPECIFICATIONS:
- CONCRETE: CLASS I/II CONCRETE WITH DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNIT IS OF MONOLITHIC CONSTRUCTION INCLUDING WALLS AND FLOOR.
- REINFORCEMENT: GRADE 60 REINFORCED. NO. 4 STEEL REBAR TO CONFORM TO ASTM A615 ON REQUIRED CENTERS OR EQUAL. BAR BENDING AND PLACEMENT SHALL BE IN ACCORDANCE WITH THE LATEST ACI STANDARDS.
- GRATING: ALL STEEL FABRICATION SHALL BE IN ACCORDANCE TO AWA D1.1. STEEL SHALL BE ASTM A36 CARBON STEEL, AND HOT-DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE TO ASTM A123.

NOTE:
- CONTRACTOR TO INSTALL PARK PRECAST DRAINAGE EXIT STRUCTURE (DSA-1) OR APPROVED ALTERNATE AS SHOWN IN THE PLANS.

2 / 24 HEADWALL AND ENTRANCE DEBRIS BARRIER
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Client/Project
PORTER COUNTY DEPARTMENT OF DEVELOPMENT & STORMWATER MANAGEMENT
NORTH STIMSON DRAIN DRAIN TILE RECONSTRUCTION
BETWEEN E DIVISION RD & SR 49

Title
FINAL PLANS
DETAILS

Permit-Seal
JESSICA MCCLOSKY REGISTERED No. 12200391 STATE OF INDIANA PROFESSIONAL ENGINEER

Project Number: 238102157

File Name: 238102157_Details_N Stimson Drain.dwg

JTC	RAS	JTC	24.02.12
Dwn.	Chkd.	Dsgn.	YY.MM.DD

Drawing No.

Revision	Sheet
2	24 of 26

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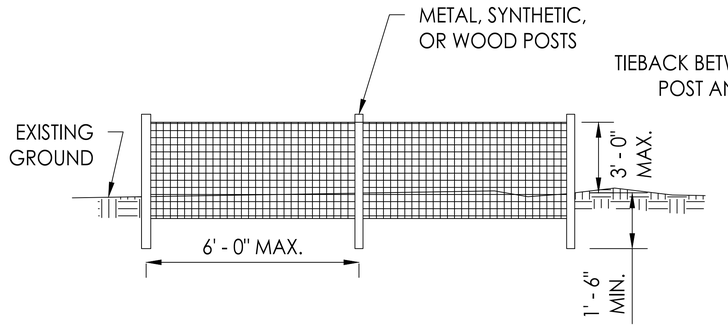
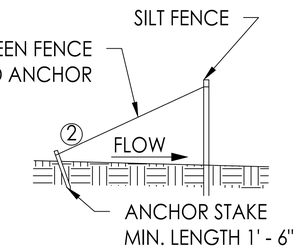
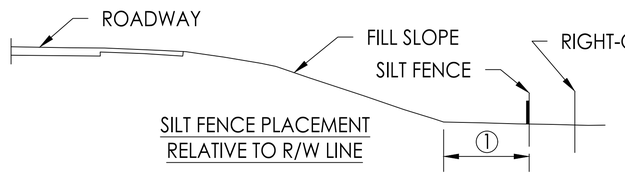
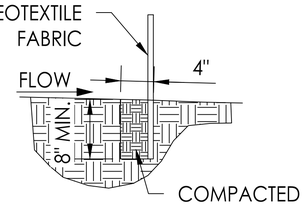




TIEBACK DETAIL



SILT FENCE PLACEMENT RELATIVE TO R/W LINE



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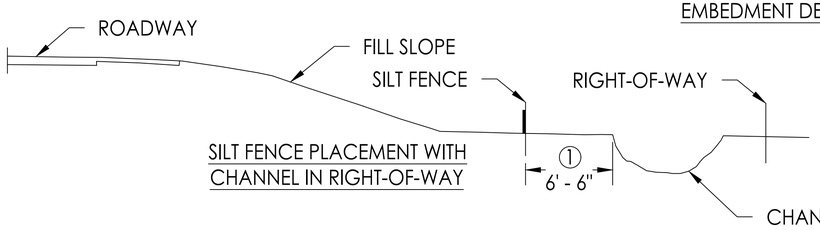

SILT FENCE PLACEMENT WITH CHANNEL IN RIGHT-OF-WAY

NOTES:
1. DIMENSIONS WILL VARY BASED ON RIGHT-OF-WAY AVAILABILITY. SILT FENCE SHALL BE PLACED AS CLOSE AS POSSIBLE TO EDGE OF CONSTRUCTION LIMITS.
2. THE SPACING OF THE TIEBACKS SHALL EQUAL THE SPACING OF THE POSTS. ADDITIONAL POST DEPTH OR TIEBACKS MAY BE REQUIRED IN UNSTABLE SOILS.

% SLOPE	MAX. DISTANCE
< 50:1	100 FEET
50:1 TO 20:1	75 FEET
> 20:1	PROVIDE SURFACE STABILIZATION

INSTALLATION:
1. THE SILT FENCE SHALL BE ATTACHED TO HARDWOOD STAKES WITH HARDWOOD LATHS AND SECURED WITH FIVE 1-1/2" STAPLES. HARDWOOD STAKES SHALL BE 6' ON CENTER. THE BOTTOM 12" OF FABRIC SHALL BE LEFT UNSECURED TO ALLOW FOR ENTRENCHMENT.
2. A 6" DEEP TRENCH ALONG PROPOSED FENCE LINE SHALL BE CREATED. DRIVE THE STAKES INTO THE TRENCH 8 - 12" OR UNTIL SECURE. BE SURE TO STRETCH FABRIC TAUT WHEN DRIVING STAKES. STAKES MUST BE INSTALLED ON THE DOWNHILL OR DOWNSTREAM SIDE OF FENCE. DRAPE LOOSE END OF GEOTEXTILE INTO TRENCH, THEN BACKFILL AND COMPACT ON BOTH SIDES.
3. LIMITED TO 1/4 ACRE PER 100 LINEAR FEET OF FENCE.
4. INSTALL PARALLEL TO THE SLOPE CONTOUR.
5. DO NOT USE FOR SHALLOW CONCENTRATED OR CHANNEL FLOW.

MAINTENANCE:
1. INSPECT WITHIN 24 HOURS OF A RAIN EVENT AND AT LEAST ONCE EVERY 7 CALENDAR DAYS.
2. IF FENCE FABRIC TEARS, STARTS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED PORTION IMMEDIATELY. NOTE: ALL REPAIRS SHOULD MEET SPECIFICATIONS OUTLINED BY THE MANUFACTURER.
3. REMOVE DEPOSITED SEDIMENT WHEN IT IS CAUSING THE FILTER FABRIC TO BULGE OR WHEN IT REACHES ONE-HALF THE HEIGHT OF THE FENCE AT ITS LOWEST POINT. WHEN CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE THE FENCE AND SEDIMENT DEPOSITS, GRADE THE SITE TO BLEND WITH THE SURROUNDING AREA, AND STABILIZE.

1/25 TEMPORARY SILT FENCE
Not to Scale - PORTER COUNTY STANDARD DRAWING II-12

TABLE 1 - TEMPORARY SEEDING SPECIFICATIONS			
SEED SPECIES	RATE PER ACRE	PLANTING DEPTH	OPTIMUM DATES
WHEAT OR RYE	150 LBS	1 TO 1 1/2 INCHES	SEPT 15 - OCT 30
SPRING OATS	100 LBS	1 INCH	MARCH 1 - APRIL 15
ANNUAL RYEGRASS	40 LBS	1/4 INCH	MARCH 1 - MAY 1 AUG 1 - SEPT 1
GERMAN MILLET	40 LBS	1 TO 2 INCHES	MAY 1 - JUNE 1
SUDANGRASS	35 LBS	1 TO 2 INCHES	MAY 1 - JULY 30
BUCKWHEAT	60 LBS	1 TO 2 INCHES	APRIL 15 - JUNE 1
CORN (BROADCAST)	300 LBS	1 TO 2 INCHES	MAY 11 - AUG 10
SORGHUM	35 LBS	1 TO 2 INCHES	MAY 1 - JULY 15

*TEMPORARY SEEDING FROM STA. 200+00 TO 201+50 (ST 933) & 246+80 TO 254+00 ONLY REQUIRED IF GROUND LEFT INACTIVE FOR MORE THAN 7 DAYS.

INSTALLATION:
SEEDBED PREPARATION:
1. TEST SOIL TO DETERMINE PH AND NUTRIENT LEVELS.
2. APPLY SOIL AMENDMENTS AS RECOMMENDED BY THE SOIL TEST. IF TESTING IS NOT DONE, APPLY 400 TO 600 POUNDS PER ACRE OF 12-12-12 ANALYSIS FERTILIZER, OR EQUIVALENT.
3. WORK THE SOIL AMENDMENTS INTO THE UPPER TWO TO FOUR INCHES OF THE SOIL WITH A DISK OR RAKE OPERATED ACROSS THE SLOPE.

SEEDING:
1. SELECT A SEED SPECIES OR AN APPROPRIATE SEED MIXTURE AND APPLICATION RATE FROM TABLE 1.
2. APPLY SEED UNIFORMLY WITH A DRILL OR CULTIPACKER SEEDER OR BY BROADCASTING. PLANT OR COVER SEED TO THE DEPTH SHOWN IN TABLE 1.
   2.1. IF DRILLING OR BROADCASTING THE SEED, ENSURE GOOD SEED-TO-SOIL CONTACT BY FIRMING THE SEEDBED WITH A ROLLER OR CULTIPACKER AFTER COMPLETING SEEDING OPERATIONS.
   2.2. DAILY SEEDING WHEN THE SOIL IS MOIST IS USUALLY MOST EFFECTIVE.
   2.3. IF SEEDING IS DONE WITH A HYDROSEEDER, FERTILIZER AND MULCH CAN BE APPLIED WITH THE SEED IN A SLURRY MIXTURE.
   2.4. APPLY MULCH AND ANCHOR IT IN PLACE.

MAINTENANCE:
1. INSPECT WITHIN 24 HOURS OF EACH RAIN EVENT AND AT LEAST ONCE EVERY SEVEN CALENDAR DAYS.
2. CHECK FOR EROSION OR MOVEMENT OF MULCH AND REPAIR IMMEDIATELY.
3. MONITOR FOR EROSION DAMAGE AND ADEQUATE COVER (80 PERCENT DENSITY); RESEED, FERTILIZE, AND APPLY MULCH WHERE NECESSARY.
4. IF NITROGEN DEFICIENCY IS APPARENT, TOP-DRESS FALL SEEDED WHEAT OR RYE SEEDING WITH 50 POUNDS PER ACRE OF NITROGEN IN FEBRUARY OR MARCH.

LIMITATIONS:
1. HIGH SLOPES AND AREAS OF CONCENTRATED RUNOFF FLOW SHOULD BE ADDRESSED WITH MORE RIGOROUS SURFACE STABILIZATION PRACTICES SUCH AS EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MATS.

2/25 TEMPORARY SEEDING TABLE
Not to Scale - PORTER COUNTY STANDARD DRAWING II-14

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Client/Project
PORTER COUNTY DEPARTMENT OF DEVELOPMENT & STORMWATER MANAGEMENT
NORTH STIMSON DRAIN DRAIN TILE RECONSTRUCTION
BETWEEN E DIVISION RD & SR 49

Title
FINAL PLANS
DETAILS

Permit-Seal
JESSICA MCCLORY REGISTERED No. 12200391 STATE OF INDIANA PROFESSIONAL ENGINEER

Project Number: 238102157
File Name: 238102157_Details_N Stimson Drain.dwg

JTC	RAS	JTC	24.02.12
Dwn.	Chkd.	Dsgn.	YY.MM.DD

Drawing No.
Revision 2
Sheet 25 of 26

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TABLE 1 - OPEN LOW MAINTENANCE AREAS (REMAINING IDLE > 6 MONTHS)		
SEED MIXTURES	RATE PER ACRE PURE LIVE SEED	OPTIMUM SOIL PH
1. PERENNIAL RYEGRASS - WHITE CLOVER	70 LBS 2 LBS	5.6 TO 7.0
2. PERENNIAL RYEGRASS - TALL FESCUE	70 LBS 50 LBS	5.6 TO 7.0
3. TALL FESCUE - WHITE CLOVER	70 LBS 2 LBS	5.5 TO 7.5

NOTES:

1. PERMANENT SEEDING FROM STA. 200+00 TO 201+50 (ST 933) & 246+80 TO 254+00.
2. FOR BEST RESULTS (1) LEGUME SEED SHOULD BE INOCULATED; (B) SEEDING MIXTURES CONTAINING LEGUMES SHOULD PREFERABLY BE SPRING-SEEDED, ALTHOUGH THE GRASS MAY BE FALL-SEEDED AND THE LEGUME FROST-SEEDED; AND (C) IF LEGUMES ARE FALL-SEEDED, DO SO IN EARLY FALL.
3. TALL FESCUE PROVIDES LITTLE COVER FOR, AND MAY BE TOXIC TO, SOME SPECIES OF WILDLIFE. THE INDIANA DEPARTMENT OF NATURAL RESOURCES RECOGNIZES THE NEED FOR ADDITIONAL RESEARCH ON ALTERNATIVES SUCH AS BUFFALOGRASS, ORCHARDGRASS, SMOOTH BROMEGRASS, AND SWITCHGRASS. THIS RESEARCH, IN CONJUNCTION WITH DEMONSTRATION AREAS, SHOULD FOCUS ON EROSION CONTROL CHARACTERISTICS, WILDLIFE TOXICITY, TURF DURABILITY, AND DROUGHT RESISTANCE.
4. AN OAT OR WHEAT COMPANION OR NURSE CROP MAY BE USED WITH ANY OF THE ABOVE PERMANENT SEEDING MIXTURES, AT THE FOLLOWING RATES: (A) SPRING OATS - ONE-FOURTH TO THREE-FOURTHS BUSHEL PER ACRE; (B) WHEAT - NO MORE THAN ONE-HALF BUSHEL PER ACRE.
5. A HIGH POTENTIAL FOR FERTILIZER, SEED, AND MULCH TO WASH OUT EXISTS ON STEEP BANKS, CUTS, AND IN CHANNELS AND AREAS OF CONCENTRATED FLOW.

INSTALLATION:

SITE PREPARATION:

1. GRADE THE SITE TO ACHIEVE POSITIVE DRAINAGE.
2. ADD TOPSOIL OR COMPOST MULCH (SEE COMPOST MULCHING) TO ACHIEVE NEEDED DEPTH FOR ESTABLISHMENT OF VEGETATION. (COMPOST MATERIAL MAT BE ADDED TO IMPROVE SOIL MOISTURE HOLDING CAPACITY, SOIL FRIABILITY, AND NUTRIENT AVAILABILITY.)

SEEDING:

1. OPTIMUM SEEDING DATES ARE MARCH 1 TO MAY 10 AND AUGUST 10 TO SEPTEMBER 30. PERMANENT SEEDING DONE BETWEEN MAY 10 AND AUGUST 10 MAY NEED TO BE IRRIGATED. SEEDING OUTSIDE OR BEYOND OPTIMUM SEEDING DATES IS STILL POSSIBLE WITH THE UNDERSTANDING THAT RESEEDING OR OVERSEEDING MAY BE REQUIRED IF THE SOIL SURFACE REMAINS WELL PROTECTED WITH MULCH.
2. APPLY SEED UNIFORMLY WITH A DRILL OR CULTIPACKER SEEDER OR BY BROADCASTING. PLANT OR COVER THE SEED TO A DEPTH OF ONE-FOURTH TO ONE-HALF INCH. IF DRILLING OR BROADCASTING THE SEED, ENSURE GOOD SEED-TO-SOIL CONTACT BY FIRMING THE SEEDBED WITH A ROLLER OR CULTIPACKER AFTER COMPLETING SEEDING OPERATIONS. (IF SEEDING IS DONE WITH A HYDROSEEDER, FERTILIZER AND MULCH CAN BE APPLIED WITH THE SEED IN A SLURRY MIXTURE.)
3. MULCH ALL SEEDED AREAS (STRAW MULCH) AND USE APPROPRIATE METHODS TO ANCHOR THE MULCH IN PLACE. CONSIDER USING EROSION CONTROL BLANKETS ON SLOPING AREAS AND CONVEYANCE CHANNELS (SEE EROSION CONTROL BLANKET).

MAINTENANCE:

1. INSPECT WITHIN 24 HOURS OF EACH RAIN EVENT AND AT LEAST ONCE EVERY SEVEN CALENDAR DAYS UNTIL THE VEGETATION IS SUCCESSFULLY ESTABLISHED.
2. CHARACTERISTICS OF A SUCCESSFUL STAND INCLUDE VIGOROUS DARK GREEN OR BLUISH GREEN SEEDLINGS WITH A UNIFORM VEGETATIVE COVER DENSITY OF 90 PERCENT OR MORE.
3. CHECK FOR EROSION OR MOVEMENT OF MULCH.
4. REPAIR DAMAGED, BARE, GULLIED OR SPARSELY VEGETATED AREAS AND THEN FERTILIZE, RESEED, AND APPLY AND ANCHOR MULCH.
5. IF PLANT COVER IS SPARSE OR PATCH, EVALUATE THE PLANT MATERIALS CHOSEN, SOIL FERTILITY, MOISTURE CONDITION, AND MULCH APPLICATION; REPAIR AFFECTED AREAS EITHER BY OVERSEEDING OR PREPARING A NEW SEEDBED AND RESEEDING. APPLY AND ANCHOR MULCH ON THE NEWLY SEEDED AREAS.
6. IF VEGETATION FAILS TO GROW, CONSIDER SOIL TESTING TO DETERMINE SOIL PH OR NUTRIENT DEFICIENCY PROBLEMS. (CONTACT YOUR SOIL AND WATER CONSERVATION DISTRICT OR COOPERATIVE EXTENSION OFFICE FOR ASSISTANCE.)
7. IF ADDITIONAL FERTILIZATION IS NEEDED TO GET A SATISFACTORY STAND, DO SO ACCORDING TO SOIL TEST RECOMMENDATIONS.
8. ADD FERTILIZER THE FOLLOWING GROWING SEASON. FERTILIZE ACCORDING TO SOIL TEST RECOMMENDATIONS.
9. FERTILIZE TURF AREAS ANNUALLY. APPLY FERTILIZER IN A SPLIT APPLICATION. FOR COOL-SEASON GRASSES, APPLY ONE-HALF OF THE FERTILIZER IN LATE SPRING AND ONE-HALF IN EARLY FALL. FOR WARM-SEASON GRASSES, APPLY ONE-THIRD IN EARLY SPRING, ONE-THIRD IN LATE SPRING, AND THE REMAINING ONE-THIRD IN MIDDLE SUMMER.

LIMITATIONS:

SEEDED SURFACES MUST NOT BE SUBJECT TO EROSIVE FLOWS.

1
26
PERMANENT SEEDING TABLES
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Client/Project
PORTER COUNTY DEPARTMENT OF DEVELOPMENT
& STORMWATER MANAGEMENT
NORTH STIMSON DRAIN DRAIN TILE RECONSTRUCTION
BETWEEN E DIVISION RD & SR 49

Title
FINAL PLANS
DETAILS

Permit-Seal

JESSICA MCCLORY
REGISTERED
No. 12200391
STATE OF
INDIANA
PROFESSIONAL ENGINEER

Project Number: 238102157

File Name: 238102157_Details_N Stimson Drain.dwg

JTC	RAS	JTC	24.02.12
Dwn.	Chkd.	Dsgn.	YY.MM.DD

Drawing No.

Revision 2

Sheet 26 of 26

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TECHNICAL SPECIFICATIONS

FOR

NORTH STIMSON
DRAIN TILE RECONSTRUCTION

PORTER CO. DEPARTMENT OF DEVELOPMENT & STORM WATER MANAGEMENT
OCTOBER 15, 2024

The following Technical Specifications shall apply to and govern the project designated as **North Stimson – Drain Tile Reconstruction.** Such Technical Specifications supplement the specifications contained in the documents listed in the table below and, in case of conflict with any part or parts of said specifications, the Engineer shall determine which specifications shall take precedence and govern. The following hierarchy will be applied by the Engineer in resolving any conflict, error, ambiguity, or discrepancy in or between said specifications.

Specification	**Issuing Agency**	**Adopted/Dated**
Special Provisions for North Stimson – Drain Tile Reconstruction	Porter Co. Department of Development & Storm Water Management	October 15, 2024
Technical Specifications for North Stimson – Drain Tile Reconstruction	Porter Co. Department of Development & Storm Water Management	October 15, 2024
Construction Plans for North Stimson – Drain Tile Reconstruction	Porter Co. Department of Development & Storm Water Management	February 12, 2024
General Specifications to the Construction & Maintenance Services Agreements	Porter Co. Department of Development & Storm Water Management	February 1, 2024

DIVISION 200
SITE PREPARATION AND EARTHWORK

PRE-CONSTRUCTION AUDIO/VIDEO SURVEY

DESCRIPTION

This work shall consist of conducting an audio/video survey of the project site and adjacent areas to document the condition of such areas prior to the start of the work. Such audio/video recording will be used to resolve disputes regarding damage to public or private property and/or the restoration of areas disturbed during the performance of the work.

CONSTRUCTION REQUIREMENTS

An audio/video survey of the project site and the project site shall be conducted prior to the start of the work. The audio/video recording system and the procedures used to conduct such survey shall provide a finished product that will fulfill the technical requirements outlined below as well as provide high quality audio and video documentation of the conditions found on the project site and adjacent areas prior to the start of the work. The audio/video recording system shall provide bright, sharp, clear pictures and accurate colors and shall be free from distortion, discoloration, and other forms of picture imperfection and shall provide precise and concise explanatory notes about the survey with adequate volume and clarity and free from distortion and other forms of sound imperfection.

This work shall be completed in accordance with the following technical requirements:

(a) Audio/Video Equipment (Video Camera). The video shall be recorded in high definition video.

(b) Recording Index. Video recordings shall be supplemented with an index identifying the area documented by such recording and the date and time such video was recorded.

(c) Start of Survey. At the start of production and/or at the beginning of each video documenting a new area or project segment, an introduction should be read into the recording while a wide-angle view of such area or segment is provided for a visual marker. The introduction shall include: (1) project name, (2) summary of area or segment being surveyed, (3) location at start of survey and general direction of survey, (4) date and time, (5) weather conditions, and (6) any other notable conditions.

(d) Survey Coverage. Video recordings shall include coverage of all surface features within the project site and all adjacent areas within the area that may be affected by the performance of the work. This area shall be defined as: (1) the area within the right-of-way as well as areas adjacent to such right-of-way which may be affected by construction activities, (2) the area within any permanent and/or temporary easements as well as areas adjacent to such permanent and/or temporary easements which may be affected by construction activities; and, (3) any other areas identified by the Owner. Surface features include, but are not limited to, pavement, walls and foundations of buildings, vaults, underground structures of public utilities, underground structures of private utilities, survey markers, overhead structures of public utilities, trees, shrubbery, landscaped areas, crops, and fences contiguous to the work. Of particular interest to the survey shall be surface features for which the contract does not provide for removal and/or specify precautions as well as the existence or non-existence of any existing defects or damage to surface features.

(e) Visibility. Video recordings shall be performed only when sufficient sunlight is available to properly illuminate the area or segment being documented. No video recordings shall be performed during periods of significant precipitation, mist, or fog. No video recordings shall be performed when the area or segment being document is covered with snow unless otherwise authorized by the Engineer.

(f) Rate of Travel. The rate of travel while conducting video recordings shall be indirectly proportional to the number, size, and value of the surface features found within the area or segment being documented. In no case shall the average rate of travel exceed 50 feet per minute.

(g) Perspective. To ensure proper perspective and to capture an optimal level of detail during the survey, the video camera shall be placed at an optimal height above the ground, typically at breast or shoulder height.

(h) End of Survey. At the end of production and/or at the end of each video documenting a new area or project segment, a summary should be read into the recording while a wide-angle view of such area or segment is provided for a visual marker. The summary shall include: (1) project name, (2) summary of area or segment being surveyed, and, (3) location at end of survey.

Upon completion of the audio/video survey, and prior to the start of the work, the Contractor shall provide the Owner with two copies of the survey on DVDs, USB drives, or other electronic format acceptable to Owner. Such DVDs, USB drives, or other deliverables shall include a log that shall describe: (1) the various areas or segments that are documented therein, (2) location at start of each video recording, general direction of survey, and location at end of each video recording, and, (3) date and time of each video recording.

Owner shall have the authority to reject any or all of the video recordings not conforming to these technical specifications. Those areas or segments that were the subject of video recordings that were so rejected by Owner shall be re-surveyed at no additional cost to Owner.

MEASUREMENT
This work shall not be measured for payment, but shall be considered complete following inspection and acceptance of the work by the Department.

This work shall be paid for at the contract quantity and/or quantities for PRE-CONSTRUCTION AUDIO/VIDEO SURVEY – LUMP SUM shown on the basis of bid or quote form.

PAYMENT
This work shall paid for at the contract unit price for PRE-CONSTRUCTION AUDIO/VIDEO SURVEY – LUMP SUM.

Such unit price shall include all preparation necessary to complete the work, the furnishing, transporting, and use of all equipment and materials necessary to complete the work, as well as the recording, documentation, editing, and other necessary items and tasks necessary to complete the work.

CLEARING & TREE REMOVAL

DESCRIPTION

This work shall consist of performing the following items within the areas shown on the construction plans, where required to complete the work in accordance with the contract documents, and other locations identified by the Engineer.

(a) Clearing. Clearing shall consist of the removal and disposal of all downed trees and logs, regardless of diameter. It shall also consist of the cutting, removal, and disposal of all bushes, saplings, and other woody vegetation of a diameter of less than 6 in., as measured at a point 4.5 ft. above the highest adjacent grade at the base of the vegetation (i.e., diameter at breast height). It shall also consist of the removal and disposal of all other obstructions, including log jams and accumulations of rubbish of whatever nature, the removal and disposal of which is not otherwise provided for in the contract documents.

(b) Tree Removal. Tree Removal shall consist of the cutting, removal, and disposal of trees as hereinafter defined.

DEFINITIONS

Tree. A woody, perennial plant having a single main stem or trunk, the diameter of which is 6 in. or more, as measured at a point 4.5 ft. above the highest adjacent grade at the base of the tree (i.e., diameter at breast height). Those trees having a diameter less than 6 in. diameter at breast height shall be considered saplings. A multiple stem tree that forks at a point below breast height shall be considered to be a cluster of multiple individual trees. A tree that forks at or above breast height shall be considered to be a single tree. If already cut or broken off at less than 4.5 ft. above the highest adjacent grade at the base of the tree, but more than 1.0 ft. above the highest adjacent grade, the remaining trunk will be measured at the elevation of such existing cut or break.

Limits of Clearing & Tree Removal. Woody scrub areas requiring Clearing & Tree Removal are denoted by the existing tree line linework and callouts in the construction plans. Clearing & Tree Removal shall not extend outside of the proposed drain easement boundary shown on the construction plans. Clearing & Tree Removal shall not extend into the wetland boundaries depicted on the construction plans.

CONSTRUCTION REQUIREMENTS

This work includes clearing and tree removal within the areas shown on the construction plans, where required to complete the work in accordance with the contract documents, and other locations identified by the Engineer.

This work shall be completed in accordance with the following.

(a) Clearing. All downed trees and logs, regardless of diameter, and all other obstructions, including log jams and accumulations of rubbish of whatever nature, shall be removed and disposed of as specified below. All bushes, saplings, and other woody vegetation of a diameter of less than 6 in. diameter at breast height, shall be cut, removed, and disposed of as specified below. All bushes, saplings, and other woody vegetation of a diameter of less than 6 in. diameter at breast height shall be cut off at a height of not more than 4 in.

The Contractor shall select and use appropriate means and methods, based on the specified cutting height and the bushes, saplings, and other woody vegetation to be cut, removed, and disposed of, to conduct the work. The equipment used shall be capable of neatly and completely severing all growth at the specified cutting height.

(b) Tree Removal. All trees shall be cut and disposed of in accordance with the contract documents. Trees located on embankments with a slope of 3:1 (H:V) or steeper shall be cut off at a height of not more than 1.0 ft. above the highest adjacent grade at the base of the tree. All other trees shall be cut off at the height of not more than 4 in. above the highest adjacent grade at the base of the tree (i.e., flush cut). The Contractor shall select and use appropriate means and methods, based on the specified cutting height and the trees to be cut and disposed of, to conduct the work. The equipment used shall be capable of neatly and completely severing the trees at the specified cutting height. No splinters or spurs shall extend from the top or sides of any stump.

To prevent re-sprouting, the stumps of all trees that are cut and disposed of in accordance with the contract documents shall be treated with garlon as soon as possible following cutting. Garlon shall be applied in accordance with the manufacturer's recommendations by a licensed commercial pesticide applicator. The Contractor shall assume responsibility for the re-sprouting of any trees that are cut and disposed of as part of the Tree Removal work.

(c) Disposal of Materials. All trees, downed trees and logs, all bushes, saplings, and other woody vegetation of a diameter of less than 6 in. diameter at breast height, and all other materials removed during the Clearing & Tree Removal work shall be disposed of in accordance with the following.

The Contractor shall dispose of all materials in such a manner that public or private property will not be damaged or endangered. No on-site open burning of materials removed during the Clearing & Tree Removal work shall be allowed, unless otherwise provided for in the contract documents, or otherwise approved in writing by the Engineer. Considering the following tolerances for mulched, shredded, and/or chipped materials, materials removed during the Clearing & Tree Removal work may be mulched, shredded, and/or chipped and may be placed or left upon the site, when approved in writing by the Engineer or otherwise provided for in the contract documents. Mulched, shredded, and/or chipped materials to be placed or left upon the site shall not be left in windrows or otherwise in a lumpy or bunched condition and shall be evenly placed or left upon the site at a depth not to exceed 3 in.

(1) Tolerances for Mulched, Shredded, and/or Chipped Material. Mulched, shredded, and/or chipped material shall be considered adequately mulched, shredded, and/or chipped and may be left in place provided that 90% of such material is smaller than 6 in., as measured in any direction, and that 50% of such material is smaller than 3 in., as measured in any direction.

The means and methods selected and used by the Contractor in the performance of the work shall minimize soil disturbance in the areas subject to the work. The Contractor will not be required to conduct Clearing & Tree Removal work in areas that are continuously wet and/or cannot otherwise be cleared with equipment, as determined in coordination with the Engineer.

Wherever areas have been disturbed as a result of the performance of the work, provided the following tolerances for ruts, Contractor, at no additional cost to the Department, shall restore such property to a condition equal to that existing before such disturbance occurred. Damage, such as ruts or wheel tracks more than 2 in. in depth or more than 12 in. in length or width, shall be repaired to the satisfaction of the Engineer. If the Contractor fails to do so, the Department may, after the expiration of a period of 48 hours after giving the Contractor notice in writing, proceed to repair such damage, and the cost thereof will be deducted from any compensation due, or which may become due, the Contractor under this or any other contract between the Contractor and the Department.

(1) Tolerances for Ruts. Disturbed areas shall be free from ruts or wheel tracks measuring more than 2 in. in depth or more than 12 in. in length or width. Disturbed areas with ruts or wheel tracks that measure more than 2 in. in depth or more than 12 in. in length or width, shall be restored to be free from such ruts or wheel tracks.

MEASUREMENT
This work shall not be measured for payment, but shall be considered complete following inspection and acceptance of the work by the Department.

PAYMENT
This work shall be paid for at the contract quantity and/or quantities for CLEARING & TREE REMOVAL – LUMP SUM shown on the basis of bid form.

Such unit price(s) shall include all preparation necessary to complete the work, the furnishing, transporting, and placing of all materials necessary to complete the work, as well as the cutting, removal, and disposal, including transporting, of all materials resulting from the performance of the work.

MOWING

DESCRIPTION
This work shall consist of the mowing of herbaceous vegetation within the areas shown on the construction plans, where required to complete the work in accordance with the contract documents, and other locations identified by the Engineer. In general, the purpose of this work is to control and manage invasive and undesirable vegetation and to promote the growth of native and desirable vegetation.

DEFINITIONS
Limits of Mowing. A boundary line as shown on the construction plans or as designated by the Department.

CONSTRUCTION REQUIREMENTS
This work consists of cutting and shredding and/or cutting and mulching herbaceous vegetation within the areas shown on the construction plans, where required to complete the work in accordance with the contract documents, and other locations identified by the Engineer. Such areas shall be mowed one or more times as necessary to achieve a uniform vegetation height of not more than 4 in. If such areas have been previously subjected to VEGETATION MANAGEMENT – CHEMICAL TREATMENT, this work shall not occur until at least two weeks after the completion of such VEGETATION MANAGEMENT – CHEMICAL TREATMENT to provide adequate time for the plants treated to absorb such chemical treatment.

The Contractor shall select and use appropriate means and methods, based on the specified cutting height, the vegetation to be mowed, and the ground conditions present in the areas to be mowed, to conduct the work. The equipment used, which may include, but shall not be limited to flail mowers or rotary mowers, shall be capable of neatly and completely severing all growth at the specified cutting height, shredding and/or mulching the cut material, and evenly distributing the cut material over the mowed area. Cut material shall not be left in windrows or otherwise in a lumpy or bunched condition. Additional mowing may be required, as directed by the Engineer, in order to complete the work in accordance with the contract documents.

Once the mowing has been completed, any remaining cut material, unless adequately shredded and/or mulched, provided the following tolerances for cut material, shall be raked, removed, and disposed of in an appropriate manner to allow sunlight to reach the underlying soil surface to promote the growth of native and desirable vegetation and prevent cut material from clogging downstream stormwater infrastructure (e.g., inlets, culverts).

(1) Tolerances for Cut Material. Cut material shall be considered adequately shredded and/or mulched and may be left in place provided that 90% of such cut material is smaller than 6 in., as measured in any direction, and that 50% of such cut material is smaller than 3 in., as measured in any direction.

The means and methods selected and used by the Contractor in the performance of the work shall minimize soil disturbance in the areas to be mowed. The Contractor will not be required to mow continuously wet surfaces or areas which may otherwise be designated as not mowable by the Engineer. In the case that a surface cannot be mowed, VEGETATION MANAGEMENT – HAND REMOVAL, shall be completed in accordance with these Technical Specifications, provided the completion of such work is provided for in the contract documents.

Wherever areas have been disturbed as a result of the performance of the work, provided the following tolerances for ruts, Contractor, at no additional cost to the Department, shall restore such property to a condition equal to that existing before such disturbance occurred. Damage, such as ruts or wheel tracks more than 2 in. in depth or more than 12 in. in length or width, shall be repaired to the satisfaction of the Engineer. If the Contractor fails to do so, the Department may, after the expiration of a period of 48 hours after giving the Contractor notice in writing, proceed to repair such damage, and the cost thereof will be deducted from any compensation due, or which may become due, the Contractor under this or any other contract between the Contractor and the Department.

(1) Tolerances for Ruts. Disturbed areas shall be free from ruts or wheel tracks measuring more than 2 in. in depth or more than 12 in. in length or width. Disturbed areas with ruts or wheel tracks that measure more than 2 in. in depth or more than 12 in. in length or width, shall be restored to be free from such ruts or wheel tracks.

Debris encountered during the performance of the work which hampers the performance of the work or that is visible from adjacent areas shall be removed and disposed of in accordance with these Technical Specifications.

MEASUREMENT
This work shall not be measured for payment, but shall be considered complete following inspection and acceptance of the work by the Department.

This work shall be paid for at the contract quantity for MOWING shown on the basis of quote form. The entire area designated for MOWING on the construction plans shall have been used in computing such quantity.

PAYMENT
This work shall be paid for at the contract unit price per acre for MOWING shown on the basis of bid form.

Such unit price shall include all preparation necessary to complete the work, as well as the furnishing, transporting, and placing of all labor, tools, equipment, materials and other incidental items necessary to complete the work. The removal and disposal, including transporting, of cut material and other materials resulting from the performance of the work shall also be considered as incidental to this work.

STRIP TOPSOIL

DESCRIPTION
This work shall consist of the stripping of topsoil from the existing surface of trenches and other cut areas and the existing surface of embankments and other fill areas and the transportation of materials generated during such stripping work to stockpile areas located on the project site.

CONSTRUCTION REQUIREMENTS
Topsoil shall be stripped from the existing surface of trenches and other cut areas and the existing surface of embankments and other fill areas, as shown on the construction plans. Topsoil shall be stripped to a depth of 6 IN, or as directed by the Engineer, and stockpiled on the project site near the areas where it is to be spread.

MEASUREMENT
This work shall be considered as incidental to the work and the various other items of work involved and will not be measured for payment.

PAYMENT
This work will not be paid for directly but shall be considered as included in the various other items of work involved and shall be included in the unit prices for such items and no additional compensation will be allowed.

EXCAVATION

DESCRIPTION
This work shall consist of the excavation of materials from trenches and other cut areas and the transportation of materials generated during such excavation work to fill areas, embankment locations, spoil disposal areas, or stockpile areas located on the project site. Typically spoils will be spread in depths 3-6” in adjacent agricultural field and then top dressed with minimum 6” of topsoil

CONSTRUCTION REQUIREMENTS
(a) Preparation
Prior to starting the excavation work, necessary clearing and tree removal, mowing, hand removal, and/or topsoil stripping work shall be conducted within the work area and within any fill areas, embankment locations, spoil disposal areas, or stockpile areas located on the project site, in accordance with these technical specifications.

(b) Excavation
All excavation work shall be conducted in accordance with the lines, grades, and elevations shown on the construction plans; there shall be no deviation from such lines, grades, and elevations, without the written consent of the Engineer.

All suitable materials generated during the excavation work, including, but not limited to, earth, gravel, rock, stone, boulders, and broken concrete not containing exposed rebar, shall be re-used in the work, as described below, provided that such materials meet all applicable materials specifications. Materials generated during the excavation work that are not suitable for re-use in the work shall be removed and disposed of off-site in a responsible and lawful manner.

Suitable earth, gravel, rock, stone, and boulders generated during the excavation work may be used as backfill within pipe replacement trenches, placed in fill areas, embankment locations, spoil disposal areas, or stockpile areas, provided that such materials are placed and compacted in accordance with the contract documents. Suitable broken concrete not containing exposed rebar generated during the channel excavation work may also be used in fill areas, embankment locations, spoil disposal areas, or stockpile areas, provided that such materials are placed and compacted to the satisfaction of the Engineer, buried under a minimum of two feet of earth, and do not create an unsightly appearance or conflict with the natural topography of the area. Suitable gravel, rock, and broken concrete not containing exposed rebar generated during the excavation work may also be used as coarse aggregate, provided that such materials meet all applicable materials specifications. Suitable rock, stone, boulders, and broken concrete not containing exposed rebar generated during the excavation work may also be used as rip rap, provided that such materials meet all applicable materials specifications.

Materials generated during the excavation work that are not suitable for re-use in the work shall be removed and disposed of off-site in a licensed landfill, recycled, reused, or otherwise disposed of in accordance with local, state, and federal laws and regulations. Should the Contractor choose to dispose of such materials at a clean construction and demolition debris (CCDD) facility or at an uncontaminated soil fill operation, it shall be the Contractor’s responsibility to have the pH of the material tested to ensure the value is between 6.25 and 9.0, inclusive. A copy of the pH test results shall be provided to the Engineer.

When the Contractor removes and disposes of materials generated during the excavation work that are not suitable for re-use in the work, the Contractor shall obtain written approval from the owner of such off-site location and present such written approval to the Engineer prior to using such location. The approval of the proposed off-site disposal site shall be according to Article 107.17.

(c) Classification
All excavation work will be classified by the Engineer. All excavation work will be classified as EXCAVATION, except that excavation work conducted in rock shall be classified as ROCK EXCAVATION.

ROCK EXCAVATION shall consist of the excavation of boulders 1/2 CY in volume or greater and all rock in ledges, bedded deposits, and conglomerate deposits exhibiting the physical characteristics and difficulty of rock removal, as determined by the Engineer.

MEASUREMENT

This work shall not be measured for payment, but shall be considered complete following inspection and acceptance of the work by the Department.

This work shall be paid for at the contract quantity for EXCAVATION AND/OR ROCK EXCAVATION shown on the basis of quote or basis of bid form. The entire volume designated for EXCAVATION AND/OR ROCK EXCAVATION on the construction plans shall have been used in computing such quantity.

PAYMENT
This work shall be paid for at the contract unit price(s) per cubic yard for EXCAVATION AND/OR ROCK EXCAVATION.

Such unit price(s) shall include all preparation necessary to complete the work, as well as the furnishing, transporting, and/or placing of all labor, tools, equipment, and other incidental items necessary to complete the work. The transportation of materials generated during such excavation work to fill areas, embankment locations, spoil disposal areas, or stockpile areas located on the project site shall also be considered as incidental to this work. The spreading of suitable excess excavation material within the drain easement shown in the construction plans shall be incidental to this work.

The removal and disposal, including transportation, of materials generated during the excavation work that are not suitable for re-use in the work will be paid for at the contract unit price per cubic yard for REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL, provided the completion of such work is provided for in the contract documents. If the completion of such work is not provided for in the contract documents, REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL will be paid for according to Article 109.05.

FILL

DESCRIPTION
This work shall consist of the construction of embankments and other fill areas on the project site by transporting, spreading, and tamping or compacting suitable material above the surface of the existing grade.

CONSTRUCTION REQUIREMENTS
(a) Preparation
Prior to starting the construction of an embankment or other fill area, necessary clearing and tree removal, mowing, hand removal, and/or topsoil stripping work shall be conducted within the work area in accordance with these technical specifications.

The existing ground surface within the embankment or other fill area shall then be scarified or tilled to a minimum of 3 IN deep to prepare the ground surface for the placement of fill. Fill shall not be placed on frozen earth.

When embankments and other fill areas are located on existing slopes, or if existing slopes are included in embankments or other fill areas, the existing slopes shall be scarified or tilled to a minimum of 3 IN deep to prepare the ground surface for the placement of fill. If additional precautions for binding the fill to the ground surface are justified, steps shall be cut into the existing slopes before the construction of the embankment or other fill area begins.

(b) Fill
Embankments and other fill areas shall be constructed of suitable materials that will compact and develop stability. No sod, frozen material, or any material which, by decay or otherwise, might cause settlement shall be placed or allowed to remain in embankments or other fill areas. Embankments and other fill areas shall be constructed to the height and width deemed necessary to provide for shrinkage during compaction. Upon completion, the embankments and other fill areas shall be according to the lines, grades, and cross sections shown on the construction plans.

When embankments and other fill areas are constructed of materials generated during excavation work, such materials shall be well distributed, and sufficient earth or other fine material shall be incorporated within them when they are deposited to fill interstices and provide solid embankments and surfaces. No rock, stones or broken concrete more than 4 IN in largest dimension shall be permitted within a vertical distance of 12 IN from the surface of the finished grade.

Pieces of concrete, not exceeding 2 SF for any area of surface, and large rocks and boulders may be placed in embankments and other fill areas without being broken up, provided they are well embedded, and the interstices filled with smaller pieces or smaller material in a manner to give a density satisfactory to the Engineer. The lifts of the smaller pieces or smaller material shall not exceed 8 IN in depth.

So far as practicable, each lift of material shall extend the entire length and width of the embankment or other fill area. The material shall be leveled by means of bulldozers, graders, or other equipment approved by the Engineer. Each lift shall be not more than 8 IN thick when in loose condition, uniform in cross section, and thoroughly compacted before the next lift is started. Each lift of material shall be disked sufficiently to break down oversized clods, mix the different materials, secure a uniform moisture content, and ensure uniform density and compaction. Disking may be omitted if the fill material consists of sand or gravel.

The use of drag line excavators or similar equipment which excavate and deposit material in large unit masses will not be permitted, unless all materials excavated in this manner are spread as provided herein and compacted in accordance with these technical specifications, or as directed by the Engineer.

(c) Compaction
If the height of the embankment or other fill area is less than 1-1/2 FT, all lifts shall be compacted to not less than 95 percent of the standard laboratory density. If the height of the embankment or other fill area is between 1-1/2 FT and 3 FT, the first lift shall be compacted to not less than 90 percent, and the balance to a minimum of 95 percent of the standard laboratory density. If the height of the embankment or other fill area exceeds 3 FT in height, the lower 1/3 of the embankment or surface, but not to exceed the lower 2 FT, shall be compacted in a manner that will yield a minimum of 90 percent of standard laboratory density to the uppermost lift of that portion of the embankment or other fill area. The next 1 FT of the embankment or other fill area shall be compacted to

not less than 93 percent, and the balance of the embankment or other fill area shall be compacted to not less than 95 percent of the standard laboratory density.

The top 2 FT of all embankments and other fill areas shall not contain more than 120 percent of the optimum moisture determined according to AASHTO T 99 (Method C). The Contractor will be permitted the use of an approved additive to effect a quicker drying time.

The standard laboratory density shall be the maximum dry density determined according to AASHTO T 99 (Method C). A coarse particle correction according to AASHTO T 224 shall be used.

The dry density of the compacted embankment or other fill area will be determined by the Engineer at regular intervals according to AASHTO T 191, AASHTO T 310, or by other methods approved by the Engineer.

The embankment or other fill area shall be sprinkled with water when it is necessary to increase the moisture content of the soil to permit the fill area or embankment location to be constructed to the densities indicated above.

Compacting equipment and compacting operations shall be coordinated with the rate of placing fill material so that the required density is obtained.

Special care shall be exercised in compacting embankments and other fill areas adjacent to structures and in sharp depressions. Where such areas are inaccessible to the compacting equipment being used, the material shall be placed in 8 IN lifts and uniformly compacted with suitable mechanical equipment. Embankment and other fill areas placed adjacent to a structure shall not contain more than 110 percent of the optimum moisture determined according to AASHTO T 99 (Method C).

MEASUREMENT
This work shall be considered as incidental to the work and the various other items of work involved and will not be measured for payment.

PAYMENT
This work will not be paid for directly but shall be considered as included in the various other items of work involved and shall be included in the unit prices for such items and no additional compensation will be allowed.

BEDDING & INITIAL BACKFILL

DESCRIPTION
This work shall consist of furnishing, transporting, and placing coarse aggregate for the bedding and initial backfill to be installed at the bottom of all trenches excavated during the performance of the work for the purpose of installing drain tiles and storm sewers.

This work also includes the transportation of suitable surplus excavated material from trenches, such suitable surplus excavated material having been replaced by bedding and initial backfill, to fill areas, embankment locations, spoil disposal areas, or stockpile areas located on the project site. Surplus excavated material not suitable for use in fill areas, embankment locations, spoil disposal areas, or stockpile areas located on the project site shall be removed and disposed of off-site in a licensed landfill, recycled, reused, or otherwise disposed of in accordance with local, state, and federal laws and regulations.

Should suitable bedding and initial backfill material be discovered beneath the existing CMP drain tile and within the footprint of the proposed bedding needed, the depth and quality of the aggregate will first be confirmed by the Engineer but then shall be reused in-lieu of imported bedding & initial backfill material.

MATERIALS
Materials shall be in accordance with the following materials specifications, which are presented elsewhere in these technical specifications.

MATERIALS
(1) Bedding & Initial Backfill

CONSTRUCTION REQUIREMENTS
The installation of bedding and initial backfill shall be completed in accordance with these technical specifications.

MEASUREMENT
This work shall not be measured for payment, but shall be considered complete following inspection and acceptance of the work by the Department. Stone lift tickets may be requested by the Engineer and/or Owner so the Contractor should keep documentation of these tickets.

This work shall be paid for at the contract quantity for BEDDING & INITIAL BACKFILL shown on the basis of quote or basis of bid form. The entire volume of BEDDING & INITIAL BACKFILL necessary to complete the work shown on the construction plans shall have been used in computing such quantity.

PAYMENT
This work shall be paid for at the contract unit price per cubic yard for BEDDING & INITIAL BACKFILL.

Such unit price shall include all preparation necessary to complete the work, as well as the furnishing, transporting, and placing of all material, labor, tools, equipment, and other incidental items necessary to complete the work. The transportation of suitable surplus excavated material from trenches, such suitable surplus excavated material having been replaced by bedding and initial backfill, to fill areas, embankment locations, spoil disposal areas, or stockpile areas located on the project site shall also be considered as incidental to this work.

The removal and disposal, including transportation, of surplus excavated materials that are not suitable for re-use in the work or for spreading within the drain easement as shown in the construction plans will be paid for at the contract unit price per cubic yard for REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL, provided the completion of such work is provided for in the contract documents. If the completion of such work is not provided for in the contract documents, REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL will be paid for according to Article 109.05.

STRUCTURE BEDDING

DESCRIPTION
This work shall consist of furnishing, transporting, and placing fine aggregate for the bedding to be installed at the bottom of all excavations made during the performance of the work for the purpose of installing storm sewer structures.

This work also includes the transportation of suitable surplus excavated material from such excavations, such suitable surplus excavated material having been replaced by structure bedding, to fill areas, embankment locations, spoil disposal areas, or stockpile areas located on the project site. Surplus excavated material not suitable for use in fill areas, embankment locations, spoil disposal areas, or stockpile areas located on the project site shall be removed and disposed of off-site in a licensed landfill, recycled, reused, or otherwise disposed of in accordance with local, state, and federal laws and regulations.

MATERIALS
Materials shall be in accordance with the following materials specifications, which are presented elsewhere in these technical specifications.

MATERIALS
(1) Structure Bedding

CONSTRUCTION REQUIREMENTS
The installation of structure bedding shall be completed in accordance with these technical specifications.

MEASUREMENT
This work shall not be measured for payment, but shall be considered complete following inspection and acceptance of the work by the Department.

This work shall be paid for at the contract quantity for STRUCTURE BEDDING shown on the basis of quote or basis of quote form. The entire volume of STRUCTURE BEDDING necessary to complete the work shown on the construction plans shall have been used in computing such quantity.

PAYMENT
This work shall be paid for at the contract unit price per cubic yard for STRUCTURE BEDDING.

Such unit price shall include all preparation necessary to complete the work, as well as the furnishing, transporting, and/or placing of all material, labor, tools, equipment, and other incidental items necessary to complete the work. The transportation of suitable surplus excavated material from trenches, such suitable surplus excavated material having been replaced by sand bedding, to fill areas, embankment locations, spoil disposal areas, or stockpile areas located on the project site shall also be considered as incidental to this work.

The removal and disposal, including transportation, of surplus excavated materials that are not suitable for re-use in the work will be paid for at the contract unit price per cubic yard for REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL, provided the completion of such work is provided for in the contract documents. If the completion of such work is not provided for in the contract documents, REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL will be paid for according to Article 109.05.

FINAL BACKFILL

DESCRIPTION
This work shall consist of furnishing, transporting, and placing suitable excavated material for the final backfilling of all trenches and storm sewer structures not located in or near the subgrade of a proposed or existing pavement. It shall also consist of furnishing, transporting, and placing coarse aggregate for the final backfilling of all trenches and storm sewer structures located in the subgrade of a proposed or existing pavement, curb, gutter, curb and gutter, stabilized shoulder, or sidewalk, and all trenches located where the inner edge of the trench is within 2 FT of the edge of a proposed or existing pavement, curb, gutter, curb and gutter, stabilized shoulder, or sidewalk.

This work also includes the transportation of suitable surplus excavated material from trenches, such suitable surplus excavated material having been replaced by final backfill, to fill areas, embankment locations, spoil disposal areas, or stockpile areas located on the project site. Surplus excavated material not suitable for use in fill areas, embankment locations, spoil disposal areas, or stockpile areas located on the project site shall be removed and disposed of off-site in a licensed landfill, recycled, reused, or otherwise disposed of in accordance with local, state, and federal laws and regulations.

MATERIALS
Materials shall be in accordance with the following materials specifications, which are presented elsewhere in these technical specifications.

MATERIALS
(1) Suitable Excavated Material
(2) Trench Backfill
(3) Structure Backfill

CONSTRUCTION REQUIREMENTS
The installation of final backfill shall be completed in accordance with these technical specifications.

MEASUREMENT
This work shall not be measured for payment, but shall be considered complete following inspection and acceptance of the work by the Department.

This work shall be paid for at the contract quantity for FINAL BACKFILL shown on the basis of quote form. The entire volume of FINAL BACKFILL necessary to complete the work shown on the construction plans shall have been used in computing such quantity.

PAYMENT
This work shall be paid for at the contract unit price per cubic yard for FINAL BACKFILL.

Such unit price shall include all preparation necessary to complete the work, as well as the furnishing, transporting, and/or placing of all material, labor, tools, equipment, and other incidental items necessary to complete the work. The transportation of suitable surplus excavated material from trenches, such suitable surplus excavated material having been replaced by trench backfill, to fill areas, embankment locations, spoil disposal areas, or stockpile areas located on the project site shall also be considered as incidental to this work.

The removal and disposal, including transportation, of surplus excavated materials that are not suitable for re-use in the work will be paid for at the contract unit price per cubic yard for REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL, provided the completion of such work is provided for in the contract documents. If the completion of such work is not provided for in the contract documents, REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL will be paid for according to Article 109.05.

SPREAD TOPSOIL

DESCRIPTION
This work shall consist of the transportation of materials from topsoil stockpile areas located on the project site to disturbed areas located on the project site, such as trenches and other cut areas and embankments, spoils areas, and other fill areas, and the spreading of such materials over such disturbed areas.

CONSTRUCTION REQUIREMENTS
Topsoil shall be spread over disturbed areas located on the project site, such as trenches and other cut areas and embankments, spoils areas and other fill areas, as shown on the construction plans. Topsoil shall be spread over such disturbed areas to a depth of 6 IN, or as directed by the Engineer, and firmly tamped or compacted.

So far as practicable, each lift of topsoil shall extend the entire length and width of the disturbed area. The material shall be spread by means of bulldozers, graders, or other equipment approved by the Engineer. Each lift shall be not more than 8 IN thick when in loose condition, uniform in cross section, and firmly tamped or compacted before the next lift is started. Each lift of material shall be disked sufficiently to break down oversized clods, mix the different materials, secure a uniform moisture content, and ensure uniform density and compaction.

All spreading work shall be conducted in accordance with the lines, grades, and elevations shown on the construction plans; there shall be no deviation from such lines, grades, and elevations, without the written consent of the Engineer.

MEASUREMENT
This work shall be considered as incidental to the work and the various other items of work involved and will not be measured for payment.

PAYMENT
This work will not be paid for directly but shall be considered as included in the various other items of work involved and shall be included in the unit prices for such items and no additional compensation will be allowed.

SHAPING, TRIMMING & FINISHING

DESCRIPTION
This work shall consist of the shaping, trimming, and finishing of disturbed areas located on the project site, the cleaning up of disturbed areas located on the project site, and completing the work for acceptance.

CONSTRUCTION REQUIREMENTS

(a) Grading
Within disturbed areas located on the project site, all irregularities shall be smoothed out, depressions shall be filled in, and the entire disturbed area shall be shaped, trimmed, and finished uniformly to the lines, grades, and elevations shown on the construction plans and blended into the existing adjacent grade.

(b) Finishing
Finished surfaces shall be cleaned up for final acceptance. All unsuitable material, debris, and rubbish, resulting from construction operations, or otherwise occurring within the finished surface, and all stones more than 6 IN in the largest dimension, shall be removed from the finished surface and disposed of in accordance with these technical specifications. The degree of finish required shall be that which can be obtained by use of suitable mechanical equipment, with only such hand labor as special conditions may require. Following finishing, the finished surface shall have a smooth appearance and shall be relatively free of dirt clods, stones, woody debris, rubbish, and other irregularities.

MEASUREMENT
This work shall be considered as incidental to the work and the various other items of work involved and will not be measured for payment.

PAYMENT
This work will not be paid for directly but shall be considered as included in the various other items of work involved and shall be included in the unit prices for such items and no additional compensation will be allowed.

STONE

DESCRIPTION
All stone detailed in this section is intended to be material installed as indicated in the plans and as directed by the Engineer for installation of the riprap outlet protection.

MATERIALS
Materials shall be in accordance with the following materials specifications, which are presented elsewhere in these technical specifications.

MATERIALS
(1) INDOT Revetment Riprap (well graded material sized 3 inches to 12 inches).

CONSTRUCTION REQUIREMENTS
The installation of stone shall be completed in accordance with these technical specifications and the location and dimension in the plans or as directed by the Engineer.

MEASUREMENT
This work shall be measured based on submitted delivery lift tickets.

This work shall be paid for at the contract quantity for the various types of stone shown on the basis of quote or basis of bid form.

PAYMENT
This work shall be paid for at the contract unit price(s) per ton for the following stone materials shown on the basis of quote or basis of bid form:

MATERIALS
(1) INDOT Revetment Riprap

Such unit price(s) shall include all preparation necessary to complete the work, as well as the furnishing, transporting, and/or placing of all labor, tools, equipment, and other incidental items necessary to complete the work. The transportation of materials generated during such excavation work to fill areas, embankment locations, spoil disposal areas, or stockpile areas located on the project site shall also be considered as incidental to this work.

The removal and disposal, including transportation, of materials generated during the excavation work that are not suitable for re-use in the work will be paid for at the contract unit price per cubic yard for REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL, provided the completion of such work is provided for in the contract documents. If the completion of such work is not provided for in the contract documents, REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL will be paid for according to Article 109.05.

DRAIN TILE

DESCRIPTION
This work shall consist of constructing drain tiles as shown on the construction plans.

MATERIALS
Materials shall be in accordance with the following materials specifications, which are presented elsewhere in these technical specifications.

MATERIALS
(1) Rigid Pipe
    a. Reinforced Concrete Pipe (RCP)
(2) Bedding & Initial Backfill
(3) Final Backfill

CONSTRUCTION REQUIREMENTS
This work shall be completed in accordance with the Porter County Supplemental Design and Construction Standards/Specifications and these technical specifications. In case of conflict between these technical specifications and any part or parts of said Porter County Supplemental Design and Construction Standards/Specifications, the Engineer shall determine which specifications shall take precedence and govern.

(a) Excavation
Drain tiles shall be constructed in trenches free of water, excavated either in embankments or natural ground. Trenches shall be dewatered through the use of diversion channels or other methods approved by the Engineer before proceeding with the construction.

Trenches shall be excavated to the depths and widths described in the table below.

Inside Diameter or Equivalent Diameter of Storm Sewer, d (IN)	Required Trench Width on Each Side of the Storm Sewer (IN)	Required Trench Depth Below the Storm Sewer (IN)
d < 24 IN	9 IN	3 IN
24 IN ≤ d ≤ 60 IN	12 IN	4 IN
d > 60 IN	18 IN	6 IN

If the width of the trench exceeds the maximum horizontal dimension specified above as a result of careless or faulty construction methods, that portion of the trench shall be corrected by backfilling in 8 IN lifts and again excavating the trench to the required width.

Trenches shall be excavated so that vertical faces are maintained at least to an elevation 12 IN above the top of the storm sewer. If the trench has been made deeper than necessary, the foundation shall be brought to the proper grade by the addition of well compacted bedding material. For trench depths greater than 5 FT, trench protection shall be utilized according to the applicable standards for work place safety. At the request of the Engineer, the Contractor shall provide to the Department, in writing, his/her procedures for fulfilling the safety requirements for trench protection.

Where pipe having bells or hubs is used, cross trenches not more than 2 IN wider than the bell or hub shall be excavated to provide uniform bearing along the length of the pipe.

Where a firm foundation is not encountered at the bottom of the trench due to the presence of unsuitable material, such as soft or spongy soil, unstable soil, or rock in either ledge or boulder formation is encountered at locations along the line of the storm sewer and at the grade established for the storm sewer, the material or rock shall be removed and replaced before proceeding with the construction.

The unsuitable material shall be removed to a depth determined by the Engineer for the width of the trench, and replaced with well compacted bedding material. Rock shall be removed to an elevation 1 FT lower than the bottom of the pipe or to a depth equal to 1/2 IN/FT of ultimate fill height over the top of the pipe, whichever is the greater depth, for the width of the trench, and replaced with well compacted bedding material. Bedding material shall be placed in 8 IN lifts and compacted by mechanical means to the satisfaction of the Engineer.

When all or a portion of a pipe will be in fill, the embankment, or a portion thereof, shall be constructed prior to excavating the trench. The embankment shall be constructed to a height which will provide approximately 1 FT of cover over the pipe, except that in no case shall the height of the embankment constructed result in a finished trench depth exceeding 5 FT. The width of the top of the embankment shall be a minimum of 2 FT on each side of the pipe, measured at right angles to its centerline, and the longitudinal slopes shall be 6:1 (H:V) or flatter. The embankment shall be constructed according to the requirements of these technical specifications, except the material shall be suitable excavated material meeting the approval of the Engineer.

All excavated material not suitable for re-use on the work shall be disposed of in accordance with these technical specifications.

(b) Foundation
Well compacted bedding material, in accordance with the table below, shall be placed along the entire width of the trench for the entire length of the pipe, except when the drain tile outlets from an embankment or existing slope, the last 3 FT of the pipe shall be bedded in compacted impervious material. The bedding material and/or impervious material shall be compacted by mechanical means to the satisfaction of the Engineer.

Inside Diameter or Equivalent Diameter of Drain Tile, d (IN)	Required Depth of Bedding Material (IN)
d < 24 IN	3 IN
24 IN $\leq$ d $\leq$ 60 IN	4 IN
d > 60 IN	6 IN

(c) Laying Drain Tile Pipe
No drain tile pipe shall be placed until the trench and the prepared foundation have been approved by the Engineer.

The trench shall be kept free from water while the pipe is being placed and until the joints have been sealed. Trenches shall be dewatered through the use of diversion channels or other methods approved by the Engineer before proceeding with the construction.

The laying of pipes shall be started at the outlet end with the spigot ends pointing in the direction of flow, and shall proceed toward the inlet end with pipes abutting and true to line and grade. The ends of pipes shall be carefully cleaned before the pipes are lowered into the trenches, and the pipes shall be lowered so as to avoid unnecessary handling in the trench.

As each length of pipe is laid, the mouth of the pipe shall be properly protected to prevent the entrance of earth or the bedding material. The pipes shall be fitted and matched so that when laid in the work they will form a sewer with a smooth, uniform invert. If reinforced concrete pipe is used, the word "top" or "bottom" may be stenciled on the inside of the pipe sections. All concrete pipe so marked shall be placed as indicated by these marks. Each section of pipe shall be pushed or pulled to the section in place to ensure tight joints. Pipe having a diameter greater than 42 IN shall be set or "brought home" with a winch, come-a-long, or other positive means.

All joints in concrete pipe shall be sealed with rubber gaskets, preformed flexible joint sealants, mastic joint sealer, or external sealing bands. When mastic joint sealer is used, it shall be applied according to the manufacturer’s recommendations and the material shall completely fill the joint after the pipes have been brought together. After each joint is sealed, it shall be wiped clean on the inside. Handling holes in concrete pipe shall be filled with a precast concrete plug and sealed with mastic or mortar; or filled with a polyethylene plug. The plug shall not project beyond the inside surface after installation.

(d) Backfilling
As soon as the condition of the drain tile will permit, the entire width of the trench shall be backfilled with initial backfill material to the top of the pipe, except when the drain tile outlets from an embankment or existing slope, the initial backfill material around and above the last 3 FT of the pipe shall be impervious material. All initial backfill material shall be deposited in such a manner as not to damage the pipe. The initial backfill material shall be placed longitudinally along the pipe and the filling of the trench shall be carried on simultaneously on both sides of the pipe. Upon finishing placement of the initial backfill material, the elevation of the initial backfill material on each side of the pipe shall be the same and the space under the pipe shall be completely filled. The initial backfill material shall be placed in 8 IN lifts and compacted by mechanical means to the satisfaction of the Engineer.

The installed pipe and its embedment (i.e., bedding and initial backfill) shall not be disturbed when using movable trench boxes and shields, sheet pile, or other trench protection.

The remainder of the trench shall be backfilled to the existing adjacent grade or finished surface as rapidly as the condition of the drain tile will permit. The final backfill material shall consist of suitable excavated material from the trench or trench backfill, as specified in the contract documents or as follows:

(1) Trench Backfill. For trenches made in the subgrade of a proposed or existing pavement, curb, gutter, curb and gutter, stabilized shoulder, or sidewalk, and trenches where the inner edge of the trench is within 2 FT of the edge of a proposed or existing pavement, curb, gutter, curb and gutter, stabilized shoulder, or sidewalk, the remainder of the trench shall be backfilled with trench backfill material meeting the requirements of these technical specifications. The material shall be placed in lifts not exceeding 8 IN in depth and compacted to a minimum of 95 percent of standard lab density by mechanical means.

(2) Suitable Excavated Material. For all other trenches, the remainder of the trench shall be backfilled with suitable excavated material. The material shall be from excavation or borrow, free from large or frozen lumps, clods, or rock, and meeting the approval of the Engineer. The material shall be placed in lifts not exceeding 12 IN in depth, and compacted to 95 percent of standard lab density by mechanical means.

Before compaction, each lift shall be wetted or dried to bring the moisture content within 80 to 110 percent of optimum as determined according to AASHTO T 99 (Method C).

When sheeting and bracing have been used, sufficient bracing shall be left across the trench as the backfilling progresses to hold the sides firmly in place without caving or settlement. This bracing shall be removed as soon as practicable. Any depressions which may develop within the area involved in the construction operation due to settlement of the backfill material shall be filled in a manner meeting the approval of the Engineer.

When the Contractor constructs the trench with sloped or benched sides, backfilling for the full width of the excavation shall be as herein specified, except that no additional compensation will be allowed for backfill material required outside the vertical limits of the specified trench width.

(e) Shaping, Trimming & Finishing
After backfilling has been completed, the top of the trench shall be shaped, trimmed, and finished to the lines, grades, and elevations shown on the construction plans, in accordance with these technical specifications.

(f) Television Inspection
All drain tiles shall be inspected via closed circuit television not less than 30 days after the pipe has been installed and the backfilling has been completed. Such inspection shall be performed in the presence of the Engineer. All drain tiles shall be cleaned as necessary to allow for such inspection.

(g) Deflection Testing
All PVC and HDPE drain tiles shall be tested for deflection not less than 30 days after the pipe has been installed and the backfilling has been completed. Such testing shall be performed in the presence of the Engineer.

For PVC and HDPE pipe with a diameter of 24 IN or smaller, a mandrel drag shall be used for deflection testing. For PVC and HDPE pipe with a diameter of greater than 24 IN, deflection measurements other than by a mandrel shall be used.

Where the mandrel is used, the mandrel shall be furnished by the Contractor and pulled by hand through the pipeline with a suitable rope or cable connected to each end. Winching or other means of forcing the deflection gauge through the pipeline will not be allowed.

The mandrel shall be of a shape similar to that of a true circle enabling the gauge to pass through a satisfactory pipeline with little or no resistance. The mandrel shall be of a design to prevent it from tipping from side to side and to prevent debris buildup from occurring between the channels of the adjacent fins or legs during operation.

Each end of the core of the mandrel shall have fasteners to which the pulling cables can be attached. The mandrel shall have nine, various sized fins or legs of appropriate dimension for various diameter pipes. Each fin or leg shall have a permanent marking that states its designated pipe size and percent of deflection allowable.

The outside diameter of the mandrel shall be 95 percent of the base inside diameter. For all PVC pipe, the base inside diameter shall be defined using ASTM D 3034 methodology. For all HDPE pipe, the base inside diameter shall be defined using ASTM F 2306 methodology.

If the pipe is found to have a deflection greater than that specified, that pipe section shall be removed, replaced, and retested.

(h) Plugging Drain Tile Pipe
Drain tiles to be plugged, as shown on the construction plans or as designated by the Engineer, shall be plugged with Class SI concrete, brick and mortar, or other methods approved by the Engineer. This work will not be paid for directly but shall be considered as included in the other drain tile work involved and shall be included in the unit prices for such items and no additional compensation will be allowed. If other drain tile work is not provided for in the contract documents, plugging drain tile pipe will be paid for according to Article 109.05.

MEASUREMENT
DRAIN TILE shall not be measured for payment, but shall be considered complete following inspection and acceptance of the work by the Department.

This work shall be paid for at the contract quantity and/or quantities shown on the basis of quote or basis of bid form for DRAIN TILE of the diameter, material, and class and/or type specified in the contract documents. The entire length of DRAIN TILE necessary to complete the work shown on the construction plans shall have been used in computing such quantity. When a drain tile enters a manhole, catch basin, inlet, or drainage structure, calculation of the contract quantity and/or quantities for drain tile shall have ended at the inside wall of such manhole, catch basin, inlet, or drainage structure.

EXCAVATION will be measured for payment in accordance with these technical specifications.

DEWATERING FOR DRAIN TILE will be measured for payment in accordance with these technical specifications.

BEDDING FOR DRAIN TILE will be measured for payment in accordance with these technical specifications.

TRENCH BACKFILL FOR DRAIN TILE will be measured for payment in accordance with these technical specifications.

PAYMENT
DRAIN TILE shall paid for at the contract unit price(s) per foot for DRAIN TILE of the diameter, material, and class and/or type specified in the contract documents.

Such unit price shall include all preparation necessary to complete the work, as well as the furnishing, transporting, and/or placing of all material, labor, tools, equipment, and other incidental items necessary to complete the work.

EXCAVATION FOR DRAIN TILE shall be paid for in accordance with these technical specifications.

DEWATERING FOR DRAIN TILE shall be paid for in accordance with these technical specifications.

BEDDING FOR DRAIN TILE shall be paid for in accordance with these technical specifications.

TRENCH BACKFILL FOR DRAIN TILE shall be paid for in accordance with these technical specifications.

PERFORATED DRAIN TILE

DESCRIPTION
This work shall consist of constructing perforated drain tiles, via open trench construction, as shown on the construction plans.

MATERIALS
Materials shall be in accordance with the following materials specifications, which are presented elsewhere in these technical specifications.

MATERIALS
(1) Flexible Pipe
    a. High Density Polyethylene (HDPE) Pipe, Type SWP (Single Wall, Perforated)
(2) Bedding & Initial Backfill
(3) Final Backfill

CONSTRUCTION REQUIREMENTS
This work shall be completed in accordance with the Porter County Supplemental Design and Construction Standards/Specifications and these technical specifications. In case of conflict between these technical specifications and any part or parts of said Porter County Supplemental Design and Construction Standards/Specifications, the Engineer shall determine which specifications shall take precedence and govern.

(a) Excavation
Perforated drain tiles shall be constructed in trenches free of water, excavated either in embankments or natural ground. Trenches shall be dewatered through the use of diversion channels or other methods approved by the Engineer before proceeding with the construction.

Trenches shall be excavated to the depths and widths described in the table below.

Inside Diameter or Equivalent Diameter of Drain Tile, d (IN)	Required Trench Width on Each Side of the Drain Tile (IN)	Required Trench Depth Below the Drain Tile (IN)
$d \leq 24$ IN	9 IN	3 IN
24 IN $< d \leq 60$ IN	12 IN	4 IN
$d > 60$ IN	18 IN	6 IN

If the width of the trench exceeds the maximum horizontal dimension specified above as a result of careless or faulty construction methods, that portion of the trench shall be corrected by backfilling in 8 IN lifts and again excavating the trench to the required width.

Trenches shall be excavated so that vertical faces are maintained at least to an elevation 12 IN above the top of the perforated drain tile. If the trench has been made deeper than necessary, the foundation shall be brought to the proper grade by the addition of well compacted bedding material. For trench depths greater than 5 FT, trench protection shall be utilized according to the applicable standards for work place safety. At the request of the Engineer, the Contractor shall provide to the Department, in writing, his/her procedures for fulfilling the safety requirements for trench protection.

Where pipe having bells or hubs is used, cross trenches not more than 2 IN wider than the bell or hub shall be excavated to provide uniform bearing along the length of the pipe.

Where a firm foundation is not encountered at the bottom of the trench due to the presence of unsuitable material, such as soft or spongy soil, unstable soil, or rock in either ledge or boulder formation is encountered at locations along the line of the drain tile and at the grade established for the perforated drain tile, the material or rock shall be removed and replaced before proceeding with the construction.

The unsuitable material shall be removed to a depth determined by the Engineer for the width of the trench, and replaced with well compacted bedding material. Rock shall be removed to an elevation 1 FT lower than the bottom of the pipe or to a depth equal to 1/2 IN/FT of ultimate fill height over the top of the pipe, whichever is the

greater depth, for the width of the trench, and replaced with well compacted bedding material. Bedding material shall be placed in 8 IN lifts and compacted by mechanical means to the satisfaction of the Engineer.

When all or a portion of a pipe will be in fill, the embankment, or a portion thereof, shall be constructed prior to excavating the trench. The embankment shall be constructed to a height which will provide approximately 1 FT of cover over the pipe, except that in no case shall the height of the embankment constructed result in a finished trench depth exceeding 5 FT. The width of the top of the embankment shall be a minimum of 2 FT on each side of the pipe, measured at right angles to its centerline, and the longitudinal slopes shall be 6:1 (H:V) or flatter. The embankment shall be constructed according to the requirements of these technical specifications, except the material shall be suitable excavated material meeting the approval of the Engineer.

All excavated material not suitable for re-use on the work shall be disposed of in accordance with these technical specifications.

(b) Foundation
Well compacted bedding material, in accordance with the table below, shall be placed along the entire width of the trench for the entire length of the pipe, except when the perforated drain tile outlets from an embankment or existing slope, the last 3 FT of the pipe shall be bedded in compacted impervious material. The bedding material and/or impervious material shall be compacted by mechanical means to the satisfaction of the Engineer.

Inside Diameter or Equivalent Diameter of Drain Tile, d (IN)	Required Depth of Bedding Material (IN)
$d \leq 24$ IN	3 IN
24 IN $< d \leq 60$ IN	4 IN
$d > 60$ IN	6 IN

(c) Laying Drain Tile Pipe
No perforated drain tile pipe shall be placed until the trench and the prepared foundation have been approved by the Engineer.

The trench shall be kept free from water while the pipe is being placed and until the joints have been sealed. Trenches shall be dewatered through the use of diversion channels or other methods approved by the Engineer before proceeding with the construction.

The laying of pipes shall be started at the outlet end with the spigot ends pointing in the direction of flow, and shall proceed toward the inlet end with pipes abutting and true to line and grade. The ends of pipes shall be carefully cleaned before the pipes are lowered into the trenches, and the pipes shall be lowered so as to avoid unnecessary handling in the trench.

As each length of pipe is laid, the mouth of the pipe shall be properly protected to prevent the entrance of earth or the bedding material. The pipes shall be fitted and matched so that when laid in the work they will form a perforated drain tile with a smooth, uniform invert. If reinforced concrete pipe is used, the word "top" or "bottom" may be stenciled on the inside of the pipe sections. All concrete pipe so marked shall be placed as indicated by these marks. Each section of pipe shall be pushed or pulled to the section in place to ensure tight joints. Pipe having a diameter greater than 42 IN shall be set or "brought home" with a winch, come-a-long, or other positive means.

All joints in concrete pipe shall be sealed with rubber gaskets, preformed flexible joint sealants, mastic joint sealer, or external sealing bands. When mastic joint sealer is used, it shall be applied according to the manufacturer’s recommendations and the material shall completely fill the joint after the pipes have been brought together. After each joint is sealed, it shall be wiped clean on the inside. Handling holes in concrete pipe shall be filled with a precast concrete plug and sealed with mastic or mortar; or filled with a polyethylene plug. The plug shall not project beyond the inside surface after installation.

HDPE pipe shall be joined according to the manufacturer’s specifications. PVC pipe shall be joined according to the manufacturer’s specifications.

(d) Backfilling

As soon as the condition of the perforated drain tile will permit, the entire width of the trench shall be backfilled with trench backfill material to a height of at least the top of the pipe, except when the perforated drain tile outlets from an embankment or existing slope, the initial backfill material around and above the last 3 FT of the pipe shall be impervious material. All initial backfill material shall be deposited in such a manner as not to damage the pipe. The initial backfill material shall be placed longitudinally along the pipe and the filling of the trench shall be carried on simultaneously on both sides of the pipe. Upon finishing placement of the initial backfill material, the elevation of the initial backfill material on each side of the pipe shall be the same and the space under the pipe shall be completely filled. The initial backfill material shall be placed in 8 IN lifts and compacted by mechanical means to the satisfaction of the Engineer.

The installed pipe and its embedment (i.e., bedding and initial backfill) shall not be disturbed when using movable trench boxes and shields, sheet pile, or other trench protection.

The remainder of the trench shall be backfilled to the existing adjacent grade or finished surface as rapidly as the condition of the perforated drain tile will permit. The final backfill material shall consist of suitable excavated material from the trench or trench backfill, as specified in the contract documents or as follows:

(1) Trench Backfill. For trenches made in the subgrade of a proposed or existing pavement, curb, gutter, curb and gutter, stabilized shoulder, or sidewalk, and trenches where the inner edge of the trench is within 2 FT of the edge of a proposed or existing pavement, curb, gutter, curb and gutter, stabilized shoulder, or sidewalk, the remainder of the trench shall be backfilled with trench backfill material meeting the requirements of these technical specifications. The material shall be placed in lifts not exceeding 8 IN in depth and compacted to a minimum of 95 percent of standard lab density by mechanical means.

(2) Suitable Excavated Material. For all other trenches, the remainder of the trench shall be backfilled with suitable excavated material. The material shall be from excavation or borrow, free from large or frozen lumps, clods, or rock, and meeting the approval of the Engineer. The material shall be placed in lifts not exceeding 8 IN in depth, and compacted to 95 percent of standard lab density by mechanical means.

Before compaction, each lift shall be wetted or dried to bring the moisture content within 80 to 110 percent of optimum as determined according to AASHTO T 99 (Method C).

When sheeting and bracing have been used, sufficient bracing shall be left across the trench as the backfilling progresses to hold the sides firmly in place without caving or settlement. This bracing shall be removed as soon as practicable. Any depressions which may develop within the area involved in the construction operation due to settlement of the backfill material shall be filled in a manner meeting the approval of the Engineer.

When the Contractor constructs the trench with sloped or benched sides, backfilling for the full width of the excavation shall be as herein specified, except that no additional compensation will be allowed for backfill material required outside the vertical limits of the specified trench width.

(e) Shaping, Trimming & Finishing
After backfilling has been completed, the top of the trench shall be shaped, trimmed, and finished to the lines, grades, and elevations shown on the construction plans, in accordance with these technical specifications.

(f) Plugging Perforated Drain Tile Pipe
Perforated drain tiles to be plugged, as shown in the construction plans or as designated by the Engineer, shall be plugged with Class SI concrete, brick and mortar, or other methods approved by the Engineer. This work will not be paid for directly but shall be considered as included in the other perforated drain tile work involved and shall be included in the unit prices for such items and no additional compensation will be allowed. If other perforated drain tile work is not provided for in the contract documents, plugging perforated drain tile pipe will be paid for according to Article 109.05.

MEASUREMENT
PERFOATED DRAIN TILE shall not be measured for payment, but shall be considered complete following inspection and acceptance of the work by the Department.

This work shall be paid for at the contract quantity and/or quantities shown on the basis of quote or basis of bid form for PERFORATED DRAIN TILE of the diameter, material, and class and/or type specified in the contract documents. The entire length of PERFORATED DRAIN TILE necessary to complete the work shown in the construction plans shall have been used in computing such quantity. When a drain tile enters a storm sewer structure, calculation of the contract quantity and/or quantities for drain tile shall have ended at the inside wall of such storm sewer structure.

EXCAVATION FOR PERFORATED DRAIN TILE will be measured for payment in accordance with these technical specifications.

DEWATERING FOR PERFORATED DRAIN TILE will be measured for payment in accordance with these technical specifications.

BEDDING & INITIAL BACKFILL FOR PERFORATED DRAIN TILE will be measured for payment in accordance with these technical specifications.

FINAL BACKFILL FOR PERFORATED DRAIN TILE will be measured for payment in accordance with these technical specifications.

PAYMENT

PERFORATED DRAIN TILE shall paid for at the contract unit price(s) per foot for PERFORATED DRAIN TILE of the diameter, material, and class and/or type specified in the contract documents.

Such unit price shall include all preparation necessary to complete the work, as well as the furnishing, transporting, and/or placing of all material, labor, tools, equipment, and other incidental items necessary to complete the work.

EXCAVATION FOR PERFORATED DRAIN TILE shall be paid for in accordance with these technical specifications.

DEWATERING FOR PERFORATED DRAIN TILE shall be paid for in accordance with these technical specifications.

BEDDING & INITIAL BACKFILL FOR PERFORATED DRAIN TILE shall be paid for in accordance with these technical specifications.

FINAL BACKFILL FOR PERFORATED DRAIN TILE shall be paid for in accordance with these technical specifications.

ABANDON/GROUT FILL EXISTING PIPE

DESCRIPTION
This work consists of abandoning 15-inch CMP using grout fill as shown on the construction plans.

MATERIALS
Materials shall be in accordance with the following material specification, which is presented elsewhere in these technical specifications.

MATERIALS
(1) Grout Fill

CONSTRUCTION REQUIREMENTS
This work shall be completed in accordance with the Porter County Supplemental Design and Construction Standards/Specifications and these technical specifications. In case of conflict between these technical specifications and any part or parts of said Porter County Supplemental Design and Construction Standards/Specifications, the Engineer shall determine which specifications shall take precedence and govern.

Pipelines to be abandoned shall be filled with grout and securely closed at all pipe openings by a watertight plug of concrete, or brick and cement mortar, not less than 2-ft thick.

The Contractor shall establish the proposed grout mixes, methods, plans, and criteria that the grouting operations shall meet and submit these to the Engineer or Owner for approval. The grouting system shall have sufficient gauges, monitoring devices, and tests to determine the effectiveness of the grouting operation and to ensure complete fill (100%) and that no voids exist within the pipeline or structure.

One or more mixes shall be developed to completely fill the abandoned pipe and to meet the following requirements:
(1) Accommodate the diameter or size of the pipe.
(2) Accommodate the void size of the surrounding soil.
(3) Accommodate the absence or presence of groundwater.
(4) Provide the acceptable strength and durability.
(5) Provide load bearing capacity.
(6) Shrinkage shall not exceed 2% by volume.

MEASUREMENT

ABANDON 15” CMP (GROUT FILL) shall not be measured for payment, but shall be considered complete following inspection and acceptance of the work by the Department.

This work shall be paid for at the contract quantity and/or quantities shown on the basis of quote or basis of bid form for ABANDON 15” CMP (GROUT FILL) of the quantity, material, and class and/or type specified in the contract documents. The entire volume of grout fill necessary to complete the work shown on the construction plans shall have been used in computing such quantity.

GROUT FILL to ABANDON 15” CMP shall be paid for in accordance with these technical specifications.

PAYMENT

This work shall be paid for at the contract unit price per cubic yard for ABANDON 15” CMP (GROUT FILL) shown on the basis of bid form.

Such unit price shall include all preparation necessary to complete the work, as well as the furnishing, transporting, and placing of all labor, tools, equipment, materials and other incidental items necessary to complete the work. The removal and disposal, including transporting, of cut material and other materials resulting from the performance of the work shall also be considered as incidental to this work.

STORM SEWER STRUCTURES

DESCRIPTION
This work shall consist of constructing, adjusting, or reconstructing storm sewer structures with castings, as shown on the construction plans.

MATERIALS
Materials shall be in accordance with the following materials specifications, which are presented elsewhere in these technical specifications.

MATERIALS
(1) Precast Reinforced Concrete Storm Sewer Structures
(2) Structure Bedding
(3) Structure Backfill

CONSTRUCTION REQUIREMENTS
This work shall be completed in accordance with the Porter County Supplemental Design and Construction Standards/Specifications and these technical specifications. In case of conflict between these technical specifications and any part or parts of said Porter County Supplemental Design and Construction Standards/Specifications, the Engineer shall determine which specifications shall take precedence and govern.

(a) Classification
Classification as to the adjustment or reconstruction of existing storm sewer structures shall be made by the Engineer on the following basis:

(1) Adjustment. Adjustment shall include all those existing storm sewer structures which are to be adjusted to grade where 2 FT or less of material will be either added, removed, or rebuilt to bring the specified structure to the finished grade specified on the construction plans.

(2) Reconstruction. Reconstruction shall include all those existing storm sewer structures which are to be adjusted to grade where more than 2 FT of material will be either added, removed, or rebuilt to bring the specified structure to the finished grade specified on the construction plans.

(b) Excavation
Storm sewer structures shall be constructed in excavations free of water, excavated either in embankments or natural ground. Excavations shall be dewatered through the use of diversion channels or other methods approved by the Engineer before proceeding with the construction.

In order to provide for proper embedment of the structure, and in order to permit proper joining of sections of the structure, the excavation shall be made to 6 IN below the structure and a diameter of at least 6 IN greater than the diameter of the structure.

Where a firm foundation is not encountered at the bottom of the excavation due to the presence of unsuitable material, such as soft or spongy soil, unstable soil, or rock in either ledge or boulder formation is encountered at the bottom of the excavation, the material or rock shall be removed and replaced before proceeding with the construction.

The unsuitable material shall be removed to a depth determined by the Engineer for the diameter or length and width of the excavation, and replaced with well compacted bedding material. Rock shall be removed to an elevation 1 FT lower than the bottom of the structure or to a depth equal to 1/2 IN/FT of ultimate fill height over the top of the structure, whichever is the greater depth, for the diameter or length and width of the excavation, and replaced with well compacted bedding material. Bedding material shall be placed in 8 IN lifts and compacted by mechanical means to the satisfaction of the Engineer.

When all or a portion of a structure will be in fill, the embankment, or a portion thereof, shall be constructed prior to excavating. The embankment shall be constructed to a height which will provide approximately 1 FT of cover over the structure. The width of the top of the embankment shall be a minimum of 2 FT on each side of the structure, measured from the side of the structure along centerlines passing through the center of the structure, and the longitudinal slopes shall be 6:1 (H:V) or flatter. The embankment shall be constructed according to the

requirements of these technical specifications, except the material shall be suitable excavated material meeting the approval of the Engineer.

All excavated material not suitable for re-use on the work shall be disposed of in accordance with these technical specifications.

(c) Foundation
Well compacted structure bedding material shall be placed along the entire diameter or length or width of the excavation to a depth of 6 IN. The structure bedding material shall be compacted by mechanical means to the satisfaction of the Engineer.

(d) Setting Storm Sewer Structures
No structure shall be placed until the excavation and the prepared foundation have been approved by the Engineer.

The excavation shall be kept free from water while the structure is being placed and until the joints have been sealed. Excavations shall be dewatered through the use of diversion channels or other methods approved by the Engineer before proceeding with the construction.

Precast reinforced concrete sections shall be constructed in horizontal courses. The sections shall be laid in mortar or sealed with external sealing bands, preformed flexible joint sealant, or mastic joint sealer. When mastic joint sealer is used, the material shall completely fill the joint after the units have been brought together.

All precast reinforced concrete units shall be installed on a 6 IN thick cushion of structure bedding. Handling holes shall be filled with a precast concrete plug and sealed with mastic or mortar. The plug shall not project beyond the inside surface after installation. When metal lifting inserts are used, their sockets shall be filled with mastic or mortar.

(e) Connecting Pipe to Storm Sewer Structures
Connections of pipe to storm sewer structures shall utilize cast-in-place watertight connectors and shall be used in accordance with the manufacturer's recommendations.

(f) Placing Adjusting Rings and Castings
Placing adjusting rings and castings shall be as follows:

(1) Furnishing. Adjusting rings and castings, including frames and grates, frames and lids, and trash racks, shall be furnished as specified in the contract documents.

(2) Placing. Adjusting rings shall be constructed in horizontal courses. Adjusting rings shall be laid mortar or sealed with preformed flexible joint sealant or mastic joint sealer. When mastic joint sealer is used, the material shall completely fill the joint after the units have been brought together.

Casting frames shall be set in full mortar beds or sealed with preformed flexible joint sealant or mastic joint sealer. When mastic joint sealer is used, the material shall completely fill the joint after the units have been brought together.

Adjusting rings and castings shall be set to the natural line or finished surface so that no subsequent adjustment will be necessary.

(g) Backfilling
If the structure is located within the subgrade of a proposed or existing pavement, curb, gutter, curb and gutter, stabilized shoulder, or sidewalk, of if any point of the excavation created to allow for the installation of the structure is located within 2 FT of the edge of a proposed or existing pavement, curb, gutter, curb and gutter, stabilized shoulder, or sidewalk, as soon as the condition of the structure will permit, the entire space between the sides of the excavation and the outside of the structure shall be backfilled with structure backfill meeting the requirements of these technical specifications to the top of the structure. The material shall be placed in lifts not exceeding 8 IN in depth and compacted to a minimum of 95 percent of standard lab density by mechanical means.

For all other structures, the entire space between the sides of the excavation and the outside of the structure shall be backfilled with suitable excavated material to the top of the structure. The material shall be from excavation or borrow, free from large or frozen lumps, clods, or rock, and meeting the approval of the Engineer. The material shall be placed in lifts not exceeding 8 IN in depth, and compacted to 95 percent of standard lab density by mechanical means.

Before compaction, each lift shall be wetted or dried to bring the moisture content within 80 to 110 percent of optimum as determined according to AASHTO T 99 (Method C).

Once adjusting rings and castings have been set, backfilling shall continue, as described herein, from the top of the structure to the existing adjacent grade or finished surface.

All backfill material shall be deposited and compacted in such a manner as not to damage the structure, adjusting rings, or casting.

(h) Shaping, Trimming & Finishing
After backfilling has been completed, the top of the excavation shall be shaped, trimmed, and finished to the lines, grades, and elevations shown on the construction plans, in accordance with these technical specifications.

(i) Cleaning
All storm sewer structures shall be cleaned of any accumulation of silt, debris, or foreign matter of any kind, and shall be free from such accumulations at the time of final inspection.

MEASUREMENT
This work shall not be measured for payment, but shall be considered complete following inspection and acceptance of the work by the Department.

When this work includes construction of storm sewer structures, this work shall be paid for at the contract quantity and/or quantities shown on the basis of quote or basis of bid form for STORM SEWER STRUCTURES of the diameter, depth, material, and class and/or type specified in the contract documents, and with the type of casting, including frame and grate, frame and lid, or trash rack, specified in the contract documents. The entire quantity of STORM SEWER STRUCTURES necessary to complete the work shown on the construction plans shall have been used in computing such quantity.

When this work includes adjustment or reconstruction of storm sewer structures, and existing castings are to be used, this work shall be paid for at the contract quantity and/or quantities shown on the basis of quote or basis of bid form for ADJUSTMENT OF STORM SEWER STRUCTURES or RECONSTRUCTION OF STORM SEWER STRUCTURES of the diameter, depth, material, and class and/or type specified in the contract documents.

When this work includes adjustment or reconstruction of storm sewer structures, and new castings are to be used, this work shall be paid for at the contract quantity and/or quantities shown on the basis of quote or basis of quote form for ADJUSTMENT OF STORM SEWER STRUCTURES WITH NEW CASTINGS or RECONSTRUCTION OF STORM SEWER STRUCTURES WITH NEW CASTINGS of the diameter, depth, material, and class and/or type specified in the contract documents, and with the type of casting, including frame and grate, frame and lid, or trash rack, specified in the contract documents.

EXCAVATION FOR STORM SEWER STRUCTURES will be measured for payment in accordance with these technical specifications.

DEWATERING FOR STORM SEWER STRUCTURES will be measured for payment in accordance with these technical specifications.

STRUCTURE BEDDING FOR STORM SEWER STRUCTURES will be measured for payment in accordance with these technical specifications.

STRUCTURE BACKFILL FOR STORM SEWER STRUCTURES will be measured for payment in accordance with these technical specifications.

PAYMENT
Construction of STORM SEWER STRUCTURES shall paid for at the contract unit price(s) per each for STORM SEWER STRUCTURES of the diameter, depth, material, and class and/or type specified in the contract documents, and with the type of casting, including frame and grate, frame and lid, or trash rack, specified in the contract documents.

Adjustment or reconstruction of STORM SEWER STRUCTURES, using existing castings, shall paid for at the contract unit price(s) per each for ADJUSTMENT OF STORM SEWER STRUCTURES or RECONSTRUCTION OF STORM SEWER STRUCTURES of the diameter, depth, material, and class and/or type specified in the contract documents.

Adjustment or reconstruction of STORM SEWER STRUCTURES, using new castings, shall paid for at the contract unit price(s) per each for ADJUSTMENT OF STORM SEWER STRUCTURES WITH NEW CASTINGS or RECONSTRUCTION OF STORM SEWER STRUCTURES WITH NEW CASTINGS of the diameter, depth, material, and class and/or type specified in the contract documents, and with the type of casting, including frame and grate, frame and lid, or trash rack, specified in the contract documents.

Such unit prices shall include all preparation necessary to complete the work, as well as the furnishing, transporting, and/or placing of all material, labor, tools, equipment, and other incidental items necessary to complete the work.

EXCAVATION FOR STORM SEWER STRUCTURES shall be paid for in accordance with these technical specifications.

DEWATERING FOR STORM SEWER STRUCTURES shall be paid for in accordance with these technical specifications.

STRUCTURE BEDDING FOR STORM SEWER STRUCTURES shall be paid for in accordance with these technical specifications.

STRUCTURE BACKFILL FOR STORM SEWER STRUCTURES shall be paid for in accordance with these technical specifications.

DRAIN TILE INVESTIGATION

DESCRIPTION
This work shall consist of locating existing drain tiles within the project site.

CONSTRUCTION REQUIREMENTS
Existing drain tiles in those areas where they are suspected to exist, as shown on the construction plans, and in other locations identified by the Engineer, shall be located by excavating an exploratory trench, in accordance with these technical specifications.

The exploratory trench shall be not less than 54 IN in depth, as measured from the existing adjacent grade. The width of the exploratory trench shall be sufficient to allow for proper investigation of the entire trench.

When an existing drain tile is encountered, additional exploratory trenches shall be excavated as needed to establish the alignment, size, and depth of the existing drain tile.

When an existing drain tile is encountered, the trench shall be inspected by the Engineer to determine what treatment, if any shall be applied to the existing drain tile. Broken drain tile shall be repaired as directed by the Engineer and no surface runoff or sediment shall be allowed to enter any existing drain tile.

After the trench has been inspected by the Engineer, and any necessary treatment has been applied to any existing drain tile, the excavated material shall be used to backfill the trench. Any excess excavated material shall be disposed of in accordance with these technical specifications and, following the completion of backfilling activities, the area shall be shaped, trimmed, and finished in accordance with these technical specifications.

MEASUREMENT
This work shall be considered as incidental to the work and the various other items of work involved and will not be measured for payment.

PAYMENT
This work will not be paid for directly but shall be considered as included in the various other items of work involved and shall be included in the unit prices for such items and no additional compensation will be allowed.

TEMPORARY CONSTRUCTION ENTRANCE

DESCRIPTION
This work shall consist of the creation of temporary construction entrances at the locations shown on the construction plans or where otherwise required to complete the work in accordance with the contract documents. This work shall also include maintaining temporary construction entrances throughout the performance of the work and restoring areas disturbed as a result of the installation and maintenance of such temporary construction entrances.

CONSTRUCTION REQUIREMENTS
Temporary construction entrances shall be confined to those locations indicated on the construction plans or as approved by the Engineer and shall avoid wetland areas. Where equipment or vehicles related to the performance of the work are operated on any portion of any public or private roadway adjacent to such temporary construction entrances, the Contractor shall maintain such roadway free from all dirt and debris at all times. If dirt or debris are carried on to such roadway by equipment or vehicles related to the performance of the work, the Contractor shall immediately clean the pavement of all dirt and debris.

MEASUREMENT
This work shall not be measured for payment, but shall be considered complete following inspection and acceptance of the work by the Department.

This work shall be paid for at the contract quantity for TEMPORARY CONSTRUCTION ENTRANCE shown on the basis of quote or basis of bid form. The entire quantity of TEMPORARY CONSTRUCTION ENTRANCE shown on the construction plans shall have been used in computing such quantity.

PAYMENT
This work shall be paid for at the contract unit price(s) per each for TEMPORARY CONSTRUCTION ENTRANCE.

Such unit price(s) shall include all preparation necessary to complete the work, as well as the furnishing, transporting, and/or placing of all labor, tools, equipment, and other incidental items necessary to complete the work.

TEMPORARY PERIMETER SEDIMENT CONTROL

DESCRIPTION
This work shall consist of the creation of temporary perimeter sediment control at the locations shown on the construction plans or where otherwise required to complete the work in accordance with the contract documents. This work shall also include maintaining temporary perimeter sediment control throughout the performance of the work and restoring areas disturbed as a result of the installation and maintenance of such temporary perimeter and sediment control.

MATERIALS
Materials shall be in accordance with the following materials specifications, which are presented elsewhere in these technical specifications.

MATERIALS
(1) Silt Fence

DEFINITIONS
Rain Event. A rain event shall be defined as a precipitation event that results in a total measured precipitation accumulation equal to, or greater than, one-half (0.5) inch of rainfall.

CONSTRUCTION REQUIREMENTS
Temporary perimeter sediment control shall be confined to those locations indicated on the construction plans or as approved by the Engineer. The Contractor shall conduct inspection of the temporary perimeter sediment control and such temporary perimeter sediment control shall be maintained in accordance with manufacturer recommendations continually throughout the duration of the work and through establishment of adequate stabilizing vegetation. The temporary perimeter sediment control shall be inspected within 24 hours of each rain event and at least once every seven calendar days.

MEASUREMENT
This work shall not be measured for payment, but shall be considered complete following inspection and acceptance of the work by the Department.

This work shall be paid for at the contract quantity for TEMPORARY PERIMETER SEDIMENT CONTROL shown on the basis of quote or basis of bid form. The entire quantity of TEMPORARY PERIMETER SEDIMENT CONTROL shown on the construction plans shall have been used in computing such quantity.

PAYMENT
This work shall be paid for at the contract unit price(s) per foot for TEMPORARY PERIMETER SEDIMENT CONTROL.

Such unit price(s) shall include all preparation necessary to complete the work, as well as the furnishing, transporting, and/or placing of all labor, tools, equipment, and other incidental items necessary to complete the work.

TEMPORARY CATCH BASIN INSERT INLET PROTECTION

DESCRIPTION
This work shall consist of the installation of temporary catch basin insert inlet protection at the locations shown on the construction plans or where otherwise required to complete the work in accordance with the contract documents. This work shall also include maintaining temporary catch basin insert inlet protection throughout the performance of the work and restoring areas disturbed as a result of the installation and maintenance of such temporary catch basin insert inlet protection.

CONSTRUCTION REQUIREMENTS
Temporary catch basin insert inlet protection shall be confined to those locations indicated on the construction plans or as approved by the Engineer. Temporary catch basin insert inlet protection shall be constructed in accordance with the construction plans.

MEASUREMENT
This work shall not be measured for payment, but shall be considered complete following inspection and acceptance of the work by the Department.

This work shall be paid for at the contract quantity for TEMPORARY CATCH BASIN INSERT INLET PROTECTION shown on the basis of quote or basis of bid form. The entire quantity of TEMPORARY CATCH BASIN INSERT PROTECTION shown on the construction plans shall have been used in computing such quantity.

PAYMENT
This work shall be paid for at the contract unit price(s) per each for TEMPORARY CATCH BASIN INSERT PROTECTION.

Such unit price(s) shall include all preparation necessary to complete the work, as well as the furnishing, transporting, and/or placing of all labor, tools, equipment, and other incidental items necessary to complete the work.

DIVISION 600
LANDSCAPING

RESTORE DISTURBED AREA

DESCRIPTION
This work shall consist of preparation and furnishing, transporting, and placing topsoil, plant seed, and straw mulch, or, where required by the contract documents, erosion control blanket, over areas disturbed during the performance of the work, including, but not limited to, temporary construction entrances, construction access routes, storm sewer trenches, detention basins, and other areas disturbed during the performance of the work. It shall include the restoration of those areas shown in the construction plans and, as directed by the Engineer, other areas disturbed during the performance of the work.

MATERIALS
Materials for the restoration of disturbed areas shall be in accordance with the following materials specifications, which are presented elsewhere in these Technical Specifications.

MATERIALS
(1) Topsoil
(2) Temporary Seed Mix
(3) Final Seed Mix
(4) Straw Mulch
(5) Erosion Control Blanket

CONSTRUCTION REQUIREMENTS
Restoration of the disturbed area shall begin by raking, scarifying, tilling, or blading the soil surface to a minimum of 3 in. deep to prepare the disturbed area for the placement of topsoil, fertilizer, and/or plant seed. The soil surface shall be shaped, trimmed, and finished uniformly and blended into the existing adjacent grade. Topsoil may be placed over the disturbed area as needed to smooth out the soil surface, fill in ruts, wheel tracks, and depressions, and blend the disturbed area into the existing adjacent grade. Following preparation of the disturbed area, the soil surface shall have a relatively smooth appearance and shall be relatively free of dirt clods, rocks, sticks, and other irregularities.

Seed Mixes to be applied as described in the plans.

The appropriate plant seed shall be installed in the disturbed area using seeding equipment or methods approved by the Engineer. If requested by the Contractor, the Engineer will consider the use of broadcast seeding or hydraulic seeding. Regardless of the seeding method used, the Contractor shall ensure that the disturbed area receives the appropriate plant seed at the seeding rates specified in these Technical Specifications.

Installation of plant seed in disturbed areas shall occur at appropriate times of the year under appropriate weather conditions. Plant seed shall only be installed between March 1 and June 30 or between September 1 and November 30, unless otherwise approved by the Engineer. Under no circumstances shall plant seed be installed when the ground surface is frozen or saturated.

After the appropriate plant seed has been installed in the disturbed area, as appropriate, mulch or erosion control blanket shall be installed over the disturbed area, as outlined below.

STRAW MULCH

(1) Straw Mulch. Straw mulch shall be uniformly applied over all disturbed areas with a slope of flatter than 3:1 (H:V). Disturbed areas located in row crop areas shall not receive straw mulch, unless otherwise directed by the Engineer.

EROSION CONTROL BLANKET

(1) NAG S75BN Erosion Control Blanket. North American Green (NAG) S75BN erosion control blanket, or equivalent, as approved by the Engineer, shall be installed over all disturbed areas.

In order to prevent erosion of the underlying soil surface and washout of the underlying plant seed, the straw mulch or erosion control blanket shall be installed within 24 hours of the installation of the plant seed.

Erosion control blanket shall be installed in accordance with the manufacturer's instructions. It shall be layed out flat, evenly, and smoothly over the disturbed area, without stretching the blanket. If the height of the slope of the disturbed area is greater than 4 ft., the erosion control blanket shall be installed vertically up the slope, perpendicular to the streambank. If the height of the slope of the disturbed area is 4 ft. or less, the erosion control blanket shall be installed horizontally along the slope, parallel to the streambank. If the disturbed area is located within a swale, gully, or stream channel, the erosion control blanket shall be installed parallel to the centerline of the swale, gully, or stream channel, so that there are no perpendicular seams within the swale, gully, or stream channel or longitudinal seams within 2 ft. of the bottom (i.e., invert) of the swale, gully, or stream channel.

Erosion control blanket of insufficient width or length to fully cover the disturbed area shall be lapped or sewn. Overlaps in the erosion control blanket, whether such overlaps will be lapped or sewn, shall be placed so that any upslope section of erosion control blanket will overlap the downslope section. The minimum overlap for lapped sections is 12 in. and the minimum overlap for sewn sections is 4 in. When sewn, overlapped sections of erosion control blanket shall be stitched together at a minimum rate of one stitch per 1.5 in. with the same thread used to manufacture the erosion control blanket, as described in these Technical Specifications.

Erosion control blanket shall be placed in firm contact with the underlying soil surface and then fastened to the underlying soil surface with minimum 6 in. long staples, in accordance with the manufacturer's recommended staple pattern. Each end of the erosion control blanket shall then be anchored to the underlying soil surface in a minimum 12 in. deep by minimum 6 in. wide trench, as shown on the construction plans.

MEASUREMENT

This work includes the restoration of all areas disturbed during performance of the work and the various items of work involved, including, but not limited to, temporary construction entrances, construction access routes, storm sewer trenches, and other areas disturbed during the performance of the work. This work shall not be measured for payment, but shall be considered complete following inspection and acceptance of the work by the Department.

This work shall be paid for at the contract quantity for RESTORE DISTURBED AREAS shown on the basis of quote or basis of bid form.

PAYMENT

This work will be paid for at the contract unit price per lump sum for RESTORE DISTURBED AREAS.

Such unit price shall include all materials and labor necessary to complete the work, as well as the furnishing, transporting, and placing of all materials and the furnishing, transporting, placing, and operation of all equipment necessary to complete the work.

DEWATERING

DESCRIPTION
This work shall consist of implementation of an approved dewatering plan, which shall have been prepared by the Contractor, submitted to the Engineer for approval, and approved by the Engineer prior to the start of the work.

In accordance with the approved dewatering plan, this work shall include preparation, earthwork, and furnishing, transporting, and placing materials to construct dewatering structures (e.g., dewatering sump, dewatering bag) and furnishing, transporting, placing, and operating dewatering equipment (e.g., bypass pump, evacuation pump) in order to complete the work in accordance with the construction plans. This work shall also include maintaining dewatering structures and equipment during the performance of the work, removing dewatering structures and equipment prior to completion of the work, and restoring areas disturbed as a result of the installation and removal of dewatering structures and equipment.

MATERIALS
Materials shall be in accordance with the approved dewatering plan.

SUBMITTALS
Prior to the start of the work, the Contractor shall develop a dewatering plan and shall submit such dewatering plan to the Engineer for approval. Approval of the dewatering plan is required prior to the start of the work. The Contractor shall coordinate with the Engineer as needed to develop such dewatering plan.

In accordance with these technical specifications, drain tiles and storm sewer structures shall be constructed in excavations free of water. Excavations shall be dewatered through the use of diversion channels or other methods approved by the Engineer before proceeding with the construction.

In order to create the dry conditions necessary to construct drain tiles and storm sewer structures surface and groundwater flows moving through a work area may be temporarily reduced by isolating and pumping around the work area using check dams and bypass pump(s) installed in a dewatering sump, or other methods approved by the Engineer. Following isolation, work areas may be dewatered using an evacuation pump(s) or other methods approved by the Engineer.

If dewatering will be used to create the dry conditions necessary to construct drain tiles and storm sewer structures, work areas shall be isolated using non-erodible materials, such as rock, sandbags, or pre-fabricated rigid cofferdams, and such dewatering shall be performed in a manner that maintains flow downstream of the work area. If dewatering will be used, dewatering pump discharge locations shall be adequately protected from erosion. Discharges shall be routed through an appropriate sediment control measure (e.g., dewatering bag, rock apron), approved by the Engineer, and, if necessary, treated with an appropriate anionic polymer treatment system (e.g., floc log, coir fiber roll), before being routed downstream.

CONSTRUCTION REQUIREMENTS
Construction shall be in accordance with the approved dewatering plan.

MEASUREMENT
This work shall not be measured for payment, but shall be considered complete following inspection and acceptance of the work by the Department.

This work shall be paid for at the contract quantity for DEWATERING shown on the basis of quote or basis of bid form.

PAYMENT
This work will be paid for at the contract unit price per lump sum for DEWATERING.

Such unit price shall include all preparation and earthwork necessary to complete the work, as well as the furnishing, transporting, and placing of all materials and the furnishing, transporting, placing, and operation of all equipment necessary to complete the work. The preparation of a dewatering plan, maintenance of dewatering structures and equipment during performance of the work, the removal of dewatering structures and equipment

prior to completion of the work, and the transportation and disposal of items resulting from the removal of dewatering structures and equipment shall also be considered as incidental to this work. The restoration of areas disturbed as a result of the installation and removal of dewatering structures and equipment shall also be considered as incidental to this work.

ROAD CUT & REPAIR

DESCRIPTION
This work shall consist of cutting existing pavement to allow for the excavation of trenches in the subgrade of an existing pavement, curb, gutter, curb and gutter, stabilized shoulder, driveway, or sidewalk for the purpose of installing culvert, storm sewers, and drain tiles. This work also includes furnishing, transporting, and placing trench backfill the final backfilling of all trenches located in the subgrade of an existing pavement, curb, gutter, curb and gutter, stabilized shoulder, driveway, or sidewalk. It also includes restoration of the existing pavement, curb, gutter, curb and gutter, stabilized shoulder, driveway, or sidewalk.

CONSTRUCTION REQUIREMENTS
This work shall be completed in accordance with the Porter County Supplemental Design and Construction Standards/Specifications and these technical specifications. In case of conflict between these technical specifications and any part or parts of said Porter County Supplemental Design and Construction Standards/Specifications, the Engineer shall determine which specifications shall take precedence and govern.

Road cuts shall be made no wider than the width of the trench required to install the culvert, storm sewer, and drain tile, in accordance with these technical specifications. Road cuts shall be made by sawing the existing pavement with a concrete saw.

Once the road cut has been made, culvert, storm sewer, and drain tile installation may proceed in accordance with these technical specifications.

After initial backfilling has been completed, the remainder of the trench shall be backfilled to within 4 IN of the existing adjacent grade or finished surface as rapidly as the condition of the culvert, storm sewer, and drain tile will permit. The backfill material shall consist of trench backfill meeting the requirements of these technical specifications.

The existing pavement, curb, gutter, curb and gutter, stabilized shoulder, driveway, or sidewalk shall then be restored in accordance with the Porter County Supplemental Design and Construction Standards/Specifications.

MEASUREMENT
This work shall not be measured for payment, but shall be considered complete following inspection and acceptance of the work by the Department.

This work shall be paid for at the contract quantity for ROAD CUT & REPAIR shown on the basis of quote or basis of bid form. The entire area designated for ROAD CUT & REPAIR on the construction plans shall have been used in computing such quantity.

PAYMENT
This work shall be paid for at the contract unit price per square yard for ROAD CUT & REPAIR.

Such unit price shall include all preparation necessary to complete the work, as well as the furnishing, transporting, and/or placing of all labor, tools, equipment, and other incidental items necessary to complete the work.

SILT FENCE

Silt fence shall be “36 IN INDOT Silt Fence”, as manufactured by LCS, LLC, or equivalent, as approved by the Engineer.

BEDDING & INITIAL BACKFILL

Bedding and initial backfill shall be crushed stone, dolomite, or gravel, INDOT No. 5, No. 8, or No. 9 coarse aggregate. INDOT No. 8 coarse aggregate is preferred.

STRUCTURE BEDDING

Structure bedding shall be natural sand or crushed stone, dolomite, or gravel, INDOT No. 23 or No. 24 fine aggregate or crushed stone, dolomite, or gravel, INDOT No. 5, No. 8, or No. 9 coarse aggregate. INDOT No. 8 coarse aggregate is preferred.

TRENCH BACKFILL

Trench backfill shall be crushed stone, dolomite, or gravel, INDOT No. 53, or No. 73 coarse aggregate.

STRUCTURE BACKFILL

Structure backfill shall be natural sand or crushed stone, dolomite, or gravel, INDOT No. 23 or No. 24 fine aggregate or crushed stone, dolomite, or gravel, INDOT No. 5, No. 8, or No. 9 coarse aggregate.

STONE

All stone detailed in this section is intended to be material installed as indicated in the plans and as directed by the Engineer for installation of the riprap outlet protection.

MATERIALS

(1) INDOT Revetment Riprap (well graded material sized 3 inches to 12 inches).

DRAIN TILES

(1) Rigid Pipe

a. Reinforced Concrete Pipe (RCP)

Reinforced concrete pipe (RCP) shall be Class III, or greater if conditions warrant, in accordance with ASTM C 76/AASHTO M170.

PERFORATED DRAIN TILE

(1) Flexible Pipe

a. High Density Polyethylene (HDPE) Pipe, Type SWP (Single Wall, Perforated)

Pipe and fittings shall be in accordance with AASHTO M 294. Pipe shall be manufactured with virgin materials and be marked with the code “V”. Pipe shall not be manufactured with recycled materials.

GROUT FILL

The grout materials for filling pipelines shall consist of Portland cement, or Portland cement and fly ash with additives to enhance maximum flowability without bleeding or segregating.

The grout shall have a minimum compressive strength of 25 psi in 24-hours when tested in accordance with ASTM C-403. The grout shall have a minimum compressive strength of 100 psi in 28 days and a maximum compressive strength of 150 psi in 28 days when tested in accordance with ASTM C-495 or C-109.

The Contractor shall establish the proposed grout mixes, methods, plans and criteria that the grouting operations shall meet. The grouting system shall have sufficient gauges, monitoring devices and tests to determine the effectiveness of the grouting operation and to ensure complete fill (100 percent) and that no voids exist within the pipeline or structure.

One or more mixes shall be developed to completely fill the abandoned pipe/structure and to meet the following requirements:

(1) ACCOMMODATE THE DIAMETER OR SIZE OF PIPE/STRUCTURE.
(2) ACCOMMODATE THE VOID SIZE OF THE SURROUNDING SOIL.
(3) ACCOMMODATE THE ABSENCE OR PRESENCE OF GROUND WATER.
(4) PROVIDE THE ACCEPTABLE STRENGTH AND DURABILITY.
(5) PROVIDE LOAD BEARING CAPACITY.
(6) SHRINKAGE SHALL NOT EXCEED TWO PERCENT BY VOLUME.

The Contractor shall design a grout mix with a maximum density of 65 pcf, while at the same time maintaining apparent viscosity not to exceed 18 seconds as tested in accordance with ASTM C-939.

PRECAST REINFORCED CONCRETE STORM SEWER STRUCTURES
Precast reinforced concrete storm sewer structures shall be in accordance with ASTM C478/AASHTO M199.

TOPSOIL
Topsoil shall be loamy soil from the “A horizon” of the soil profile and shall be relatively free from large plant material, roots, sticks, rocks, and other materials larger than 0.5 in. in diameter and other litter or waste. 90 percent of the topsoil shall pass a No. 10 sieve (i.e., 0.0787 in.). It shall have an organic content of between one and ten percent, its pH shall be between 5.5 and 8.0, and it shall be capable of germinating native plant material.

To the maximum extent practicable, all topsoil to be used on the project site shall be obtained from the project site.

SEED MIXES
Temporary and Final Seed Mixes to be applied as detailed in the construction plans.

STRAW MULCH
Straw mulch shall consist of wheat, barley, oat, or rye straw. The straw mulch shall be air-dry, reasonably light in color, and shall not be musty, moldy, caked, or otherwise of low quality. The use of straw mulch that contains noxious weeds is not permitted.

NAG S75BN EROSION CONTROL BLANKET
Erosion control blanket shall be North American Green (NAG) S75BN erosion control blanket, or equivalent, as approved by the Engineer.

The blanket shall be a machine-produced, 100% biodegradable blanket consisting of a 100% agricultural straw fiber matrix with a functional longevity of approximately 12 months. The blanket shall have a consistent thickness, with the straw fiber evenly distributed over the entire surface of the blanket.

The blanket shall be covered on the top only with a 100% biodegradable woven natural organic fiber (e.g., jute fiber) netting. The netting shall consist of machine-produced directional strands formed from two intertwined yarns. Cross directional strands shall be interwoven through the intertwined yards of one another, commonly referred to as a leno weave, to form a mesh measuring approximately 0.5 inch by 1.0 inch. The blanket shall be sown together with biodegradable thread on 1.5 inch centers.

The blanket shall have the following properties.

(1) Matrix. The content of the matrix shall be 100% agricultural straw fiber, with a density of 0.50 pounds per square yard (0.50 lb./sq. yd.).

(2) Top Netting. Netting shall be located on the top side of the blanket only. The netting shall consist of a leno woven 100% biodegradable organic fiber (e.g., jute fiber) with a mesh size of 0.5 inch by 1.0 inch and an approximate weight of 9.3 pounds per 1,000 square feet (9.3 lb./msf).

(3) Thread. Biodegradable.

(4) Stitch Spacing. 1.5 inches on center (1.5 in./O.C.).

SPECIAL PROVISIONS
FOR
NORTH STIMSON
DRAIN TILE RECONSTRUCTION

PORTER CO. DEPARTMENT OF DEVELOPMENT & STORMWATER MANAGEMENT
OCTOBER 15, 2024

The following Special Provisions shall apply to and govern the project designated as **North Stimson – Drain Tile Reconstruction.** Such Special Provisions supplement the specifications contained in the documents listed in the table below and, in case of conflict with any part or parts of said specifications, the Engineer shall determine which specifications shall take precedence and govern. The following hierarchy will be applied by the Engineer in resolving any conflict, error, ambiguity, or discrepancy in or between said specifications.

Specification	Issuing Agency	Adopted/Dated
Special Provisions for North Stimson – Drain Tile Reconstruction	Porter Co. Department of Development & Storm Water Management	October 15, 2024
Technical Specifications for North Stimson – Drain Tile Reconstruction	Porter Co. Department of Development & Storm Water Management	October 15, 2024
Construction Plans for North Stimson – Drain Tile Reconstruction	Porter Co. Department of Development & Storm Water Management	February 12, 2024
General Specifications to the Construction & Maintenance Services Agreements	Porter Co. Department of Development & Storm Water Management	February 1, 2024

SECTION 105
CONTROL OF WORK

SP105.08 TOLERANCES FOR ACCURACY OF LINES, GRADES, AND ELEVATIONS

Each part or detail of the work shall be constructed according to the lines, grades, and elevations shown in the construction plans, provided the following tolerances for accuracy for particular parts or details of the work.

(a) Proposed Grades and Elevations. Ground (i.e., spot) elevations shall be constructed to within +/- 0.2 feet of the ground (i.e., spot) elevations indicated on the construction plans, unless otherwise directed, in writing, by the Engineer.

(b) Proposed Drain Tile and Storm Sewer Structure Grades and Elevations. Drain tile invert elevations shall be constructed to within +/- 0.1 feet of the invert elevations indicated on the construction plans or +/- 2% of the diameter of the drain tile concerned, whichever is greater, unless otherwise directed by the Engineer. Drain tile slopes shall be constructed to within +/- 0.005% of the drain tile sloped indicated on the construction plans, unless otherwise directed by the Engineer.

(c) Proposed Storm Sewer Structure Grades and Elevations. Storm sewer structure invert elevations shall be constructed to within +/- 0.1 feet of the invert elevations indicated on the construction plans or +/- 2% of the diameter of the storm sewer concerned, whichever is greater unless otherwise directed by the Engineer. Storm sewer structure rim elevations shall be constructed to within +/- 0.1 feet of the ground (i.e., spot) elevations indicated on the construction plans, unless otherwise directed by the Engineer.