

3 **AN ORDINANCE** approving CONSTRUCT  
4 DRAINAGE IMPROVEMENTS WITHIN FRANKE  
5 PARK - \$121,715.00 between EXTERIOR SERVICES,  
6 LLC and the City of Fort Wayne, Indiana, in connection  
7 with the Parks Department.

8 **NOW, THEREFORE, BE IT ORDAINED BY THE COMMON COUNCIL OF**  
9 **THE CITY OF FORT WAYNE, INDIANA;**

10 **SECTION 1.** That, respectfully for CONSTRUCT DRAINAGE  
11 IMPROVEMENTS WITHIN FRANKE PARK – by and between EXTERIOR  
12 SERVICES, LLC and the City of Fort Wayne, Indiana, in connection with the Parks  
13 Department, is hereby ratified, and affirmed and approved in all respects,  
14 respectfully for:

15 All labor, insurance, amterial, equipment, tools, power, transportation,  
16 miscellaneous equipment, etc., necessary for: This project,  
17 completed in conjunction with City Utilities, includes the construction  
18 of drainage improvements to more effectively slow and store storm  
19 water runoff flowing into and through the north-central portion of  
20 Franke Park. At present, runoff flows into an existing stream; when  
21 volume is high, this water quickly moves through the stream causing  
22 increased erosion and exceeding the capacity of the system and  
23 structure meant to handle its discharge into nearby Shoaff Lake,  
24 causing repeated damage to a section of the park drive.

25 Following construction, water will be slowed and redirected into an  
26 existing forested wetland for temporary storage before ultimately  
27 making its way to a newly constructed detention forebay. New,  
28 adequately sized piping will convey minor overflows to Shoaff Lake,  
29 while larger volumes will be slowed by flowing into a newly  
30 constructed spillway.

Work for this project includes necessary tree removals, minor  
regrading of the existing streambanks, the construction of in-stream  
stone structures, the creation of a storm water detention forebay, the  
construction of a gabion basket spillway, and the planting of bank-  
stabilizing vegetation.;


involving a total cost of ONE HUNDRED TWENTY-ONE THOUSAND SEVEN  
HUNDRED FIFTEEN AND 00/100 DOLLARS - (\$121,715.00). A copy of said

1 Contract is on file with the Office of the City Clerk and made available for public  
2 inspection, according to law.  
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4 **SECTION 2.** That this Ordinance shall be in full force and effect from  
5 and after its passage and any and all necessary approval by the Mayor.  
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9 \_\_\_\_\_  
10 Council Member

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12 APPROVED AS TO FORM AND LEGALITY

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15 \_\_\_\_\_  
16 Carol Helton, City Attorney

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# COUNCIL DIGEST SHEET

Enclosed with this introduction form is a tab sheet and related material from the vendor(s) who submitted bid(s). Purchasing Department is providing this information to Council as an overview of this award.

## RFPs & BIDS

Quest Bid #	7766550
Awarded To	Exterior Services, LLC
Amount	\$121,715.00
Conflict of interest on file?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Number of Registrants	5
Number of Bidders	5
Required Attachments	Bids – attach Tab Sheet

## EXTENSIONS

Date Last Bid Out	May 6, 2021
# Extensions Granted To Date	0

## SPECIAL PROCUREMENT

Contract #/ID <i>(State, Federal, Piggyback--Authority)</i>	n/a
Sole Source/ Compatibility Justification	

## BID CRITERIA *(Take Buy Indiana requirements into consideration.)*

Most Responsible, Responsive Lowest	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If no, explain below</i>
If not lowest, explain	

# COUNCIL DIGEST SHEET

## COST COMPARISON

<i>Increase/decrease amount from prior years For annual purchase (if available).</i>	n/a
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## DESCRIPTION OF PROJECT / NEED

<i>Identify need for project &amp; describe project; attach supporting documents as necessary.</i>	<p>This project, completed in conjunction with City Utilities, includes the construction of drainage improvements to more effectively slow and store storm water runoff flowing into and through the north-central portion of Franke Park. At present, runoff flows into an existing stream; when volume is high, this water quickly moves through the stream causing increased erosion and exceeding the capacity of the system and structure meant to handle its discharge into nearby Shoaff Lake, causing repeated damage to a section of the park drive.</p> <p>Following construction, water will be slowed and redirected into an existing forested wetland for temporary storage before ultimately making its way to a newly constructed detention forebay. New, adequately sized piping will convey minor overflows to Shoaff Lake, while larger volumes will be slowed by flowing into a newly constructed spillway.</p> <p>Work for this project includes necessary tree removals, minor regrading of the existing streambanks, the construction of in-stream stone structures, the creation of a storm water detention forebay, the construction of a gabion basket spillway, and the planting of bank-stabilizing vegetation.</p>

## REQUEST FOR PRIOR APPROVAL

<i>Provide justification if prior approval is being requested.</i>	n/a

## FUNDING SOURCE

<i>Account Information.</i>	Funding source: Parks Capital Improvement Fund, City Utilities Funding

# Bid Tabulation

Project Name: Franke Park Drainage Project

Project No.: 221010

Quest #7766550

Bids/Quotes Due: 5/6/2021

CONTRACTOR:	Exterior Service	Yardberry Landscape Excavating	Kraft Water Solutions, LLC	The Stranger Group, Inc.	Fleming Excavating, Inc.
Base Bid:	\$121,715.00	\$132,000.00	\$198,000.00	\$222,784.00	\$358,485.00



**SERVICE AGREEMENT: Franke Park Drainage Improvements: Project #221010**

SUPPLIER NAME <b>Exterior Service, LLC</b>		CITY DEPARTMENT <b>Parks and Recreation</b>	
STREET ADDRESS <b>P.O. Box 9134</b>		STREET ADDRESS <b>705 E. State Blvd.</b>	
CITY, STATE, ZIP CODE <b>Ft. Wayne, IN 46899</b>		CITY, STATE, ZIP CODE <b>Fort Wayne, IN 46805</b>	
ATTENTION <b>Nathan Wilson</b>		INVOICE ADDRESS <b>705 E. State Blvd.</b>	
TELEPHONE <b>260-431-8813</b>	FAX <b>n/a</b>	CITY, STATE, ZIP CODE <b>Fort Wayne, IN 46805</b>	
EMAIL ADDRESS <b>Nathan@ext-service.com</b>		ATTENTION <b>Chad Shaw</b>	
		TELEPHONE <b>(260) 427-6027</b>	FAX <b>(260) 427-6020</b>

Service Description	Rates
Work for this project includes necessary tree removals, minor regrading of the existing streambanks, the construction of in-stream stone structures, the creation of a storm water detention forebay, the construction of a gabion basket spillway, and the planting of bank-stabilizing vegetation in order to more effectively slow and store storm water runoff flowing into and through the north-central portion of Franke Park.	Base Bid: \$121,715.00
<b>Aggregate Price</b>	<b>\$121,715.00</b>

The following is made a part of this Agreement:  
 Exhibit A: Request for Quotes  
 Exhibit B: Project Drawings  
 Exhibit C: Landscaping Proposal  
 Attachments: Bid Tab

SERVICE ADDRESS <b>3411 Sherman Blvd.</b>
CITY, STATE, ZIP CODE <b>Fort Wayne, IN 46808</b>
AGREEMENT START DATE <b>Date given on Purchase Order</b>
AGREEMENT END DATE <b>11/26/21</b>

This Agreement is entered into between Supplier and the City. The additional terms and conditions on the reverse side hereof are part of this Agreement. Capitalized terms on this page are used as defined terms when the context so requires. The City may extend the Contract at its option, for an equivalent period, by written notice to the Supplier not less than thirty days prior to the expiration date.

SUPPLIER: <b>City of Fort Wayne / Board of Park Commissioners</b>	
By (Signature): 	By (Signature): 
Printed Name: <b>Nathan Wilson</b>	Printed Name: <b>Steve McDaniel</b>
Title: <b>owner</b>	Title: <b>Director</b>
Date: <b>05-03-2021</b>	Date: <b>6/3/21</b>
FEDERAL TAX ID NUMBER: <b>83-2123256</b>	

SECTION 00386  
SERVICE AGREEMENT

ADDITIONAL TERMS AND CONDITIONS

1. **SERVICES.** Supplier agrees to perform the Services beginning on the Begin Date and continuing until the Services are completed. Supplier warrants that the Services will be completed on or before the End Date. **TIME IS OF THE ESSENCE.** Supplier warrants that all Services shall conform to the Service Description, be of good quality and workmanship, and be free from defects. Supplier further warrants that all goods furnished in connection with the Services shall be merchantable and suitably safe and sufficient for the purpose for which they are normally used. Supplier warrants that it has good title to goods supplied hereunder and that they are free of all liens and encumbrances. These warranties are in addition to those implied in fact or in law. For the purposes of this Agreement, the term "Services" shall include any goods furnished in connection with the Services.
2. **INVOICES.** Supplier shall invoice the City for Services performed according to the Rates, Billing Interval, and Invoice Address. Invoices shall be rendered in triplicate and shall itemize the Services performed, the Service Address, and the corresponding rates and taxes, if any. Payment shall be due within thirty (30) days after the invoice date or the date of completion of the invoiced Services, whichever occurs later, provided that the City shall not be obligated to make any payment to Supplier hereunder until Supplier has furnished proof satisfactory to the City of full payment for all labor, materials, supplies, machinery, and equipment furnished for or used in performance of this Agreement or has furnished all necessary waivers of lien supported by affidavits, all satisfactory to the City, establishing that all liens and rights to claim liens that could arise out of the performance of the Services have been waived. Payment of invoices shall not constitute acceptance of the Services, and invoices shall be subject to adjustment for defects in quality or any other failure of Supplier to meet the requirements of this Agreement. The City may at any time set off any amount owed by the City to supplier against any amount owed by Supplier or any of its affiliated companies to the City.
3. **INDEPENDENT CONTRACTOR RELATIONSHIP.** City and Supplier are and shall remain as independent contractors with respect to each other. The persons provided by Supplier to perform the Services shall be Supplier's employees and shall be under the sole and exclusive direction and control of Supplier. They shall not be considered employees of the City for any purpose. Supplier shall be responsible for compliance with all laws, rules and regulations involving, but not limited to, employment of labor, hours of labor, health and safety, working conditions, and payment of wages with respect to such persons. Supplier shall also be responsible for payment of taxes, including federal, state and municipal taxes chargeable or assessed with respect to its employees, such as Social Security, unemployment, Workers' Compensation, disability insurance, and federal and state withholding. Supplier shall also be responsible for providing such reasonable accommodations, including auxiliary aids and services, as may be required under the Americans With Disabilities Act, 42 U.S.C. 12101 et seq., so as to enable any disabled person furnished by Supplier to perform the essential functions of the job. Supplier agrees to defend, indemnify, and hold harmless the City from and against any loss, cost, claim, liability, damage, or expense (including attorney's fees) that may be sustained by reason of Supplier's failure to comply with this paragraph.
4. **INDEMNITY.** Supplier shall defend, indemnify, and hold harmless the City (including its officers, employees, and agents) from all demands, damages, liabilities, costs, and expenses (including reasonable attorney's fees), judgments, settlements, and penalties of every kind arising out of its performance of Services including, without limitation, damages for personal injury or death or loss or damage to property due, or claimed to be due, to the negligence or willful misconduct of Supplier including such portion thereof due, or claimed to be due, to the negligence of the City except that Supplier shall have no duty to hold harmless the City for such portion of the foregoing proximately caused by negligence or misconduct of the City, and if any suit, claim, or demand was defended by Supplier, then the City will reimburse Supplier for its pro-rata share of its costs, expenses (including reasonable attorney's fees), and damages. The City may elect to participate in the defense of any suit, claim, or demand by employing attorneys at its own expense, without waiving Supplier's obligations to indemnify, defend, or hold harmless. Supplier shall not settle or compromise any claim, suit, or action, or consent to any judgment without the prior written consent of the City and without an unconditional release of all liability by each claimant or plaintiff to the City.
5. **LIMITATION OF LIABILITY.** Each party's liability to the other for any loss, cost, claim, liability, damage, or expense (including attorney's fees) relating to or arising out of any negligent act or omission in its performance of obligations arising out of this Agreement, shall be limited to the amount of direct damage actually incurred. Absent gross negligence or knowing and willful misconduct which causes a loss, neither party shall be liable to the other for any indirect, special or consequential damage of any kind whatsoever.
6. **INSURANCE.** Supplier shall maintain in full force and effect during the performance of the Services the following insurance coverage; provided, however, that if a High Risk Insurance Attachment is attached hereto, the requirements of the High Risk Insurance Attachment shall be substituted in lieu of the following requirements:
 

(a) Worker's Compensation	per statutory requirements
(b) General Liability	\$1,000,000 minimum per occurrence/ \$2,000,000 aggregate
(c) Automobile Liability	\$1,000,000 minimum per occurrence
(d) Products Liability	\$1,000,000 minimum per occurrence
(e) Completed Operations Liability	\$1,000,000 minimum per occurrence


The Certificate of Insurance must show the City of Fort Wayne, its Divisions and Subsidiaries as an Additional Insured and a Certificate Holder, with 30 days notification of cancellation or non-renewal. All Certificates of Insurance should be sent to the following address:  
City of Fort Wayne Purchasing Department  
200 East Berry Street, Suite 490  
Fort Wayne, IN 46802
7. **HAZARDOUS MATERIALS.** Supplier will provide to the City before performing any Services, a statement describing any Hazardous Materials intended and necessary for use in performing the Services. "Hazardous Materials" means any item which may be classified under federal, state, or local law, as hazardous or toxic. Supplier must comply with all federal, state, or local law in the use, transportation, and disposal of such Hazardous Materials.
8. **PROGRESS REPORTS.** The Supplier shall submit progress reports to the City upon request. The report shall serve the purpose of assuring the City that work is progressing in line with the schedule, and that completion can be reasonably assumed on the scheduled date. This contract shall be deemed to be the substantially performed only when fully performed according to its terms and conditions and any modification thereof.
9. **CONFLICT OF INTEREST.** Supplier certifies and warrants that neither it nor any of its directors, officers, agents, representatives or employees which will participate in any way in the performance of the Supplier's obligations hereunder has or will have any conflict of interest, direct or indirect, with the City of Fort Wayne or any of its departments, divisions, agencies, officers, directors or agents.
10. **CONFIDENTIALITY OF DATA, PROPERTY RIGHTS IN PRODUCTS, AND COPYRIGHT PROHIBITION.** Supplier further agrees that all information, data findings, recommendations, proposals, etc. by whatever name described and by whatever form therein secured, developed, written or produced by the Supplier in furtherance of this contract—shall be the property of the City. The Supplier shall take action as is necessary under law to preserve such property rights in and of the City while such property is within the control and/or custody of the Supplier. By this contract the Supplier specifically waives and/or releases to the City any cognizable property right of the Supplier to copyright, license, patent or other wise use such information, data findings, recommendations proposals, etc.
11. **CONFIDENTIALITY OF CITY INFORMATION.** Supplier understands and agrees that data, materials, and information disclosed to Supplier may contain confidential and protected data. Therefore, the Supplier promises and assures that data, material, and information gathered, based upon or disclosed to the Supplier for the purpose of this contract, will not be disclosed to others or discussed with other parties without the prior written consent of the City.
12. **EMPLOYER CERTIFICATION.** In accordance with I.C. §22-5-1.7, Supplier understands and agrees to enroll and verify work eligibility status of all newly hired employees of the contractor through E-Verify program or any other system of legal residence verification as approved by the United States Department of Homeland Security or the department of homeland security. Supplier further understands that they are not required to verify work eligibility of status of newly hired employees of the Supplier through the E-Verify program if the E-Verify program no longer exists. Supplier certifies that they do not knowingly employ any unauthorized aliens.
13. **COMPLIANCE WITH LAWS.** Supplier warrants that the Services shall be in strict conformity with all applicable local, state and federal laws including, but not limited to, the standards promulgated by the occupational Safety and Health Act, Executive Order 11246, as amended, relative to Equal Employment Opportunity and all other applicable laws, rules, and regulations, including the Civil Rights Act of 1964 pertaining to equal opportunity, Section 503 of the Vocational Rehabilitation Act of 1973, the American with Disabilities Act, Section 402 of the Vietnam Era Veterans Readjustment Assistance Act of 1974 and all applicable immigration laws and regulations including the 1986 Immigration Reform and Control Act et. seq. Supplier agrees to indemnify and hold harmless the City from and against any loss, cost, claim, liability, damage, or expense (including attorney's fees) that may be sustained because of Supplier's breach of such warranty.
14. **DEFAULT.** In the event that (a) Supplier breaches any warranty contained herein; (b) Supplier fails to provide the insurance certificate required herein; (c) Supplier or Supplier's insurance carrier fails to defend, indemnify, or hold harmless the City as required herein; (d) Supplier's performance of the Services violates applicable law; (e) Supplier admits insolvency, makes an assignment for the benefit of creditors, or has a trustee appointed to take over all or a substantial part of its assets; or (f) Supplier fails to perform or comply with any other provision of this Agreement, such failure, breach, or violation shall constitute a default under this Agreement.
15. **TERMINATION.** In the event of default by Supplier under this Agreement, the City reserves the right without liability, in addition to its other rights and remedies, to terminate this Agreement by notice to Supplier as to the portion of the Services not yet rendered and to purchase substitute services at Supplier's expense. Supplier shall reimburse the City for the cost of such substitute services upon Supplier's receipt of an invoice therefor.
16. **WAIVER.** No action or inaction by the City shall constitute a waiver of any right or remedy.
17. **CANCELLATION.** City may at any time cancel this Agreement in whole or in part for its sole convenience upon written notice to Supplier, and Supplier shall stop performing the Services on the date specified in such notice. The City shall have no liability as a result of such cancellation, except that the City will pay Supplier the Rates for completed Services accepted by the City and the actual incurred cost to Supplier for Services in progress. These payments shall not exceed the Aggregate Price.
18. **FORCE MAJEURE.** Neither party shall be liable to the other or responsible for nonperformance of any of the terms of this Agreement due to unforeseeable causes beyond the reasonable control and without the fault or negligence of such party, including, but not restricted to acts of God or the public enemy, acts of governments, fire, floods, epidemics, quarantine restrictions, strikes, freight embargoes, or unusually severe weather.
19. **NOTICES.** All notices required or permitted to be made or given hereunder by one party to the other party shall be in writing and shall be deemed to have been given when hand delivered, or on the date stated on the receipt if deposited in the United States mail in certified form, postage prepaid with return receipt requested, and addressed to such other party at its Notice Address or at such other address as may be specified by such other party by written notice sent or delivered in accordance herewith.
20. **ASSIGNMENT.** Any assignment, in whole or in part, of Supplier's rights or obligation under this Agreement without the prior written consent of the City shall be void. Supplier shall not use subcontractors to perform any part of the Services without the prior written consent of the City.
21. **DISPUTE RESOLUTION.** The City shall be the sole judge of the quality of services. In the event of any dispute or disagreement between the parties either with respect to the interpretation of any provision of this agreement, or with respect to the performance of either party hereunder, the dispute shall be resolved by the Director of Finance and Administration and will not be subject to arbitration.
22. **ACCESS TO RECORDS.** The Supplier shall maintain all books, documents, papers, accounting records, and other evidence pertaining to the cost incurred. They shall make such materials available at their respective offices at all reasonable times during the contract period and for three (3) years from the date of final payment under the contract for inspection by the City or by any other authorized representative of city government. Copies thereof shall be furnished at no cost to the City if requested.
23. **NONDISCRIMINATION.** Pursuant to IC 22-9-1-10, the Civil Rights Act of 1964, and Title VI, Supplier and its subcontractors shall not discriminate against any employee or applicant for employment in the performance of this contract. The Supplier shall not discriminate with respect to hire, tenure, terms, conditions or privileges of employment or any matter directly or indirectly related to employment, because of race, color, religion, sex, disability, national origin or ancestry. Breach of this covenant may be regarded as a material breach of contract. Acceptance of this contract also signifies compliance with applicable Federal laws, regulations, and executive orders prohibiting discrimination in the provision of services based on race, color, national origin, age, sex, disability or status as a veteran.
24. **MISCELLANEOUS.** If any provision of this Agreement is held to be invalid or unenforceable, the validity and enforceability of the remaining provisions shall not be affected. This Agreement shall be governed by the laws of the state of Indiana and shall be subject to the exclusive jurisdiction of the courts therein. This Agreement embodies the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior agreements and understandings, whether written or oral, and all contemporaneous oral agreements and understandings relating to the subject matter hereof. No agreement hereafter made shall be effective to modify or discharge this Agreement, in whole or in part, unless such agreement is in writing and signed by the party against whom enforcement of the modification or discharge is sought. The paragraph headings are for convenience only and are not intended to affect the interpretation of the provisions hereof. This agreement shall be binding on the parties hereto and their respective personal and legal representatives, successors and assigns.

(This form was last updated November 1, 2016.)

**SUBMITTER**Company: Exterior Service LLC Representative: Nathan Wilson

Initials	Required Bid Forms Verification	Date Filed
	Bid Form <input checked="" type="checkbox"/>	
	Bid Bond <input checked="" type="checkbox"/>	
	Affirmative Action Program – Non-segregated Facilities <input checked="" type="checkbox"/>	
	Certificate in Lieu of Financial Statement <input checked="" type="checkbox"/>	
	Emerging Business Enterprise (EBE) Declaration Form <input checked="" type="checkbox"/>	
	Form 96, Part I - Signed & Notarized <input checked="" type="checkbox"/>	
	Form 96, Part II - Signed & Notarized <input checked="" type="checkbox"/>	
	Section I, Public Works Experience <input checked="" type="checkbox"/>	
	Section II, Work Plan Questionnaire <input checked="" type="checkbox"/>	
	Section III, Contractor Financial Statement <input checked="" type="checkbox"/>	
	Section IV, Current Contractual Obligations <input checked="" type="checkbox"/>	
	Indiana Contractor Certification (projects over \$300,000) <input checked="" type="checkbox"/>	
	Conflict of Interests Form <input checked="" type="checkbox"/>	
	Drug Policy Acknowledgement Form <input checked="" type="checkbox"/>	
	E-Verify Form <input checked="" type="checkbox"/>	
	Non-Collusion Affidavit <input checked="" type="checkbox"/>	
	Performance and Payment Bond (file at time of award) <input type="checkbox"/>	
	List of Subcontractors and Suppliers <input type="checkbox"/>	
	Affidavit and Waiver of Lien (file at time of invoice) <input type="checkbox"/>	
	Schedule of Values <input type="checkbox"/>	
	Estimated Construction Schedule <input type="checkbox"/>	

The undersigned hereby certifies the above required forms have been fully completed and properly submitted with this bid, and/or are already on file with the City of Fort Wayne.

  
Signature

05-06-2021  
Date

END OF DOCUMENT 004113

## SECTION 004113 - BID FORM - STIPULATED SUM (SINGLE-PRIME CONTRACT)

## 1.1 BID INFORMATION

- A. BIDDER: Exterior Service LLC
- B. Bidder Representative: Nathan Wilson
- C. Bidder Address: PO Box 9134 Fort Wayne IN 46899
- D. Bidder Phone Number: 260-431-8813
- E. Bidder Email Address: Nathan@Ext-Service.com
- F. Project Name: Franke Park Drainage Improvements
- G. Project Location: 3411 Sherman Blvd., Ft. Wayne, IN 46808
- H. Bid Due: **Thursday, May 6th – 11:00a.m.**  
QuestCDN.com
- I. Owner: Board of Park Commissioners, City of Fort Wayne, Indiana
- J. Owner Project Number: 221010
- K. QuestCDN No.: eBidDoc #7766550

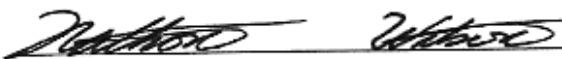
## 1.2 CERTIFICATIONS AND BASE BID

- A. Base Bid (Single-Prime Contract): The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, as prepared by Owner and its consultants, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:

BASE BID (\$10,000 contingency allowance included): \$ 121,715.<sup>00</sup>

BASE BID IN WORDS: one hundred twenty one thousand seven hundred Fifteen <sup>00</sup> DOLLARS

The undersigned hereby certifies that all wages paid under this project will meet or exceed the Federal Minimum Wage.

  
Signature

05-06-2021  
Date

**1.3 TIME OF COMPLETION**

- A. The undersigned Bidder proposes and agrees hereby to commence the Work of the Contract Documents on a date specified in a written Notice of Award to be issued by Owner, and shall fully complete the Work as required by Contract Documents.

**1.4 ACKNOWLEDGMENT OF ADDENDA**

- A. The undersigned Bidder acknowledges receipt of and use of the following Addenda in the preparation of this Bid:
1. Addendum No. 1, dated 04-29-21.
  2. Addendum No. 2, dated 04-30-21.
  3. Addendum No. 3, dated \_\_\_\_\_.
  4. Addendum No. 4, dated \_\_\_\_\_.

**1.5 CONTRACTOR'S LICENSE**

- A. The undersigned further states that it is a duly licensed contractor, for the type of work proposed, in City of Fort Wayne, Allen County, State of Indiana and that all fees, permits, etc., pursuant to submitting this proposal have been paid in full.

ERIE INSURANCE COMPANY  
BID BOND

Know All Men by These Presents,

Bond No. GG4877

That we, EXTERIOR SERVICE LLC  
(hereinafter called the Principal) as Principal and the ERIE INSURANCE COMPANY, of Erie, Pennsylvania, a corporation duly organized under the laws of the State of Pennsylvania, (hereinafter called the Surety),

as Surety, are held and firmly bound unto CITY OF FORT WAYNE, PARKS AND RECREATION DEPARTMENT hereinafter called the Oblige in the full and just sum of 5% of

ATTACHED BID Dollars, (\$ 5% OF BID), good and lawful money of the United States of America, to the payments of which sum of money well and truly to be made, the said Principal and Surety bind themselves, their and each of their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

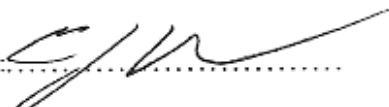
Signed, sealed and dated this 5TH day of MAY, A.D. 2021  
Year

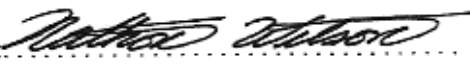
THE CONDITION OF THIS OBLIGATION IS SUCH: That, if the Oblige shall make any award within 60 days to the Principal for FRANKE PARK DRAINAGE IMPROVEMENTS PROJECT No. 221010

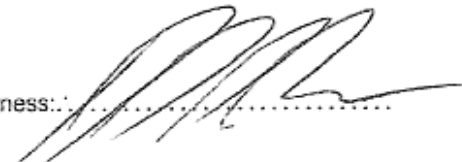
according to the terms of the proposal or bid made by the Principal therefor, and the Principal shall duly make and enter into a contract with the Oblige in accordance with the terms of said proposal or bid and award and shall give bond for the faithful performance thereof with the Surety or Sureties approved by the Oblige; or if the Principal shall, in case of failure so to do, pay the Oblige the damages which the Oblige may suffer by reason of such failure, not exceeding the penalty of this bond, then this obligation shall be null and void; otherwise it shall be and remain in full force and effect.

In Testimony Whereof, the Principal and Surety have caused these presents to be duly signed and sealed.

Principal EXTERIOR SERVICE LLC

Witness: 

By:   
Title OWNER

Witness: 

ERIE INSURANCE COMPANY  
By:   
MICHAEL LEWIS  
Attorney-in-Fact



# LIMITED POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That ERIE INSURANCE COMPANY, a corporation duly organized under the laws of the Commonwealth of Pennsylvania, does hereby make, constitute and appoint \_\_\_\_\_

\_\_\_\_\_ Jeffrey Rachel, Laurel D. Hicks, Michael E. Lewis and Emily Whitta \_\_\_\_\_

individually, its true and lawful Attorney-in-Fact, to make, execute, seal and deliver for and on its behalf, and as its act and deed: any and all bonds and undertakings of suretyship, \_\_\_\_\_

\_\_\_\_\_ each in a penalty not to exceed the sum of five hundred thousand dollars (\$500,000.00). \_\_\_\_\_

And to bind ERIE INSURANCE COMPANY thereby as fully and to the same extent as if such bonds and undertakings and other writings obligatory in the nature thereof were signed by the appropriate officer of ERIE INSURANCE COMPANY and sealed and attested by one other of such officers, and hereby ratifies and confirms all that its said Attorney(s)-in-Fact may do in pursuance hereof.

The Power of Attorney is granted under and by authority of the following Resolutions adopted by the Board of Directors of ERIE INSURANCE COMPANY on the 2nd day of September, 2016, and said Resolutions have not been amended or repealed:

“RESOLVED, that the Chief Executive Officer, or any Senior Vice President or Vice President shall have power and authority to: (a) Appoint Attorney(s)-in-Fact and to authorize them to execute on behalf of the Company, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof, and, (b) Remove any such Attorney-in-Fact at any time and revoke the power and authority given to him or her.

RESOLVED, that Attorney(s)-in-Fact shall have power and authority, subject to the terms and limitations of the Power of Attorney issued to them, to execute and deliver on behalf of the Company, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof. The corporate seal is not necessary for the validity of any bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof.”

This Limited Power of Attorney is signed and sealed by facsimiles under and by virtue of the following Resolution adopted by the Board of Directors of ERIE INSURANCE COMPANY on the 2nd day of September, 2016, and said Resolution has not been amended or repealed:

“RESOLVED, that the signature of Timothy G. NeCastro, as Chief Executive Officer of the Company, and the Seal of the Company may be affixed by the following facsimiles on any Limited Power of Attorney for the execution of bonds, undertakings, recognizances, contracts and other writings in the nature thereof, and the signature of Brian W. Bolash, as Secretary of the Company, the Seal of the Company, the signature of Sheila M. Hirsch, as Notary Public, and her notarial seal, may also be affixed by the following facsimiles to any certificate or acknowledgment of any such Limited Power of Attorney, and only under such circumstances shall said facsimiles be valid and binding on the Company.”

IN WITNESS WHEREOF, ERIE INSURANCE COMPANY has caused these presents to be signed by its Chief Executive Officer, and its corporate seal to be hereto affixed this 18th day of October, 2016.



*Timothy G. NeCastro*  
Timothy G. NeCastro  
Chief Executive Officer

COMMONWEALTH OF PENNSYLVANIA } ss.  
COUNTY OF ERIE

On this 18th day of October, 2016, before me personally came Timothy G. NeCastro, to me known, who being by me duly sworn, did depose and say: that he is Chief Executive Officer of ERIE INSURANCE COMPANY, the corporation described in and which executed the above instrument; that he knows the Seal of said corporation; that the Seal affixed to the said instrument is such corporate Seal; that it was so affixed by order of the Board of Directors of said corporation and that he signed his name thereto by like order.



*Sheila M. Hirsch*  
My commission expires June 27, 2024  
Notary Public

### CERTIFICATE

I, Brian W. Bolash, Secretary of ERIE INSURANCE COMPANY, do hereby certify that the original LIMITED POWER OF ATTORNEY, of which the foregoing is a full, true and correct copy, is still in full force and effect as of the date below.

In witness whereof, I have hereunto subscribed my name and affixed corporate Seal of the Company by facsimiles pursuant to the action of the Board of Directors of the Company,



*Brian W. Bolash*  
Brian W. Bolash, Secretary

this            day of            20 .



**CITY OF FORT WAYNE**  
**AFFIRMATIVE ACTION PROGRAM**

This Document may be completed electronically at the following website address  
<https://tinyurl.com/COFWAffirmativeAction>

NAME OF COMPANY Exterior Service LLC  
ADDRESS PO Box 9134 CITY, ZIP CODE Fort Wayne IN 46849  
E-MAIL ADDRESS Nathan@Ext-Service.com PHONE # 260-431-8813  
FAX # \_\_\_\_\_

Identify by title and name the highest official within the facility who has the overall responsibility for the implementation of the Equal Employment Opportunity and Affirmative Action Program.

Nathan Wilson  
Name: (please print)

owner  
Title:

05-06-2021  
Date:

[Signature]  
Signature:

1. Does your firm have a written Affirmative Action Program? \_\_\_\_\_ Yes  No
- A. If so, and it contains answers to the questions asked in this program, attach a copy and sign the Written Statement of Company Policy.
- B. If not, do you accept the following program in meeting the requirements of the City of Fort Wayne?  Yes \_\_\_\_\_ No

**PLEASE KEEP IN MIND THAT FAILURE TO COMPLETE ALL SECTIONS OF THIS DOCUMENT WILL RESULT IN YOUR PROGRAM BEING REJECTED.**

2. Will your firm make every effort to increase employment of minorities at all levels of its workforce with particular emphasis to categories where few, if any, minority people are employed?  Yes  No

3. Current number of employees 5

Number of employees in **January of this Year** 4

4. If total minority employment is less than 20% give reasons why. (Do not include Females when you figure minority employment percentages.)

- currently trying to hire qualified personnel to join our team.  
\_\_\_\_\_  
\_\_\_\_\_

5. List minority recruitment sources below:

<u>Agency</u>	<u>Contact Person</u>	<u>Date</u>
<u>  </u>	<u>  </u>	<u>  </u>

6. Does this company anticipate an increase in employment this year?  Yes  No

Approximately how many? 2

7. What specific goals can you achieve for the employment of minorities in the following labor classifications during 2013:

A. Officials and Managers	<u>50</u>	%
B. Professionals	_____	%
C. Technicians	_____	%
D. Sales	_____	%
E. Office and Clerical	_____	%
F. Skilled Craftsman	_____	%

G. Other 25 %

8. **WRITTEN STATEMENT OF COMPANY POLICY**

It is the policy of Exterior Service LLC that Equal Employment Opportunity is afforded to all qualified persons without regard to race, sex, religion, color, national origin, disability, age or veteran status.

In support of this policy, Exterior Service LLC will not discriminate against any employee or applicant for employment because of race, religion, sex, national origin, sex, age, disability or veteran status.

The Exterior Service LLC will take affirmative action to insure that applicants are employed and that employees are treated during employment without regard to their race, religion, color, sex, national origin, disability, age or veteran status. Such action will include but not be limited to: Recruitment, advertising or solicitation for employment hiring, placement, upgrading transfer or demotion, selection for training including apprenticeship rates of pay or other forms of compensation, layoffs or termination.

Exterior service LLC  
Name of Company or Firm

05-06-2021  
Date

  
Signature of Highest Company Official

Nathan Wilson owner  
Name and Title of Signer

Please type or print

STATISTICAL INFORMATION FOR  
AFFIRMATIVE ACTION / VENDOR COMPLIANCE

Artisior Service LLC Arthur Wilson  
Name of Contractor or Supplier (Information Given By)

PO Box 9134 Fort Wayne IN 46809 260-338-2813 Arthur Wilson  
Address and Telephone Number Person Filling Out This Form and Data

EEOC CATEGORY	EMPLOYEES BY RACE/ETHNICITY/SEX												DISABLED EMPLOYEES						TOTAL EMPLOYEES				
	W			BLK			H			OTHER			W		BLK		H			OTHER			
	M	F		M	F		M	F		M	F		M	F	M	F	M	F		M	F		
1. OFFICIAL & ADMINISTRATORS									1														
2. PROFESSIONALS																							
3. TECHNICIANS																							
4. OPERATIVES			1																				
5. LABORER			2																				
6. OFFICE AND CLERICAL																							
7. SKILLED CRAFT WORKERS			1																				
8. SERVICE - MAINTENANCE WORKERS																							
9. SALES WORKERS			1																				
TOTALS			5						1														
PERCENTAGES			91%						16%														

**CERTIFICATION OF NON-SEGREGATED FACILITIES**

Each Bidder is required to file a fully executed Certificate of Non-Segregated Facilities once a year.

The bidder certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments and he will not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The Bidder agrees that a breach of this certification will be a violation of the Equal Opportunity clause in any contract resulting from acceptance of this bid. As used in this certification, the term "segregated facilities" means any waiting room, work area, restrooms and washrooms, restaurant or dress areas, parking lots, drinking fountains, recreation or entertainment areas, transportation and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, national origin, sex, age, disability or veteran status because of habit, local custom, or otherwise. The Bidder agrees that (except where the Bidder has obtained identical certification from proposed subcontractors for specific time periods) he will obtain identical certification from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause and that he will retain such certification in his files.

Note: THE PENALTY FOR MAKING FALSE STATEMENTS IN OFFERS IS PRESCRIBED IN 18 U.S.C. 1001.

Date: 05-06, 2021  
month, day year

Exterior Service LLC  
Name of Bidder

By: Nathan Wilson owner  
~~\_\_\_\_\_~~ ~~\_\_\_\_\_~~

Title: PO Box 9134 Fort Wayne IN 46849  
Official Address & Zip Code

END OF SECTION 004581

**CERTIFICATE IN LIEU OF FINANCIAL STATEMENT**

I, Nathan Wilson, the owner  
Name  
owner, of Exterior Service LLC  
Position Company

HEREBY CERTIFY THAT:

1. The Financial Statement of said Company, dated the ~~05~~<sup>6<sup>th</sup></sup> day of May, 20 21, now on file in the office of Parks and Recreation Department of Fort Wayne, Indiana, made a part hereof, is a true and correct statement, and, accurately reflects the financial condition of said Company, as of the date hereof; and,
2. I am familiar with the books of said Company, showing its financial condition and am authorized to make this certificate on its belief.

DATE: ~~05~~ 05-06-2021

[Signature]  
Signatory

Nathan Wilson  
Printed Name of Signatory

ACKNOWLEDGED

SUBSCRIBED AND SWORN to before me, a Notary Public, in and for said County and State, this 6 day of May, 2021.



[Signature]  
NOTARY PUBLIC  
Lorie M. Krauss  
Notary Public Printed Name

A Resident of Allen County.  
My Commission Expires July 9, 2022

END OF SECTION 004582

**EMERGING BUSINESS ENTERPRISE (E.B.E.) DECLARATION FORM**  
(For Federal Projects, this is an MBE/WBE Declaration Form)

BIDDER MUST CHECK EITHER "A", "B" OR "C" BELOW, TO DECLARE HIS/HER STATUS AS AN E.B.E., OR NON-E.B.E. CONTRACTOR:

- A. \_\_\_\_\_ The undersigned firm declares that it is not an E.B.E. contractor.
- B.  The undersigned firm declares that it is an E.B.E. contractor. Please specify percentage of the economically disadvantaged individual's ownership: 100 %.
- C. \_\_\_\_\_ The undersigned declares that it and the firm \_\_\_\_\_, a certified E.B.E., have entered a joint venture to perform this contract, and therefore will be considered to be an E.B.E. contractor for this project.

If the City has placed an "x" in this space, the project on which you are bidding is a federally funded project. Therefore, the bidder must also identify his/her status as a Minority Business Enterprise (MBE) or Woman Business Enterprise (WBE), if such status exists.

- D. \_\_\_\_\_ The undersigned firm declares that it is certified MBE Contractor.
- E. \_\_\_\_\_ The undersigned firm declares that it is a Certified WBE Contractor.

Contractor:

Contractor:

\_\_\_\_\_

\_\_\_\_\_

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

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

Its: \_\_\_\_\_

Its: \_\_\_\_\_

**NOTE:** A successful, non-E.B.E. bidder will be required to sign an "E.B.E. Rider" attached to the final contract. In the Rider, the successful bidder must agree that he/she will make a good faith effort to subcontract 10% of the overall contract amount to E.B.E. – certified subcontractors. A percentage less than 10% may be stipulated by the Owner in the Instructions to Bidders, but it is the Owner's goal to strive for 10%, pursuant to Executive Order 90-01 (as amended 05/08/06) of the City of Fort Wayne.

The contract will be awarded to the lowest bidder who is responsive and responsible. E.B.E. commitment is not a part of the contract award. The successful bidder will be required to sign the E.B.E. Rider or the contract will not be signed by the Owner.

**EBE/MBE/WBE WAIVER/REDUCTION APPLICATION**

Type of Waiver Requested: \_\_\_\_\_ EBE \_\_\_\_\_ MBE \_\_\_\_\_ WBE

Project Resolution Number: \_\_\_\_\_

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

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

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

City, State Zip Code: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Each of the following elements must be present in order to determine whether or not a reduction or waiver is appropriate. Please provide adequate documentation and information to show why a reduction or waiver of the goal is being sought. (If the space given is not sufficient, please attach additional pages as needed.)

1. Please give detailed statement of efforts to identify and select portions of the project to sub contract.

2. Please provide a list of your contact with EBE/M/WBE firms.

Name of firm contacted: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Contact Date & Time: \_\_\_\_\_  
Method:  Phone  Fax  Written  Other (explain): \_\_\_\_\_

Name of firm contacted: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Contact Date & Time: \_\_\_\_\_  
Method:  Phone  Fax  Written  Other (explain): \_\_\_\_\_

Name of firm contacted: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Contact Date & Time: \_\_\_\_\_  
Method:  Phone  Fax  Written  Other (explain): \_\_\_\_\_

[If more contacts were attempted, please attach additional pages of documentation]  
**COPIES OF ALL WRITTEN OR FAX SOLITIFICATIONS MUST BE ATTACHED**

3. If a reduction or waiver is being sought because of reasons other than prices, the contractor must provide the following information:

a. Detailed statement of WHY no EBE/M/WBE firm was subcontracted:

4. If a reduction or waiver is being sought because prices quoted by EBE/M/WBE firms were higher than non-EBE/M/WBE firms, the contractor must provide the following information:

a. Price Quoted:

<u>Contractor</u>	<u>Price Quoted</u>
1.	1.
2.	2.
3.	3.
4.	4.

b. Detailed statement of the work identified for EBE/M/WBE participation for which the contractor asserts the EBE/M/WBE quote(s) was higher than non-EBE/M/WBE firms. Please summarize direct negotiations with EBE/M/WBE firms for specific portions of the work (and document the dates and time when negotiations occurred), and please indicate why negotiations were unsuccessful:

c. Please include other documentations that demonstrate that the EBE/M/WBE quotes were higher than non-EBE/M/WBE firms.

5. Summary:

I, \_\_\_\_\_ of \_\_\_\_\_ (company) hereby request a reduction of \_\_\_\_\_ % from the EBE/M/WBE participation goal. This request is being sought for the reason explained above.

(If the contractor desires to state further reason why the waiver should be accepted, please attach additional pages.)

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

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

END OF SECTION 004583



**CONTRACTOR'S BID FOR PUBLIC WORK - FORM 96**  
State Form 52414 (R2/2-13) / Form 96 (Revised 2013)  
Prescribed by State Board of Accounts

**PART I**

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

Date (mo / dy / year): 05-06-2021

1. Governmental Unit (Owner): Fort Wayne Parks
2. County: Allen
3. Bidder (Firm): Exterior Service LLC  
Address: PO Box 9134  
City / State / ZIP code: Fort Wayne IN 46899
4. Telephone Number: 260-431-8813
5. Agent of Bidder (if applicable): 5

Pursuant to notices given, the undersigned offers to furnish labor and/or material necessary to complete the public works project of Frankie Park Drainage Improvements (Governmental Unit) in accordance with plans and specifications prepared by Earth Source Inc and dated sep 17<sup>th</sup> 2019 for the sum of one hundred eleven thousand seven hundred \$ 111,715.<sup>00</sup>

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

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

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

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

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

**ACCEPTANCE**

The above bid is accepted this 06 day of 05, 20 21 subject to the following conditions: \_\_\_\_\_

Contracting Authority Members:

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

**PART II**

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

Governmental Unit: Fort Wayne Parks

Bidder (Firm): Exterior Service LLC

Date (mo/dy/year): 05-06-2021

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

**SECTION I EXPERIENCE QUESTIONNAIRE**

1. What public works projects has your organization completed for the period of one (1) year prior to the date of the current bid? (Less than 150,000.00)

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

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

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

3. Have you ever failed to complete any work awarded to you? NO If so, where and why?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

SECTION II PLAN AND EQUIPMENT QUESTIONNAIRE

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

Run a 4 to 5 man crew use mid size excavator and small equipment when needed  
Start on high grantant work to section one in correlation with dates provided

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

- Peillig trucking inc delivery of material  
-

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

N/A

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

Dx 170, cat 305, cat 359, grader, Dump trucks, Focan head

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

yes

**SECTION III CONTRACTOR'S FINANCIAL STATEMENT**

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

**SECTION IV CONTRACTOR'S NON- COLLUSION AFFIDAVIT**

The undersigned bidder or agent, being duly sworn on 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 at such letting nor to prevent any person from bidding nor to include anyone to refrain from bidding, and that this bid is made without reference to any other bid and without any agreement, understanding or combination with any other person in reference to such bidding.

He further says that no person or persons, firms, or corporation has, have or will receive directly or indirectly, any rebate, fee, gift, commission or thing of value on account of such sale.

**SECTION V OATH AND AFFIRMATION**

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

Dated at 9:00 am this 06 day of 05, 2021.

Exterior service LLC  
(Name of Organization)

By Nathan Wilson owner  
[Signature]  
(Title of Person Signing)

**ACKNOWLEDGEMENT**

STATE OF Indiana )  
COUNTY OF Allen ) SS



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

Subscribed and sworn to before me this 6 day of May, 2021.  
[Signature]  
Notary Public

My Commission Expires: July 9, 2022  
County of Residence: Allen

Part of State Form 52414 (R2 / 2-13) / Form 96 (Revised 2013)

**BID OF**

Exterior service LLC  
(Contractor)

PO Box 9134 Fort Wayne  
(Address)

IN 46809

**FOR**

**PUBLIC WORKS PROJECTS**

**OF**

Frankie Park Drainage improvements

Filed \_\_\_\_\_

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

END OF SECTION 004584

## INDIANA CONTRACTOR QUALIFICATION CERTIFICATION

Pursuant to Indiana Code 5-16-13, Contractor hereby certifies that he/she shall be qualified under either IC 4-13-6.4 (Qualification for State Public Works Projects) or IC 8-23-10 (Qualifications of Bidders for Contracts) prior to performing any work on a City of Fort Wayne Board of Park Commissioners Project. Contractor further certifies that subcontractors of Contractor awarded subcontracts on a Public Works Contract in excess of \$300,000 shall be qualified under the applicable statute. Contractor acknowledges that if he/she violates any of the foregoing qualification requirements, he/she shall be ineligible to bid on Public Works Contracts for such time period as the City determines.

Exterior Service LLC  
Name of Company

By: [Signature]  
(Signature)

Nathan Wilco  
(Printed Name)

Title: owner

END OF SECTION 004585

**CITY OF FORT WAYNE, INDIANA**

Exterior Service LLC  
(Vendor Name)

**VENDOR DISCLOSURE STATEMENT RELATING TO:**

1. **FINANCIAL INTERESTS;**
2. **POTENTIAL CONFLICTS OF INTEREST;**
3. **CURRENT AND PENDING CONTRACTS OR PROCUREMENTS**

Vendors desiring to enter into certain contracts with the City of Fort Wayne, Indiana (the "City") shall disclose their financial interests, potential conflicts of interest and current and pending contract or procurement information as set forth below.

The following disclosures by Vendors are required for all contracts with annual payments by the City in the amount of \$50,000 or more. Vendors shall disclose their financial interests, potential conflicts of interest and other contract and procurement information identified in Sections 1, 2 and 3 below as a prerequisite for consideration for a contract awarded by the City. This Disclosure Statement must be completed and submitted together with the Vendor's contract, bid, proposal or offer.

A publicly traded entity may submit its current 10K disclosure filing in satisfaction of the disclosure requirements set forth in Sections 1 and 2 below.

**Section 1: Disclosure of Financial Interest in Vendor**

a. If any individuals have either of the following financial interests in Vendor (or its parent), please check all that apply and provide their names and addresses (attach additional pages as necessary):

- (i) Equity ownership exceeding 5%
- (ii) Distributable income share exceeding 5%
- (iii) Not Applicable (If N/A, go to Section 2)

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

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

b. For each individual listed in Section 1a. show his/her type of equity ownership:

sole proprietorship  stock   
partnership interest  units (LLC)   
other (explain) \_\_\_\_\_

c. For each individual listed in Section 1a. show the percentage of ownership interest in Vendor (or its parent):  
ownership interest:

Name: \_\_\_\_\_ %

Name: \_\_\_\_\_ %

**Section 2: Disclosure of Potential Conflicts of Interest (not applicable for vendors who file a 10K)**

For each individual listed in Section 1a, check "Yes" or "No" to indicate which, if any, of the following potential conflict of interest relationships apply. If "Yes", please describe using space under applicable subsection (attach additional pages as necessary):

- a. City employment, currently or in the previous 3 years, including contractual employment for services:  
Yes \_\_\_\_\_ No

---

---

- b. City employment of "Member of Immediate Family" (defined herein as: *Spouse, Child, Step Child, Parent or Step Parent, Father-in-law or Mother-in-law, Brother or Sister, Step Brother or Step Sister, Half Brother or Half Sister, Brother-in-law or Sister-in-law, Son-in-law or Daughter-in-law, Grandparent or Step Grandparent, Grandparent or Step Grandparent of Spouse, Grandchild*)  
Including contractual employment for services in the previous 3 years:

Yes \_\_\_\_\_ No

---

---

- c. Relationship to Member of Immediate Family holding elective City office currently or in the previous 3 years: Yes \_\_\_\_\_ No

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**Section 3: DISCLOSURE OF OTHER CONTRACT AND PROCUREMENT RELATED INFORMATION**

- a. Does Vendor have current contracts (including leases) with the City? Yes  No \_\_\_\_\_

If "Yes", identify each current contract with descriptive information including purchase order or contract reference number, contract date and City contact below (attach additional pages as necessary).

PO # 21121680

PO # 21700049

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- b. Does Vendor have pending contracts (including leases), bids, proposals, or other pending procurement relationship with the City? Yes \_\_\_\_\_ No

If "Yes", identify each pending matter with descriptive information including bid or project number, contract date and City contact using space below (attach additional pages as necessary).

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---

---

c. Does vendor have any existing employees that are also employed by the City of Fort Wayne?

Yes \_\_\_\_\_ No

If "Yes", provide the employee's name, current position held at vendor, and employment payment terms (hourly, salaried, commissioned, etc.).

Name / Position / Payment Terms:

\_\_\_\_\_

Name / Position / Payment Terms:

\_\_\_\_\_

Name / Position / Payment Terms:

\_\_\_\_\_

d. Does vendor's representative, agent, broker, dealer or distributor (if applicable) have any existing employees that are also employed by the City of Fort Wayne? For each instance, please provide the name of the representative, agent, broker, dealer or distributor; the name of the City employee, and the payment terms (hourly, salaried, commissioned, etc.).

Company / Name / Payment Terms: NA

Company / Name / Payment Terms: NA

**Section 4: CERTIFICATION OF DISCLOSURES**

**In connection with the disclosures contained in Sections 1, 2 and 3 Vendor hereby certifies that, except as described in attached Schedule A:**

- a. Vendor (or its parent) has not, within the five (5) year period preceding the date of this Disclosure Statement, been debarred, suspended, proposed for debarment declared ineligible or voluntarily excluded from any transactions by any federal, state or local unit of government;
- b. No officer or director of Vendor (or its parent) or individual listed in Section 1a. is presently indicted for or otherwise criminally or civilly charged by a governmental entity (federal, state or local) with commission of any offense;
- c. Vendor (or its parent) has not, within the five (5) year period preceding the date of this Disclosure Statement, had one or more public transactions (federal, state or local) terminated for cause or default;
- d. No officer or director of Vendor (or its parent) or individual listed in Section 1a. has, within the five (5) year period preceding the date of this Disclosure Statement, been convicted, adjudged guilty, or found liable in any criminal or civil action instituted by the City, the federal or state government or any other unit of local government; and
- e. Neither Vendor, nor its parent, nor any affiliated entity of Vendor, or any of their respective officers, directors, or individuals listed in Section 1a. is barred from contracting with any unit of any federal, state or local government as a result of engaging in or being convicted of: (i) bid-rigging; (ii) bid-rotating; or (iii) any similar federal or state offense that contains the same elements as the offense of bid-rigging or bid-rotating
- f. Pursuant to IC 5-22-16.5, Vendor hereby certifies they do NOT provide \$20 million dollars or more in goods or services to the energy sector of Iran. Vendor also certifies it is not a financial institution that extends \$20 million dollars or more in credit that will provide goods or services to the energy sector of Iran or extends \$20 million dollars or more in credit to a person identified on the list as a person engaging in investment activities in Iran.

SECTION 004586  
CONFLICT OF INTEREST

The disclosures contained Sections 1, 2 and 3 and the foregoing Certifications are submitted by

Exterior Service LLC  
(Name of Vendor)

PO Box 9134 Fort Wayne IN 46809  
Address  
(260) 431-8813  
Telephone  
Nathan@ext-service.com  
E-Mail Address

The individual authorized to sign on behalf of Vendor represents that he/she: (a) is fully informed regarding the matters pertaining to Vendor and its business; (b) has adequate knowledge to make the above representations and disclosures concerning Vendor; and (c) certifies that the foregoing representations and disclosures are true and accurate to the best of his/her knowledge and belief.

Name (Printed) Nathan Wilson Title owner

Signature  Date 05-06-2021

**NOTE: FAILURE TO COMPLETE AND RETURN THIS FORM WITH YOUR DOCUMENTATION MAY RESULT IN YOUR CONTRACT, OFFER, BID OR PROPOSAL BEING DISQUALIFIED FROM CONSIDERATION.**

END OF SECTION 004586



Drug Policy Acknowledgement Form



FORT WAYNE  
PARKS AND  
RECREATION

Pursuant to Article 19.08B of the Instructions to Bidders, Contractor acknowledges the City of Fort Wayne has in place Drug and Alcohol Policy that applies to any Contractor doing business with the City. A copy of this policy is available for inspection on the City of Fort Wayne website at: <http://www.citvoffortwayne.org/purchasing-home.html>. As a condition of being awarded any contract, the successful Bidder shall sign this Drug Policy Acknowledgement and agree to be bound by those provisions of the policy that may be applicable. A copy of this form will be retained by the City of Fort Wayne.

The undersigned, on behalf of the Contractor deposes and states that the Contractor acknowledges the City of Fort Wayne's Alcohol and Drug Policy.

Exterior Service LLC  
Name of Company

Nathan Wilson Owner  
Name and Title

Drug Policy Acknowledgement Form  
00 54 52-1

END OF SECTION 004587



### Non-Collusion Affidavit

The undersigned bidder or agent, being duly sworn on oath, says that he/she 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 at such letting nor to prevent any person from bidding nor to include anyone to refrain from bidding, and that this bid is made without reference to any other bid and without any agreement, understanding or combination with any other person in reference to such bidding.

He/She further says that no person or persons, firms, or corporation has, have or will receive directly or indirectly, any rebate, fee gift, commission or thing of value on account of such sale.

#### OATH AND AFFIRMATION

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

Dated this 6<sup>th</sup> day of May, 2021

Exterior Service LLC  
(Name of Organization)

owner  
(Title of Person Signing)

[Signature]  
(Signature)

#### ACKNOWLEDGEMENT

STATE OF Indiana  
COUNTY OF Allen )<sup>ss</sup>

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 me this 6 day of May, 2021

[Signature]  
Notary Public Signature

My Commission Expires: July 9, 2022





FORT WAYNE  
PARKS AND  
RECREATION

**Franke Park  
3411 Sherman Blvd  
Ft. Wayne, IN 46808**

***Franke Park Drainage Improvements***

Quest eBidDoc #7766550

**CITY OF FORT WAYNE  
PARKS AND RECREATION DEPARTMENT  
FORT WAYNE, INDIANA  
April 19, 2021**

**Project No. 221010  
Quotes Due: May 6, 2021 – 11 am**

**Set No. \_\_\_\_\_**

**PROJECT MANUAL  
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END OF TABLE OF CONTENTS

## DOCUMENT 000115 - LIST OF DRAWING SHEETS

## 1.1 LIST OF DRAWINGS

- A. Drawings: Drawings consist of the Contract Drawings and other drawings listed on the Title Sheet or Table of Contents page of the separately bound drawing set, as modified by subsequent Addenda and Contract modifications.
- B. List of Drawings: Drawings consist of the following Contract Drawings and other drawings of type indicated:
  - 1. **Title Sheet**
  - 2. **Sheet 1 – Demolition & Endangered Species Protection Plan**
  - 3. **Sheet 2 – Demolition & Endangered Species Protection Plan**
  - 4. **Sheet 3 – Layout & Earthwork Plan**
  - 5. **Sheet 4 – Layout & Earthwork Plan**
  - 6. **Sheet 5 – Planting, Seeding & Erosion Control Plan**
  - 7. **Sheet 6 – Planting, Seeding & Erosion Control Plan**
  - 8. **Sheet 7 – Plant, Seed & Material Lists**
  - 9. **Sheet 8 – Sections/Construction Details**
  - 10. **Sheet 9 – Sections/Construction Details**
  - 11. **Sheet 10 – Construction Details**
  - 12. **Sheet 11 – Construction Details**

END OF DOCUMENT 000115

## DOCUMENT 001116 - INVITATION TO QUOTE

## 1.1 PROJECT INFORMATION

- A. Notice to Quoters: Qualified bidders are invited to submit bids for the Project as described in this Document according to the Instructions to Quoters.
- B. Project Identification: Franke Park Drainage Improvements, Project 221010.
  - 1. Project Location: Franke Park, 3411 Sherman Blvd., Ft. Wayne, IN 46808
- C. Owner: City of Fort Wayne Parks and Recreation.
  - 1. **Owner's Representative:**  
**Chad Shaw, Superintendent of Landscape & Horticulture**  
**[chad.shaw@cityoffortwayne.org](mailto:chad.shaw@cityoffortwayne.org)**  
**(260) 427-6027**
- D. Architect: Owner
- E. Project Description: Work shall provide for a complete installation, and shall be carried out in a timely manner according to the Contract Documents.
  - 1. Base Quote: All work described in Contract Documents
  - 2. Alternate Quote: none
- F. Construction Contract: Quotes will be received for the following Work:
  - 1. General Contract (all trades).

## 1.2 QUOTE SUBMITTAL AND OPENING

- A. Owner will receive sealed quotes until the quote time and date at the location indicated below. Owner will consider quotes prepared in compliance with the Instructions to Quoters issued by Owner, and delivered as follows:
  - 1. **Quote Date: Thursday, May 6, 2021**
  - 2. **Quote Time: 11:00AM EDT**
  - 3. **Location: [www.QuestCDN.com](http://www.QuestCDN.com)**
- B. Refer to "Instructions to Quoters" Section 002113 for required submittal documents.

## 1.3 PRE-QUOTE MEETING

- A. A Pre-Quote Meeting for all quoters will be held prior to bids due. Prospective quoters are requested to attend.

1. **Location:** 3411 Sherman Blvd., Ft. Wayne, IN 46802; Pond Pavilion
2. **Date:** Tuesday, April 27, 2021
3. **Time:** 1:00 p.m., local time

B. Attendance:

1. Prime Quoters: Attendance at Pre-Quote Meeting is recommended.
2. Subcontractors: Attendance at Pre-Quote Meeting is recommended.

C. Quoter Questions: Submit written questions to be addressed at Pre-Quote meeting minimum of two business days prior to meeting.

D. Agenda: Pre-Quote meeting agenda will include review of topics that may affect proper preparation and submittal of bids. Agenda will be available at the meeting.

#### 1.4 DOCUMENTS

- A. Electronic Documents: Available via download at [www.QuestCDN.com](http://www.QuestCDN.com)

#### 1.5 TIME OF COMPLETION & AND LIQUIDATED DAMAGES

- A. Successful quoter shall begin the Work on receipt of the Notice to Proceed and shall complete the Work within the Contract Time. Incomplete work by Contract Time is subject to liquidated damages in the amount of **\$200.00** per calendar day.

#### 1.6 QUOTER'S QUALIFICATIONS

- A. Quoters must be properly licensed under the laws governing their respective trades and be able to obtain insurance required for the Work. Refer to "Instructions to Quoters" Section 002113 for required submittal documents.

END OF DOCUMENT 001116

DOCUMENT 002113 - INSTRUCTIONS TO BIDDERS

1.1 INSTRUCTIONS TO BIDDERS

**A. BOARD OF PARK COMMISSIONERS  
CITY OF FORT WAYNE, INDIANA  
Non-Federally Funded Construction**

- B. Bids shall include labor, material, and all services necessary to complete the project in strict accordance with the Drawings and Specifications as prepared and on file in the office of the Owner.
- C. Bids shall be submitted as lump sum on the Bid Form provided and will be received as a Unified Contract.
- D. Indiana State Gross Retail and Use Tax are not to be included in the Bid Price, as Fort Wayne Parks and Recreation Department is tax exempt. The provision shall apply both to transactions between Fort Wayne Parks and Recreation Department and the Unified Contractor and any subcontractors and to transactions between the material to the Unified Contractor.
- E. Bids shall not be modified, withdrawn or canceled, without the Owner's written consent, for a period of ninety (90) calendar days commencing from the day Bids are received.
- F. The successful Bidder shall be required to furnish insurance covering Workmen's Compensation, Public Liability and Property Damage and any other which may be required before the issuance of the Contract.
- G. The Owner reserves the right to waive any and all formalities and informalities or to reject any and all Bids. The Owner shall accept Bids which, in its judgement, are in its own best interests. Bids received after the time set to receive Bids shall be returned unopened.
- H. The Contractor shall be responsible for obtaining required permits from local, state and federal agencies as required to perform and complete the work as indicated in the Contract Documents. Costs associated with permits shall be included in the Contractor's Bid.

[ x ] **INCLUSION OF CLAUSES.** If a clause in this Instruction to Bidders (ITB) has a box beside it [ ], the clause applies to the ITQ only if it contains a check mark or an "X". Any questions as to whether a clause is included or not, should be referred to the Fort Wayne Parks and Recreation Project Administration Section.

[ x ] **SUBMITTING A BID.** Before submitting a bid, each bidder shall examine the Drawings carefully and shall read the Specifications and all other proposed Contract Documents. Each bidder shall fully inform themselves prior to quoting as to the existing conditions and limitations under which the Work is to be performed, and shall include in their bid a sum to cover all the cost of items necessary to perform the work as set forth in the proposed Contract Documents. No allowance will be made to a bidder because of lack of such examination or knowledge. The submission of a bid will be considered as conclusive evidence that the bidder has made such examination.

Bidders shall assume the responsibility, on behalf of his subcontractors and material suppliers for obtaining and verifying all measurements and their accuracy at the site which are applicable to any and all materials and labor to be furnished by them or furnished to others for installation. No request for addi-

tional compensation, or omission of work, from the contract which is due to failure of the Bidder in this regard, if ultimately awarded such, will be considered.

If a bidder finds discrepancies in, or omissions from, the bid document or has questions about the project, he should at once contact the Fort Wayne Parks and Recreation Project Administration Section. Interpretation or correction of proposed Contract Documents will be made only by Addendum and will be mailed or faxed to each General Contract Bidder of record. The Owner will not be responsible for any other explanations or interpretations of the proposed Contract Documents.

Bids shall be submitted via the [www.QuestCDN.com](http://www.QuestCDN.com) website. Bid shall include completed forms and documents as required in the contract documents. The City of Fort Wayne will not accept any late filing regardless of reason, including technical difficulties. Bids shall include the exact quantities of each item shown on the quoting form for each section of the work, unless the Instructions to Bidders otherwise states. No bids received after the time fixed for receiving them will be considered. Late bids shall not be permitted for submission. Hardcopy, oral, telephonic or telegraphic bids are invalid and will not receive consideration.

No bid will be accepted from, or contract awarded to any person, firm, or corporation that is in arrears to the City of Fort Wayne, Indiana, upon any debt or contract, or, who has failed to execute, in whole or in part in a satisfactory manner, any contract with the City; or, who is a defaulter as to surety or otherwise, upon any obligation to the City of Fort Wayne, Indiana. The Fort Wayne Parks and Recreation may debar or suspend a participant and/or, affiliate from contract awards to protect the public interest and the City of Fort Wayne, for any of the clauses referenced in the Determination of Responsibility.

A bidder may withdraw their bid, either personally or by written request, at any time prior to the scheduled day and hour of bids being due. No bidder may withdraw their bid for a period of ninety (90) calendar days after the date set for opening thereof, and bids shall be subject to acceptance by the Owner during this period.

If the Bidder has any proprietary information that cannot be disclosed, the proprietary information should be submitted as a separate package. Bidder/Proposer must understand that all information submitted is subject to public records request after award is made. If proprietary information is requested bidder/proposer will be contacted and given an opportunity to defend its position that the information is proprietary.

**[ x ] LOCATION OF SUBMITTING A BID**

[ x ] Bids shall be submitted electronically via the [www.QuestCDN.com](http://www.QuestCDN.com) website on or before the day and hour set forth in the Invitation to Bidders. No quote received after that time will be accepted.

[ x ] **BID BOND OR DEPOSIT.** Each bid must be accompanied by a bond executed by the bidder and surety satisfactory to the Fort Wayne Parks and Recreation in a sum of **five percent (5%)** of the aggregate amount of the bid, but in no case less than \$100.00; or the bidder may deposit with the Fort Wayne Parks and Recreation in lieu of such bond, a certified check on a solvent bank in a sum of **five percent (5%)** of the aggregate bid or proposal, but in no case less than \$100.00, which certified check shall be payable to the Fort Wayne Board of Park Commissioners. The bid bond or certified check shall serve as a guarantee that should the said bid be accepted by the Fort Wayne Parks and Recreation, the bidder will, within ten (10) calendar days after the time he is notified of the acceptance of the bid, enter into a contract with the Fort Wayne Parks and Recreation Department for the work bid upon and give bond with surety to be approved by the Fort Wayne Parks and Recreation Department insuring the faithful completion of the contract.

In case a bid is not accepted, the obligation of the said bond shall be null and void or the certified check

will be returned to the bidder, as the case may be. In case a bid is accepted, and the bidder does not enter into a contract with the Fort Wayne Parks and Recreation Department for the work bid upon within ten (10) days after notification of award, then the obligation of the bond or the certified check shall be forfeited to the Fort Wayne Parks and Recreation Department for ascertained and/or liquidated damages for failure to enter into a contract. Provided that the Fort Wayne Parks and Recreation's action in forfeiting the bond or retaining the certified check shall not preclude the Fort Wayne Parks and Recreation from taking any further action against the contractor to recover for all actual damage the Fort Wayne Parks and Recreation has suffered.

**DOCUMENTS REQUIRED WITH EACH BID.** The following documents must be completed, endorsed, and submitted with each bid. See also section titled "VENDOR COMPLIANCE FORMS".

- Bid Form
- Bid Bond
- \*Affirmative Action Program - Certification of Non-segregated Facilities. Once received, these forms will be kept on record for a period of one (1) year. This will eliminate the need to submit these forms with each bid. Your bid will be considered incomplete if you fail to submit these documents to the Office of Vendor Compliance as required.
- Certificate in lieu of Financial Statement
- Emerging Business Enterprise (EBE) Declaration Form
- Form 96, including all required attachments
- Indiana Contractor Certification Form
- Conflict of Interest (Submit on form provided or on company letterhead)
- Drug Policy Acknowledgement Form
- E-Verify Form
- Non-Collusion Affidavit
- Performance and Payment Bond (file at time of award)
- List of Subcontractors and Suppliers
- Affidavit and Waiver of Lien (file at time of invoice)
- Schedule of Values
- Estimated Construction Schedule

\* Effective immediately, bidders are required to submit the following form annually to the Office of Vendor Compliance, Citizens Square, 200 East Berry Street, Suite 490, Fort Wayne, IN 46802.

**ANTI-DISCRIMINATION UNDER INDIANA CODE CHAPTER 5-16-6-1.**

The contractor agrees as follows:

1. That in the hiring of employees for the performance of work under the contract or any subcontract hereunder, no contractor or subcontractor, nor any person acting on behalf of such contractor or subcontractor, shall, by reason of race, religion, color, sex, national origin or ancestry, discriminate against any resident of the State of Indiana who is qualified and available to perform the work to which the employment relates;
2. That no contractor, subcontractor, nor any person on his behalf shall in any manner discriminate against or intimidate any employee hired for the performance of work under the contract on account of race, religion, color, sex, national origin or ancestry;
3. That there may be deducted from the amount payable to the contractor by the City of Fort Wayne under the contract a penalty of five dollars (\$5.00) per person for each calendar day during which such person is discriminated against or intimidated in violation of the provisions of the contract; and,
4. That the contract may be cancelled or terminated by the City of Fort Wayne and all money due or to become due hereunder may be forfeited for a second or any subsequent violation of the terms of conditions of this clause.

- [ x ] **ANTI-DISCRIMINATION UNDER CODE OF THE CITY OF FORT WAYNE, SECTION 93.036.** In the performance of work under the contract or any subcontract hereunder the contract, subcontractor, and any person acting on behalf of such contractor or subcontractor will not discriminate against any person who is qualified and available to perform the work to which the employment relates.
1. The contractor, subcontractor, or any person acting on behalf of such contractor or subcontractor will not obstruct the enforcement of this provision.
  2. The contractor, subcontractor, or any person acting on behalf of such parties will not retaliate against any person because of good faith, reasonable actions taken to overcome, alleviate, or report discrimination.
  3. Enforcement of this chapter shall be through order of City of Fort Wayne in the following manner:
    - a. Whenever any member of the Division of the City of Fort Wayne awarding this contract, or whenever a Compliance Officer of the City of Fort Wayne has reason to believe that any of the provisions of this clause and of Chapter 93.036 have been violated, the matter may be referred to the Metropolitan Human Relations Commission for investigation and initiation of discrimination charges against the contractor or subcontractor. Cases over which the Metropolitan Human Relations Commission has no jurisdiction shall be investigated by the Compliance Officer of the City.
    - b. A final order of the Metropolitan Human Relations Commission shall be forwarded to the Compliance Officer of the City of Fort Wayne and to the Division awarding the contract which may invoke one of the remedies set forth in subsection (c) of the clause. If it is a matter over which the Metropolitan Human Relations Commission does not have jurisdiction, the Division awarding the contract shall conduct a hearing to determine whether there has been a breach of Ordinance Chapter 93.036.
    - c. If the division awarding the contract determines that a contractor, subcontractor, or any person acting on behalf of such contractor or subcontractor has violated any provisions of Ordinance Chapter 93.038, whether discrimination, obstructing, retaliating, or otherwise, the Division awarding the contract may:
      - 1) Deduct from the amount of payable to the contractor by the City of Fort Wayne under such contract the sum of not less than ten dollars (\$10.00) per day, nor more than one thousand dollars (\$1,000.00) per day per each violation. Each day upon which the violations exist shall be deemed a separate offense.
      - 2) The Division of the City awarding the contract may cancel or terminate this contract, and all money due or to become due under the contract may be forfeited for a second or any subsequent violation of Chapter 93.038.

[ x ] **ASSISTANCE.** Questions regarding the instructions, special conditions, plans or specifications, shall be directed to the following offices:

1. Fort Wayne Parks and Recreation
  - a. Dave Weadock, Manager of Project Administration  
david.weadock@cityoffortwayne.org  
(260) 427-6417
  - b. Troy Bates, Project Coordinator  
troy.bates@cityoffortwayne.org  
(260) 427-6922
  - c. Jacob Clasen, Project Coordinator  
jacob.clasen@cityoffortwayne.org  
(260) 427-6412

2. Office of Vendor Compliance:
  - a. Jessica Bucher, Compliance Officer, Purchasing  
jessica.bucher@cityoffortwayne.org  
(260) 427-2445

**VENDOR COMPLIANCE FORMS.** The City's contract is with the Prime Contractor; therefore, the Prime Contractor is responsible for the compliance of all suppliers, subcontractors, and lower-tier subcontractors. It is also the responsibility of the Prime Contractor to ensure inclusion of applicable labor standard provisions, wage determinations, and compliance forms to the various firms. All documentation will be sent to the Prime Contractor, who shall carefully review payrolls & compliance information (including their own) before submitting the information to the Compliance Office. If the Prime Contractor suppliers, subcontractor, or lower-tier subcontractor, fails to provide the Office of Vendor Compliance with the required reporting documentation, or other requested information, any penalties or sanctions will apply to the Prime Contractor. The City of Fort Wayne Office of Vendor Compliance is the contact office for the following items, not the Fort Wayne Parks and Recreation Project Administration Section. 5% retainage will be withheld until the Contractor submits all required contract documentation, and is found to be acceptable to the Office of Vendor Compliance.

In accordance with applicable Federal, State, and Local regulations, please be advised of the following required compliance forms:

- WAGE SCALE REPORT:** Prime and subcontractors submit prior to start of construction, and shall ensure all classifications are listed. If a classification is not present, the Prime Contractor must contact the Office of Vendor Compliance immediately with supporting data. Sub classifications must be specific (i.e., whenever laborers are paid different wage rates for "finish" than rough work, it must be separated and recorded on the wage scale report and payroll form.).
  - SUBCONTRACTOR ELIGIBILITY FORM:** Subcontractors and suppliers submit prior to start of construction. Prime Contractor shall not contract with subcontractor, lower-tier subcontractor or supplier suspended or debarred by the State, or the City of Fort Wayne.
  - MONTHLY EMPLOYMENT REPORT:** Prime and subcontractors submit on a monthly basis for "this project only". The form references employee work hours by trade, based on race and sex for each month there was activity.
  - MANPOWER UTILIZATION SUMMARY:** Prime submits project-end report within ten (10) days "after" completion of project. The report comprises all firms who contracted on the project, including the total number of workforce hours broken down by race, sex, and minorities. Minority Business Enterprises, Women Business Enterprises, & Emerging Business Enterprises contract dollar amount and participation percentage is inclusive, if applicable.
  - EMPLOYEE INTERVIEWS:** Employee interviews may be done on site by Compliance staff.
  - APPRENTICE EMPLOYMENT:** The Prime and / or subcontractor, is required to furnish the Compliance Office with the apprentice appropriate wage rate and provide written evidence of the bona fide apprenticeship program of the 'first' payroll. Approved programs include those registered with the U. S. Department of Labor, Employment & Training Administration, Bureau of Apprenticeship and Training, or with an approved State apprenticeship agency.
- AWARD OF CONTRACT.** After bids are opened and read, the Fort Wayne Parks and Recreation Department will examine to determine if they are responsive. In order to be responsive, the bidder must complete all blanks requiring completion and must submit all information required to be submitted. The Fort Wayne Parks and Recreation reserves the right to reject any and all bids for failure to comply with applicable laws and/or with the Instruction to Bidders. The Fort Wayne Parks & Rec. Dept. also reserves the right to waive any defect in any bid and to reject bid due to funding constraints.

Each Contractor and Subcontractor performing Work in connection with the Project shall meet one of the classifications in the Contractor Tier, as defined in the Supplementary Conditions.

Each Tier 1 Contractor shall contribute at least 15% of the Contract Price, as determined on the date the Contract is awarded, in (1) labor performed by the Tier 1 Contractor's employees; (2) materials supplied directly by the Tier 1 Contractor; (3) services supplied directly by the Tier 1 Contractor's employees; or (4) any combination of (1) through (3).

Prior to awarding any contract pursuant to this Bid, the Fort Wayne Parks and Recreation will make a determination of responsibility. An award of a contract to a bidder shall constitute an affirmative determination of responsibility.

In reaching a determination of responsibility, Fort Wayne Parks & Rec. may consider these factors:

- (a) The Contractor's record of integrity.
- (b) The Contractor's experience and past performance record in construction work.
- (c) The Contractor's financial status.
- (d) The Contractor's capability to perform the project.
- (e) Whether the bidder is in arrears upon or in default of any debt, contract or other obligation to the City of Fort Wayne.
- (f) Whether the bidder is debarred from Federal, State or City of Fort Wayne contracts.
- (g) Whether the bidder is engaged in litigation with the City of Fort Wayne.

In arriving at a determination of responsibility, the Fort Wayne Parks and Recreation may institute a pre-award survey on any or all bidders. That pre-award survey may examine any of the considerations relating to a bidder's responsibility as set forth above. Bidders will cooperate with the pre-award survey. Failure to cooperate can result in a finding of non-responsibility.

The Contract will be awarded to the lowest legal bidder complying with the conditions of the Contract Documents, provided their bid is reasonable, and it is in the interest of the Owner to accept it. If bids are otherwise equal, award will be made to that bidder granting the largest prompt payment discount. The Fort Wayne Parks and Recreation reserves the right to reduce any quantities as a result of funding constraints. The bidder, to whom the award is to be made, will be notified at the earliest possible date. The Owner, however, reserves the right to reject any and all bids, and waive any informality in bids received whenever such rejection or waiver is in the interest of the Owner.

- It is the intent of the Owner to award the Contract to One Contractor.
- It is the intent of the Owner to award the Contract to One Contractor. The Owner reserves the right to accept all, none, or any of the requested Base Bids and Alternates.
- The Owner reserves the right to award separate Contracts for each requested Base Bids if it is in the interest of the Owner to do so.
- The Owner reserves the right to award separate Contracts for each requested Base Bids if it is in the interest of the Owner to do so. The Owner reserves the right to accept all, none, or any of the requested Alternates for each Base Bid.

**COMMON WAGE SCHEDULE PAYMENTS - PURSUANT TO INDIANA CODE 5-16-7-1.**

All contractors and subcontractors working on the project awarded pursuant to this contract shall pay the common wage rates for skilled, semi-skilled, and unskilled laborers. This wage determination has been made in accordance with the procedures set forth in Indiana Code 5-16-7-1. This determination and the required wage rates are included in the Project Manual.

If a bidder is awarded a contract, he shall file a schedule of wages, on forms provided by the City of Fort Wayne Vendor Compliance Office. Penalties for failure to pay common construction wage rate are set forth in Indiana Code 5-16-7-3. The successful prime contractor shall be responsible for obtaining schedules from all subcontractors. All scheduling shall be filed before the contractor commences any work on the project.

In the event of failure or refusal of the Prime Contractor, Subcontractor, or lower-tier Subcontractor to comply with the appropriate employee wage rate, action will be taken to satisfy the wage discrepancy. This includes, but is not limited to the withdrawal of the dollar amount "due" from the Prime Contractor's progress payment, and / or, withholding any progress or retainage payment.

- [ x ] **PERFORMANCE AND PAYMENT BOND.** Approved Performance and Payment bonds guaranteeing faithful and proper performance of the work and materials, to be executed by an acceptable surety company, will be required of each Contractor, at his own expense, at the time he executes his contract. The bond will be in the amount of 100 percent (100%) of the contract price, and must be in full force and effect for a period of twelve (12) months from the date of acceptance of the final payment for the work. The Performance Bond shall contain the following clause: "The said Surety, for value received, hereby stipulates and agrees, that no change, extension of work to be performed thereunder, or the specifications accompanying the same, shall in any way affect its obligation on this bond, and it does hereby waive notice of any change, extension of time, alteration or addition to the terms of the contract, or to the work of specification."
- [ x ] **COUNCILMANIC APPROVAL AND RATIFICATION OF CONTRACT.** If required by City Ordinance, the contract for the work specified herein, although executed on behalf of the City by the Mayor and the Board of Park Commissioners, shall not be binding upon the City; unless, and until the contract has been ratified and approved by the Common Council of the City of Fort Wayne, Indiana. And, if the Common Council fails to approve the contract within ninety (90) days after the date of bid opening, then the Contractor shall not be bound to the contract unless he elects to be so bound.
- [ x ] **LIQUIDATED DAMAGES.** It is hereby agreed by and between the Fort Wayne Parks and Recreation and Contractor, time is of the essence of this agreement. The agreement will include a stipulation that liquidated damages will be established in the amount of \$200.00 per calendar day for each calendar day after the agreed completion date that the Work is not fully certified by the Owner's Representative as being Substantially Complete.

**Substantial Completion Date: November 26, 2021**  
**(Contractor receipt of Purchase Order shall serve as Notice to Proceed)**

The Contractor shall not be charged with liquidated damages or any excess cost when the Owner determines that the Contractor is without fault and the Contractor's reasons for the time extension are acceptable to the Owner; provided that the Contractor gives to the Owner a written request for time extension within ten (10) calendar days from the event giving rise to the claim. The parties further agree that causes beyond the control of the contractor may delay the completion date. Delays beyond the control of the Contractor are limited to the following: Acts of God, strikes, lockouts or industrial disturbances, acts of public enemies, restraining orders of any kind by the government of the United States of America, or, of the State of Indiana, or any of their departments, agencies, or officials, or any civil or military authority, insurrections, riots, landslides, earthquakes, fires, incapacitating storms, floods, and explosions.

- [ x ] **EMERGING BUSINESS ENTERPRISE (EBE) PARTICIPATION GOAL.**  
[ x ] Pursuant to Executive Order 90-01 (as amended 05/08/06), the City of Fort Wayne has established a 10% goal of the contract dollar amount on construction projects to Emerging Business Enterprises (EBE). If the Prime Contractor is unable to meet the goal, he must request a Waiver / Reduction Form from the City of Fort Wayne Office of Vendor Compliance, document the efforts taken, or other rationale for not complying with the Order, and return the form to the Compliance Office prior to request for final payment. If the explanations are unaccepta-

ble, a recommendation will be made to the Owner that the contract dollar amount be reduced by the undistributed 5% retainage. Contact the Office of Vendor Compliance, 427-1370 for more information. For a current list of companies that are EBE's, go to the City of Fort Wayne's website at: [www.cityoffortwayne.org](http://www.cityoffortwayne.org), then click on Public Works, then click on Vendor Compliance, then scroll down to Certified EBE/MBE Enterprise Directory.

- The 10% Emerging Business Enterprise (EBE) and Minority Business Enterprise (MBE) participation goal has been waived by the City of Fort Wayne Vendor Compliance Office for this project. Participation from EBE and MBE Contractors, though not required, are still encouraged.
- ESCROW AGREEMENT.** Pursuant to Indiana State Law IC 36-1-12-14, if the Contract is in excess of \$100,000, the Contract will be subject to the standard City of Fort Wayne Board of Park Commissioners Escrow Agreement. Two separate Purchase Order numbers will be generated, 95% of the Contract price in the name of the Contractor, and 5% of the contract price in the name of the Contractor's Escrow Agent. 100% of the Contract price will be paid to the Contractor; however, payments to the Contractor are not to exceed 95% of the total Contract amount until the Owner has verified that the Contractor has completed all Punch List items, made good faith efforts to attain the EBE goal if it was required, and all Vendor Compliance documentation has been approved by the Office of Vendor Compliance. Payment of the final 5% of the Contract amount will be dependent upon good faith efforts to comply with the aforementioned sentence, and subject to reduction in the event of non-compliance. A Copy of a blank Escrow Agreement is included in this Project manual for review.
- ALCOHOL AND DRUG POLICY.** The City of Fort Wayne has in place an Alcohol and Drug Policy that also applies to any Contractor doing business with the City of Fort Wayne. A copy of the policy is available for inspection in the office of Risk Management, Citizens Square, 200 E. Berry St., Fort Wayne, Indiana. The successful Contractor will be furnished a copy of said policy and as a condition of being awarded any contract, the successful Contractor shall execute and acknowledgment of receipt of said policy and agree to be bound by the provisions of the policy that may be applicable.
- E-Verify AFFIDAVIT.** Pursuant to IC 22-5-1.7, Contractor shall enroll in and verify the work eligibility status of all newly hired employees of Contractor through the E-Verify Program ("Program"). As a condition of being awarded any contract, the successful Bidder shall execute the E-Verify Affidavit, affirming that Contractor does not knowingly employ an unauthorized alien and further affirming that Contractor has enrolled and is participating in the E-Verify Program. The E-Verify Affidavit shall be submitted, by the successful bidder, with the signed Owner-Contractor Agreement.

END OF DOCUMENT 002113

## DOCUMENT 002600 - PROCUREMENT SUBSTITUTION PROCEDURES

## 1.1 DEFINITIONS

- A. Procurement Substitution Requests: Requests for changes in products, materials, equipment, and methods of construction from those indicated in the Procurement and Contracting Documents, submitted prior to receipt of bids.
- B. Substitution Requests: Requests for changes in products, materials, equipment, and methods of construction from those indicated in the Contract Documents, submitted following Contract award. See Section 012500 "Substitution Procedures" for conditions under which Substitution requests will be considered following Contract award.

## 1.2 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

## 1.3 PROCUREMENT SUBSTITUTIONS

- A. Procurement Substitutions, General: By submitting a bid, the Bidder represents that its bid is based on materials and equipment described in the Procurement and Contracting Documents, including Addenda. Bidders are encouraged to request approval of qualifying substitute materials and equipment when the Specifications Sections list materials and equipment by product or manufacturer name.
- B. Procurement Substitution Requests will be received and considered by Owner when the following conditions are satisfied, as determined by Architect; otherwise requests will be returned without action:
  - 1. Extensive revisions to the Contract Documents are not required.
  - 2. Proposed changes are in keeping with the general intent of the Contract Documents, including the level of quality of the Work represented by the requirements therein.
  - 3. The request is fully documented and properly submitted.

## 1.4 SUBMITTALS

- A. Procurement Substitution Request: Submit to Owner Representative. Procurement Substitution Request must be made in writing by prime contract Bidder only in compliance with the following requirements:
  - 1. Requests for substitution of materials and equipment will be considered if received no later than 7 days prior to date of bid opening. Fort Wayne Parks and Recreation reserves the right to deny requests for any reason.
  - 2. Submittal Format: Submit Procurement Substitution Request via email and provide (1) copy in written format via regular mail. Include request on company letterhead.

- a. Identify the product or the fabrication or installation method to be replaced in each request. Include related Specifications Sections and drawing numbers.
  - b. Provide complete documentation on both the product specified and the proposed substitute, including the following information as appropriate:
    - 1) Point-by-point comparison of specified and proposed substitute product data, fabrication drawings, and installation procedures.
    - 2) Copies of current, independent third-party test data of salient product or system characteristics.
    - 3) Samples where applicable or when requested by Architect.
    - 4) Detailed comparison of significant qualities of the proposed substitute with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
    - 5) Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
    - 6) Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, which will become necessary to accommodate the proposed substitute.
  - c. Provide certification by manufacturer that the substitute proposed is equal to or superior to that required by the Procurement and Contracting Documents, and that its in-place performance will be equal to or superior to the product or equipment specified in the application indicated.
  - d. Bidder, in submitting the Procurement Substitution Request, waives the right to additional payment or an extension of Contract Time because of the failure of the substitute to perform as represented in the Procurement Substitution Request.
- B. Owner's Action:
1. Owner may request additional information or documentation necessary for evaluation of the Procurement Substitution Request. Architect will notify all bidders of acceptance of the proposed substitute by means of an Addendum to the Procurement and Contracting Documents.
- C. Owner's approval of a substitute during bidding does not relieve Contractor of the responsibility to submit required shop drawings and to comply with all other requirements of the Contract Documents.

END OF DOCUMENT 002600

## SECTION 004113 - BID FORM - STIPULATED SUM (SINGLE-PRIME CONTRACT)

## 1.1 BID INFORMATION

- A. BIDDER: \_\_\_\_\_
- B. Bidder Representative: \_\_\_\_\_
- C. Bidder Address: \_\_\_\_\_
- D. Bidder Phone Number: \_\_\_\_\_
- E. Bidder Email Address: \_\_\_\_\_
- F. Project Name: Franke Park Drainage Improvements
- G. Project Location: 3411 Sherman Blvd., Ft. Wayne, IN 46808
- H. Bid Due: **Thursday, May 6th – 11:00a.m.**  
QuestCDN.com
- I. Owner: Board of Park Commissioners, City of Fort Wayne, Indiana
- J. Owner Project Number: 221010
- K. QuestCDN No.: eBidDoc #7766550

## 1.2 CERTIFICATIONS AND BASE BID

- A. Base Bid (Single-Prime Contract): The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, as prepared by Owner and its consultants, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:

**BASE BID (\$10,000 contingency allowance included):** \$ \_\_\_\_\_

**BASE BID IN WORDS:** \_\_\_\_\_ DOLLARS

The undersigned hereby certifies that all wages paid under this project will meet or exceed the Federal Minimum Wage.

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Date**

**1.3 TIME OF COMPLETION**

- A. The undersigned Bidder proposes and agrees hereby to commence the Work of the Contract Documents on a date specified in a written Notice of Award to be issued by Owner, and shall fully complete the Work as required by Contract Documents.

**1.4 ACKNOWLEDGMENT OF ADDENDA**

- A. The undersigned Bidder acknowledges receipt of and use of the following Addenda in the preparation of this Bid:
1. Addendum No. 1, dated \_\_\_\_\_.
  2. Addendum No. 2, dated \_\_\_\_\_.
  3. Addendum No. 3, dated \_\_\_\_\_.
  4. Addendum No. 4, dated \_\_\_\_\_.

**1.5 CONTRACTOR'S LICENSE**

- A. The undersigned further states that it is a duly licensed contractor, for the type of work proposed, in City of Fort Wayne, Allen County, State of Indiana and that all fees, permits, etc., pursuant to submitting this proposal have been paid in full.

**SUBMITTER**

Company: \_\_\_\_\_ Representative: \_\_\_\_\_

<b>Initials</b>	<b>Required Bid Forms Verification</b>	<b>Date Filed</b>
	Bid Form <input type="checkbox"/>	
	Bid Bond <input type="checkbox"/>	
	Affirmative Action Program – Non-segregated Facilities <input type="checkbox"/>	
	Certificate in Lieu of Financial Statement <input type="checkbox"/>	
	Emerging Business Enterprise (EBE) Declaration Form <input type="checkbox"/>	
	Form 96, Part I - Signed & Notarized <input type="checkbox"/>	
	Form 96, Part II - Signed & Notarized <input type="checkbox"/>	
	Section I, Public Works Experience <input type="checkbox"/>	
	Section II, Work Plan Questionnaire <input type="checkbox"/>	
	Section III, Contractor Financial Statement <input type="checkbox"/>	
	Section IV, Current Contractual Obligations <input type="checkbox"/>	
	Indiana Contractor Certification (projects over \$300,000) <input type="checkbox"/>	
	Conflict of Interests Form <input type="checkbox"/>	
	Drug Policy Acknowledgement Form <input type="checkbox"/>	
	E-Verify Form <input type="checkbox"/>	
	Non-Collusion Affidavit <input type="checkbox"/>	
	Performance and Payment Bond (file at time of award) <input type="checkbox"/>	
	List of Subcontractors and Suppliers <input type="checkbox"/>	
	Affidavit and Waiver of Lien (file at time of invoice) <input type="checkbox"/>	
	Schedule of Values <input type="checkbox"/>	
	Estimated Construction Schedule <input type="checkbox"/>	

The undersigned hereby certifies the above required forms have been fully completed and properly submitted with this bid, and/or are already on file with the City of Fort Wayne.

\_\_\_\_\_  
Signature\_\_\_\_\_  
Date

END OF DOCUMENT 004113



**Non-Common Wage Project**

**Office of Vendor Compliance  
Pre-Construction Conference Presentation**

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

Name: \_\_\_\_\_ Number \_\_\_\_\_

Prime Contractor: \_\_\_\_\_ Award: \_\_\_\_\_

Compliance Officer: Jessica Bucher Email: Jessica.Bucher@cityoffortwayne.org

**Emerging Business Enterprise (EBE) Goal:** The City of Fort Wayne has established a goal that 10% of the contract dollar amount on construction projects be contracted with Emerging Business Enterprises (EBEs). This goal can be met through the use of suppliers and/or subcontractors. **Effective November 5, 2018**, the City of Fort Wayne will allow the goal to be met through supplemental use of Disadvantaged Business Enterprises (DBEs) certified by the State of Indiana Department of Transportation or Minority and Women Business Enterprises certified by the Indiana Department of Administration.

**Waiver/Reduction Form:** If the prime contractor is unable to meet the goal, he/she must submit a Waiver Reduction Request form to the Vendor Compliance Office along with documentation of the efforts made and any other rationale for not complying with the Order. If the request is denied, a recommendation will be made to schedule a hearing with the Board of Public Works. If the denial is upheld the contract dollar amount may be reduced by up to 5%.

**Prime Contractor Self Performance:** The prime/general contractor must perform at least 15% of the total contract price with their own labor force, services or materials.

**Contractor Insurance Requirements:** Any contractor/subcontractor that performs work or provides a service on the project must maintain general liability insurance in at least the amount of \$1 million for each occurrence and at least \$2 million for the general aggregate.

**Compensation in Cash:** Contractors working on public works projects are prohibited from paying their employees in cash.

**INDOT or IDOA Qualification:** On contracts over \$300,000 contractors must be qualified by the Indiana Department of Administration or the Indiana Department of Transportation before performing any work on a public works project.

**Access to Training:** A contractor on a public works project that employs 10 or more employees must provide access to training similar to the tasks to be performed. Training can be offered through any of the following programs: an apprenticeship, Ivy Tech, Vincennes University, a program established by or for the contractor; a program sponsored by the US Department of Labor; or similar.

**Compliance Forms:** The City's contract is with the prime contractor; therefore, the prime contractor is responsible for the compliance of all subcontractors and lower-tier subcontractors. It is the responsibility of the prime contractor to ensure the compliance report forms are given to all subcontractors. If the prime contractor, subcontractor, or lower-tier subcontractor fails to provide our office with the required reporting documents or other requested information, any penalties or sanctions will apply to the prime contractor.

In accordance with applicable Federal, State & City regulations, please be advised of the following required compliance forms:

**Subcontractor/Supplier List:** Prime Contractor will submit a list of subcontractors, lower-tier subcontractors, and suppliers "prior" to start of construction and include name of firm, contact person, phone, address, scope of work/service and dollar amount. The prime contractor shall not contract with a subcontractor, lower-tier subcontractor or supplier who is suspended or debarred by Federal, State Government or the City of Fort Wayne.

**Monthly Employment Report:** Prime contractor, subcontractors, and lower-tier subcontractors submit for each month work is performed (no monthly overlap).

**Manpower Utilization Summary:** Prime contractor submits project-end report within ten (10) days after completion of project.

**Unauthorized Aliens:** All contractors entering into a public contract with the City must enroll in and verify the work eligibility status of all newly hired employees of the contractor through the E-Verify program or any other system of legal residence verification approved by the United States Department of Homeland Security.

The contractor will also be required to sign an affidavit affirming that the contractor does not knowingly employ an unauthorized alien.

If the contractor uses a subcontractor to provide services or work the subcontractor shall certify to the prime contractor that he/she does not knowingly employ an unauthorized alien and has enrolled in and is participating in the E-Verify program or any other system of legal residence verification.

**PERSONS RECEIVING CITY PRESENTATION:**

**Contractor:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Project Engineer:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Consultant:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Compliance Officer:** \_\_\_\_\_ **Date:** \_\_\_\_\_

END OF SECTION 004580



**CITY OF FORT WAYNE**  
**AFFIRMATIVE ACTION PROGRAM**

This Document may be completed electronically at the following website address  
<https://tinyurl.com/COFWAffirmativeAction>

NAME OF COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_ CITY, ZIP CODE \_\_\_\_\_

E-MAIL ADDRESS \_\_\_\_\_ PHONE # \_\_\_\_\_

FAX # \_\_\_\_\_

Identify by title and name the highest official within the facility who has the overall responsibility for the implementation of the Equal Employment Opportunity and Affirmative Action Program.

\_\_\_\_\_  
Name: (please print)

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

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

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

1. Does your firm have a written Affirmative Action Program? \_\_\_\_\_ Yes \_\_\_\_\_ No

A. **If so**, and it contains answers to the questions asked in this program, attach a copy and sign the Written Statement of Company Policy.

B. **If not**, do you accept the following program in meeting the requirements of the City of Fort Wayne? \_\_\_\_\_ Yes \_\_\_\_\_ No

**PLEASE KEEP IN MIND THAT FAILURE TO COMPLETE ALL SECTIONS OF THIS DOCUMENT WILL RESULT IN YOUR PROGRAM BEING REJECTED.**

2. Will your firm make every effort to increase employment of minorities at all levels of its workforce with particular emphasis to categories where few, if any, minority people are employed? \_\_\_\_\_ Yes \_\_\_\_\_ No

3. Current number of employees \_\_\_\_\_

Number of employees in **January of this Year** \_\_\_\_\_

4. If total minority employment is less than 20% give reasons why. (Do not include Females when you figure minority employment percentages.)

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5. List minority recruitment sources below:

<u>Agency</u>	<u>Contact Person</u>	<u>Date</u>
---------------	-----------------------	-------------

6. Does this company anticipate an increase in employment this year? \_\_\_\_Yes \_\_\_\_No

Approximately how many? \_\_\_\_\_

7. What specific goals can you achieve for the employment of minorities in the following labor classifications during 2013:

A. Officials and Managers	_____	%
B. Professionals	_____	%
C. Technicians	_____	%
D. Sales	_____	%
E. Office and Clerical	_____	%
F. Skilled Craftsman	_____	%

G. Other \_\_\_\_\_%

8. **WRITTEN STATEMENT OF COMPANY POLICY**

It is the policy of \_\_\_\_\_ that Equal Employment Opportunity is afforded to all qualified persons without regard to race, sex, religion, color, national origin, disability, age or veteran status.

In support of this policy, \_\_\_\_\_ will not discriminate against any employee or applicant for employment because of race, religion, sex, national origin, sex, age, disability or veteran status.

The \_\_\_\_\_ will take affirmative action to insure that applicants are employed and that employees are treated during employment without regard to their race, religion, color, sex, national origin, disability, age or veteran status. Such action will include but not be limited to: Recruitment, advertising or solicitation for employment hiring, placement, upgrading transfer or demotion, selection for training including apprenticeship rates of pay or other forms of compensation, layoffs or termination.

\_\_\_\_\_  
Name of Company or Firm

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Highest Company Official

\_\_\_\_\_  
Name and Title of Signer

**Please type or print**

STATISTICAL INFORMATION FOR  
AFFIRMATIVE ACTION / VENDOR COMPLIANCE

Name of Contractor or Supplier \_\_\_\_\_

(Information Given By) \_\_\_\_\_

Address and Telephone Number \_\_\_\_\_

Person Filling Out This Form and Data \_\_\_\_\_

EEOC CATEGORY	EMPLOYEES BY RACE/ETHNICITY/SEX									DISABLED EMPLOYEES									TOTAL EMPLOYEES	
	W		BLK		H		OTHER			W		BLK		H		OTHER				
	M	F	M	F	M	F	M	F	(Designate)	M	F	M	F	M	F	M	F	(Designate)		
1. OFFICIAL & ADMINISTRATORS																				
2. PROFESSIONALS																				
3. TECHNICIANS																				
4. OPERATIVES																				
5. LABORER																				
6. OFFICE AND CLERICAL																				
7. SKILLED CRAFT WORKERS																				
8. SERVICE - MAINTENANCE WORKERS																				
9. SALES WORKERS																				
TOTALS																				
PERCENTAGES																				



**CERTIFICATE IN LIEU OF FINANCIAL STATEMENT**

I, \_\_\_\_\_, the \_\_\_\_\_  
Name  
\_\_\_\_\_, of \_\_\_\_\_  
Position Company

HEREBY CERTIFY THAT:

1. The Financial Statement of said Company, dated the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, now on file in the office of Parks and Recreation Department of Fort Wayne, Indiana, made a part hereof, is a true and correct statement, and, accurately reflects the financial condition of said Company, as of the date hereof; and,
2. I am familiar with the books of said Company, showing its financial condition and am authorized to make this certificate on its belief.

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

\_\_\_\_\_  
Signatory

\_\_\_\_\_  
Printed Name of Signatory

ACKNOWLEDGED

SUBSCRIBED AND SWORN to before me, a Notary Public, in and for said County and State, this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
NOTARY PUBLIC

\_\_\_\_\_  
Notary Public Printed Name

A Resident of \_\_\_\_\_ County.  
My Commission Expires \_\_\_\_\_

END OF SECTION 004582

**EMERGING BUSINESS ENTERPRISE (E.B.E.) DECLARATION FORM**

(For Federal Projects, this is an MBE/WBE Declaration Form)

BIDDER MUST CHECK EITHER "A", "B" OR "C" BELOW, TO DECLARE HIS/HER STATUS AS AN E.B.E., OR NON-E.B.E. CONTRACTOR:

- A. \_\_\_\_\_ The undersigned firm declares that it is not an E.B.E. contractor.
- B. \_\_\_\_\_ The undersigned firm declares that it is an E.B.E. contractor. Please specify percentage of the economically disadvantaged individual's ownership: \_\_\_\_\_%.
- C. \_\_\_\_\_ The undersigned declares that it and the firm \_\_\_\_\_, a certified E.B.E., have entered a joint venture to perform this contract, and therefore will be considered to be an E.B.E. contractor for this project.

**If the City has placed an "x" in this space, the project on which you are bidding is a federally funded project. Therefore, the bidder must also identify his/her status as a Minority Business Enterprise (MBE) or Woman Business Enterprise (WBE), if such status exists.**

- D. \_\_\_\_\_ The undersigned firm declares that it is certified MBE Contractor.
- E. \_\_\_\_\_ The undersigned firm declares that it is a Certified WBE Contractor.

Contractor:

Contractor:

\_\_\_\_\_

\_\_\_\_\_

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

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

Its: \_\_\_\_\_

Its: \_\_\_\_\_

NOTE: A successful, non-E.B.E. bidder will be required to sign an "E.B.E. Rider" attached to the final contract. In the Rider, the successful bidder must agree that he/she will make a good faith effort to subcontract 10% of the overall contract amount to E.B.E. - certified subcontractors. A percentage less than 10% may be stipulated by the Owner in the Instructions to Bidders, but it is the Owner's goal to strive for 10%, pursuant to Executive Order 90-01 (as amended 05/08/06) of the City of Fort Wayne.

The contract will be awarded to the lowest bidder who is responsive and responsible. E.B.E. commitment is not a part of the contract award. The successful bidder will be required to sign the E.B.E. Rider or the contract will not be signed by the Owner.

**EBE/MBE/WBE WAIVER/REDUCTION APPLICATION**

Type of Waiver Requested: \_\_\_\_\_ EBE \_\_\_\_\_ MBE \_\_\_\_\_ WBE

Project Resolution Number: \_\_\_\_\_

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

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

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

City, State Zip Code: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Each of the following elements must be present in order to determine whether or not a reduction or waiver is appropriate. Please provide adequate documentation and information to show why a reduction or waiver of the goal is being sought. (If the space given is not sufficient, please attach additional pages as needed.)

1. Please give detailed statement of efforts to identify and select portions of the project to sub contract.

2. Please provide a list of your contact with EBE/M/WBE firms.

Name of firm contacted: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Contact Date & Time: \_\_\_\_\_  
Method:  Phone  Fax  Written  Other (explain): \_\_\_\_\_

Name of firm contacted: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Contact Date & Time: \_\_\_\_\_  
Method:  Phone  Fax  Written  Other (explain): \_\_\_\_\_

Name of firm contacted: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Contact Date & Time: \_\_\_\_\_  
Method:  Phone  Fax  Written  Other (explain): \_\_\_\_\_

[If more contacts were attempted, please attach additional pages of documentation]  
**COPIES OF ALL WRITTEN OR FAX SOLITIFICATIONS MUST BE ATTACHED**

3. If a reduction or waiver is being sought because of reasons other than prices, the contractor must provide the following information:

a. Detailed statement of WHY no EBE/M/WBE firm was subcontracted:

4. If a reduction or waiver is being sought because prices quoted by EBE/M/WBE firms were higher than non-EBE/M/WBE firms, the contractor must provide the following information:

a. Price Quoted:

<u>Contractor</u>	<u>Price Quoted</u>
1.	1.
2.	2.
3.	3.
4.	4.

b. Detailed statement of the work identified for EBE/M/WBE participation for which the contractor asserts the EBE/M/WBE quote(s) was higher than non-EBE/M/WBE firms. Please summarize direct negotiations with EBE/M/WBE firms for specific portions of the work (and document the dates and time when negotiations occurred), and please indicate why negotiations were unsuccessful:

c. Please include other documentations that demonstrate that the EBE/M/WBE quotes were higher than non-EBE/M/WBE firms.

5. Summary:

I, \_\_\_\_\_ of \_\_\_\_\_ (company) hereby

request a reduction of \_\_\_\_\_ % from the EBE/M/WBE participation goal. This request is being sought for the reason explained above.

(If the contractor desires to state further reason why the waiver should be accepted, please attach additional pages.)

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

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

END OF SECTION 004583



**CONTRACTOR'S BID FOR PUBLIC WORK - FORM 96**  
State Form 52414 (R2/2-13) / Form 96 (Revised 2013)  
Prescribed by State Board of Accounts

**PART I**

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

Date (mo / dy / year): \_\_\_\_\_

1. Governmental Unit (Owner): \_\_\_\_\_
2. County: \_\_\_\_\_
3. Bidder (Firm): \_\_\_\_\_  
Address: \_\_\_\_\_  
City / State / ZIP code: \_\_\_\_\_
4. Telephone Number: \_\_\_\_\_
5. Agent of Bidder (if applicable): \_\_\_\_\_

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

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

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

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

**CERTIFICATION OF USE OF UNITED STATES STEEL PRODUCTS**

*(If applicable)*

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

**ACCEPTANCE**

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

Contracting Authority Members:

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

**PART II**

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

Governmental Unit: \_\_\_\_\_

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

Date (mo/dy/year): \_\_\_\_\_

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

**SECTION I EXPERIENCE QUESTIONNAIRE**

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

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

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

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

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

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**SECTION II PLAN AND EQUIPMENT QUESTIONNAIRE**

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

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

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

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

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

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Part of State Form 52414 (R2 / 2-13) / Form 96 (Revised 2013)

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**BID OF**

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*(Contractor)*

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*(Address)*

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**FOR  
PUBLIC WORKS PROJECTS  
OF**

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Filed \_\_\_\_\_

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

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END OF SECTION 004584

## INDIANA CONTRACTOR QUALIFICATION CERTIFICATION

Pursuant to Indiana Code 5-16-13, Contractor hereby certifies that he/she shall be qualified under either IC 4-13-6.4 (Qualification for State Public Works Projects) or IC 8-23-10 (Qualifications of Bidders for Contracts) prior to performing any work on a City of Fort Wayne Board of Park Commissioners Project. Contractor further certifies that subcontractors of Contractor awarded subcontracts on a Public Works Contract in excess of \$300,000 shall be qualified under the applicable statute. Contractor acknowledges that if he/she violates any of the foregoing qualification requirements, he/she shall be ineligible to bid on Public Works Contracts for such time period as the City determines.

\_\_\_\_\_  
Name of Company

By: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Printed Name)

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

END OF SECTION 004585

**CITY OF FORT WAYNE, INDIANA**

\_\_\_\_\_  
(Vendor Name)

**VENDOR DISCLOSURE STATEMENT RELATING TO:**

- 1. FINANCIAL INTERESTS;**
- 2. POTENTIAL CONFLICTS OF INTEREST;**
- 3. CURRENT AND PENDING CONTRACTS OR PROCUREMENTS**

Vendors desiring to enter into certain contracts with the City of Fort Wayne, Indiana (the "City") shall disclose their financial interests, potential conflicts of interest and current and pending contract or procurement information as set forth below.

The following disclosures by Vendors are required for all contracts with annual payments by the City in the amount of \$50,000 or more. Vendors shall disclose their financial interests, potential conflicts of interest and other contract and procurement information identified in Sections 1, 2 and 3 below as a prerequisite for consideration for a contract awarded by the City. This Disclosure Statement must be completed and submitted together with the Vendor's contract, bid, proposal or offer.

A publicly traded entity may submit its current 10K disclosure filing in satisfaction of the disclosure requirements set forth in Sections 1 and 2 below.

**Section 1: Disclosure of Financial Interest in Vendor**

a. If any individuals have either of the following financial interests in Vendor (or its parent), please check all that apply and provide their names and addresses (attach additional pages as necessary):

- (i) Equity ownership exceeding 5%
- (ii) Distributable income share exceeding 5%
- (iii) Not Applicable (If N/A, go to Section 2)

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

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

b. For each individual listed in Section 1a. show his/her type of equity ownership:

sole proprietorship  stock   
partnership interest  units (LLC)   
other (explain) \_\_\_\_\_

c. For each individual listed in Section 1a. show the percentage of ownership interest in Vendor (or its parent):  
ownership interest:

Name: \_\_\_\_\_ %

Name: \_\_\_\_\_ %

**Section 2: Disclosure of Potential Conflicts of Interest (not applicable for vendors who file a 10K)**

For each individual listed in Section 1a. check "Yes" or "No" to indicate which, if any, of the following potential conflict of interest relationships apply. If "Yes", please describe using space under applicable subsection (attach additional pages as necessary):

- a. City employment, currently or in the previous 3 years, including contractual employment for services:  
Yes \_\_\_\_\_ No \_\_\_\_\_

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- b. City employment of "Member of Immediate Family" (defined herein as: *Spouse, Child, Step Child, Parent or Step Parent, Father-in-law or Mother-in-law, Brother or Sister, Step Brother or Step Sister, Half Brother or Half Sister, Brother-in-law or Sister-in-law, Son-in-law or Daughter-in-law, Grandparent or Step Grandparent, Grandparent or Step Grandparent of Spouse, Grandchild*)  
Including contractual employment for services in the previous 3 years:

Yes \_\_\_\_\_ No \_\_\_\_\_

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- c. Relationship to Member of Immediate Family holding elective City office currently or in the previous 3 years: Yes \_\_\_\_\_ No \_\_\_\_\_

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**Section 3: DISCLOSURE OF OTHER CONTRACT AND PROCUREMENT RELATED INFORMATION**

- a. Does Vendor have current contracts (including leases) with the City? Yes \_\_\_\_\_ No \_\_\_\_\_

If "Yes", identify each current contract with descriptive information including purchase order or contract reference number, contract date and City contact below (attach additional pages as necessary).

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- b. Does Vendor have pending contracts (including leases), bids, proposals, or other pending procurement relationship with the City? Yes \_\_\_\_\_ No \_\_\_\_\_

If "Yes", identify each pending matter with descriptive information including bid or project number, contract date and City contact using space below (attach additional pages as necessary).

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- c. Does vendor have any existing employees that are also employed by the City of Fort Wayne?

Yes \_\_\_\_\_ No \_\_\_\_\_

If "Yes", provide the employee's name, current position held at vendor, and employment payment terms (hourly, salaried, commissioned, etc.).

Name / Position / Payment Terms:

\_\_\_\_\_

Name / Position / Payment Terms:

\_\_\_\_\_

Name / Position / Payment Terms:

\_\_\_\_\_

- d. Does vendor's representative, agent, broker, dealer or distributor (if applicable) have any existing employees that are also employed by the City of Fort Wayne? For each instance, please provide the name of the representative, agent, broker, dealer or distributor; the name of the City employee, and the payment terms (hourly, salaried, commissioned, etc.).

Company / Name / Payment Terms: \_\_\_\_\_

Company / Name / Payment Terms: \_\_\_\_\_

#### Section 4: CERTIFICATION OF DISCLOSURES

**In connection with the disclosures contained in Sections 1, 2 and 3 Vendor hereby certifies that, except as described in attached Schedule A:**

- a. Vendor (or its parent) has not, within the five (5) year period preceding the date of this Disclosure Statement, been debarred, suspended, proposed for debarment declared ineligible or voluntarily excluded from any transactions by any federal, state or local unit of government;
- b. No officer or director of Vendor (or its parent) or individual listed in Section 1a. is presently indicted for or otherwise criminally or civilly charged by a governmental entity (federal, state or local) with commission of any offense;
- c. Vendor (or its parent) has not, within the five (5) year period preceding the date of this Disclosure Statement, had one or more public transactions (federal, state or local) terminated for cause or default;
- d. No officer or director of Vendor (or its parent) or individual listed in Section 1a. has, within the five (5) year period preceding the date of this Disclosure Statement, been convicted, adjudged guilty, or found liable in any criminal or civil action instituted by the City, the federal or state government or any other unit of local government; and
- e. Neither Vendor, nor its parent, nor any affiliated entity of Vendor, or any of their respective officers, directors, or individuals listed in Section 1a. is barred from contracting with any unit of any federal, state or local government as a result of engaging in or being convicted of: (i) bid-rigging; (ii) bid-rotating; or (iii) any similar federal or state offense that contains the same elements as the offense of bid-rigging or bid-rotating
- f. Pursuant to IC 5-22-16.5, Vendor hereby certifies they do NOT provide \$20 million dollars or more in goods or services to the energy sector of Iran. Vendor also certifies it is not a financial institution that extends \$20 million dollars or more in credit that will provide goods or services to the energy sector of Iran or extends \$20 million dollars or more in credit to a person identified on the list as a person engaging in investment activities in Iran.

The disclosures contained Sections 1, 2 and 3 and the foregoing Certifications are submitted by

_____	_____
(Name of Vendor)	Address
	( )
	Telephone
	_____
	E-Mail Address

The individual authorized to sign on behalf of Vendor represents that he/she: (a) is fully informed regarding the matters pertaining to Vendor and its business; (b) has adequate knowledge to make the above representations and disclosures concerning Vendor; and (c) certifies that the foregoing representations and disclosures are true and accurate to the best of his/her knowledge and belief.

Name (Printed) \_\_\_\_\_ Title \_\_\_\_\_  
Signature \_\_\_\_\_ Date \_\_\_\_\_

**NOTE: FAILURE TO COMPLETE AND RETURN THIS FORM WITH YOUR DOCUMENTATION MAY RESULT IN YOUR CONTRACT, OFFER, BID OR PROPOSAL BEING DISQUALIFIED FROM CONSIDERATION.**

END OF SECTION 004586



**Drug Policy Acknowledgement Form**



**FORT WAYNE  
PARKS AND  
RECREATION**

Pursuant to Article 19.08B of the Instructions to Bidders, Contractor acknowledges the City of Fort Wayne has in place Drug and Alcohol Policy that applies to any Contractor doing business with the City. A copy of this policy is available for inspection on the City of Fort Wayne website at: <http://www.citvoffortwayne.org/purchasing-home.html>. As a condition of being awarded any contract, the successful Bidder shall sign this Drug Policy Acknowledgement and agree to be bound by those provisions of the policy that may be applicable. A copy of this form will be retained by the City of Fort Wayne.

The undersigned, on behalf of the Contractor deposes and states that the Contractor acknowledges the City of Fort Wayne's Alcohol and Drug Policy.

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Name of Company

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Name and Title

Drug Policy Acknowledgement Form  
00 54 52-1

END OF SECTION 004587

### E-Verify Affidavit

Pursuant to Indiana Code 22-5-1.7, Contractor agrees and shall enroll in and verify the work eligibility status of all newly hired employees of the contractor through the E-Verify program. E-Verify means the electronic verification of work authorization program of the Illegal Immigration Reform and Immigration Responsibility Act of 1996 (P.L. 104-208). Division C, Title IV, s.403(a), as amended, operated by the United States Department of Homeland Security or a successor work authorization program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work authorization status of newly hired employees under the Immigration Reform and Control Act of 1986 (P.L. 99-603). Contractor is not required to verify the work eligibility status of all newly hired employees of Contractor through the E-verify program if the E-Verify program no longer exists.

The undersigned, on behalf of the Contractor, being first duly sworn, deposes and states that the Contractor does not knowingly employ an unauthorized alien. The undersigned further affirms that, prior to entering into its contract with the City, the undersigned Contractor will enroll in and agrees to verify the work eligibility status of all its newly hired employees through the E-Verify program.

\_\_\_\_\_  
Name of Company

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

Title

### ACKNOWLEDGEMENT

STATE OF INDIANA )  
                          ) SS  
COUNTY OF ALLEN)

Before me, a Notary Public, in and for said State and County, personally appeared the within named Company by Name, Title, who being first duly sworn upon his/her oath states that he/she is a duly authorized agent of the Contractor, and as such duly authorized to execute the foregoing Declaration, and acknowledged the same as his/her voluntary act and deed.

WITNESS my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

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

\_\_\_\_\_  
Signature of Notary Public

Resident of \_\_\_\_\_ County

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





**SERVICE AGREEMENT:**

SUPPLIER NAME	CITY DEPARTMENT
STREET ADDRESS	STREET ADDRESS
CITY, STATE, ZIP CODE	CITY, STATE, ZIP CODE
ATTENTION/ PHONE	

Service Description	Rates
<b>Aggregate Price</b>	

The following is made a part of this Agreement:

This Agreement is entered into between Supplier and the City. The additional terms and conditions on the reverse side hereof are part of this Agreement. Capitalized terms on this page are used as defined terms when the context so requires. The City may extend the Contract at its option, for an equivalent period, by written notice to the Supplier not less than thirty days prior to the expiration date.

**SUPPLIER:**

For Independent Contractors: Will any individuals other than yourself perform work on this project? Yes <input type="checkbox"/> No <input type="checkbox"/> <input type="checkbox"/> If yes, see reverse side for Worker's Comp. requirement.	<b>CITY OF FORT WAYNE:</b>
By (Signature):	By (Signature):
Printed Name:	Printed Name:
Date:	Date:

## ADDITIONAL TERMS AND CONDITIONS

1. **SERVICES.** Supplier agrees to perform the Services beginning on the Begin Date and continuing until the Services are completed. Supplier warrants that the Services will be completed on or before the End Date. **TIME IS OF THE ESSENCE.** Supplier warrants that all Services shall conform to the Service Description, be of good quality and workmanship, and be free from defects. Supplier further warrants that all goods furnished in connection with the Services shall be merchantable and suitably safe and sufficient for the purpose for which they are normally used. Supplier warrants that it has good title to goods supplied hereunder and that they are free of all liens and encumbrances. These warranties are in addition to those implied in fact or in law. For the purposes of this Agreement, the term "Services" shall include any goods furnished in connection with the Services.
2. **INVOICES.** Supplier shall invoice the City for Services performed according to the Rates, Billing Interval, and Invoice Address. Invoices shall be rendered in triplicate and shall itemize the Services performed, the Service Address, and the corresponding rates and taxes, if any. Payment shall be due within thirty (30) days after the invoice date or the date of completion of the invoiced Services, whichever occurs later, provided that the City shall not be obligated to make any payment to Supplier hereunder until Supplier has furnished proof satisfactory to the City of full payment for all labor, materials, supplies, machinery, and equipment furnished for or used in performance of this Agreement or has furnished all necessary waivers of lien supported by affidavits, all satisfactory to the City, establishing that all liens and rights to claim liens that could arise out of the performance of the Services have been waived. Payment of invoices shall not constitute acceptance of the Services, and invoices shall be subject to adjustment for defects in quality or any other failure of Supplier to meet the requirements of this Agreement. The City may at any time set off any amount owed by the City to supplier against any amount owed by Supplier or any of its affiliated companies to the City.
3. **INDEPENDENT CONTRACTOR RELATIONSHIP.** City and Supplier are and shall remain as independent contractors with respect to each other. The persons provided by Supplier to perform the Services shall be Supplier's employees and shall be under the sole and exclusive direction and control of Supplier. They shall not be considered employees of the City for any purpose. Supplier shall be responsible for compliance with all laws, rules and regulations involving, but not limited to, employment of labor, hours of labor, health and safety, working conditions, and payment of wages with respect to such persons. Supplier shall also be responsible for payment of taxes, including federal, state and municipal taxes chargeable or assessed with respect to its employees, such as Social Security, unemployment, Workers' Compensation, disability insurance, and federal and state withholding. Supplier shall also be responsible for providing such reasonable accommodations, including auxiliary aids and services, as may be required under the Americans With Disabilities Act, 42 U.S.C. 12101 et seq., so as to enable any disabled person furnished by Supplier to perform the essential functions of the job. Supplier agrees to defend, indemnify, and hold harmless the City from and against any loss, cost, claim, liability, damage, or expense (including attorney's fees) that may be sustained by reason of Supplier's failure to comply with this paragraph.
4. **INDEMNITY.** Supplier shall defend, indemnify, and hold harmless the City (including its officers, employees and agents) from all demands, damages, liabilities, costs, and expenses (including reasonable attorney's fees), judgments, settlements, and penalties of every kind arising out of its performance of Services including, without limitation, damages for personal injury or death or loss or damage to property due, or claimed to be due, to the negligence or willful misconduct of Supplier including such portion thereof due, or claimed to be due, to the negligence of the City except that Supplier shall have no duty to hold harmless the City for such portion of the foregoing proximately caused by negligence or misconduct of the City, and if any suit, claim, or demand was defended by Supplier, then the City will reimburse Supplier for its pro-rata share of its costs, expenses (including reasonable attorney's fees), and damages. The City may elect to participate in the defense of any suit, claim, or demand by employing attorneys at its own expense, without waiving Supplier's obligations to indemnify, defend, or hold harmless. Supplier shall not settle or compromise any claim, suit, or action, or consent to entry of judgment without the prior written consent of the City and without an unconditional release of all liability by each claimant or plaintiff to the City.
5. **LIMITATION OF LIABILITY.** Each party's liability to the other for any loss, cost, claim, liability, damage, or expense (including attorneys' fees) relating to or arising out of any negligent act or omission in its performance of obligations arising out of this Agreement, shall be limited to the amount of direct damage actually incurred. Absent gross negligence or knowing and willful misconduct which causes a loss, neither party shall be liable to the other for any indirect, special or consequential damage of any kind whatsoever.
6. **INSURANCE.** Supplier shall maintain in full force and effect during the performance of the Services the following insurance coverage; provided, however, that if a High Risk Insurance Attachment is attached hereto, the requirements of the High Risk Insurance Attachment shall be substituted in lieu of the following requirements:
 

(a) Worker's Compensation	per statutory requirements *
(b) General Liability	\$1,000,000 minimum per occurrence/ \$2,000,000 aggregate
(c) Automobile Liability	\$1,000,000 minimum per occurrence
(d) Products Liability	\$1,000,000 minimum per occurrence
(e) Completed Operations Liability	\$1,000,000 minimum per occurrence

\* Independent Contractors that hire others and indicate that they do NOT carry workers comp insurance must submit a valid Clearance Certificate approved by the Worker's Compensation Board of Indiana.

The Certificate of Insurance must show the City of Fort Wayne, its Divisions and Subsidiaries as an Additional Insured and a Certificate Holder, with 30 days notification of cancellation or non-renewal. All Certificates of Insurance should be sent to the following address:  
City of Fort Wayne Purchasing Department,  
200 East Berry Street, Suite 490  
Fort Wayne, IN 46802
7. **HAZARDOUS MATERIALS.** Supplier will provide to the City before performing any Services, a statement describing any Hazardous Materials intended and necessary for use in performing the Services. "Hazardous Materials" means any item which may be classified under federal, state, or local law, as hazardous or toxic. Supplier must comply with all federal, state, or local law in the use, transportation and disposal of such Hazardous Materials.
8. **PROGRESS REPORTS.** The Supplier shall submit progress reports to the City upon request. The report shall serve the purpose of assuring the City that work is progressing in line with the schedule, and that completion can be reasonably assured on the scheduled date. This contract shall be deemed to be substantially performed only when fully performed according to its terms and conditions and any modification thereof.
9. **CONFLICT OF INTEREST.** Supplier certifies and warrants that neither it nor any of its directors, officers, agents, representatives or employees which will participate in any way in the performance of the Supplier's obligations hereunder has or will have any conflict of interest, direct or indirect, with the City of Fort Wayne or any of its departments, divisions, agencies, offices, officers or agents.
10. **CONFIDENTIALITY OF DATA, PROPERTY RIGHTS IN PRODUCTS, AND COPYRIGHT PROHIBITION.** Supplier further agrees that all information, data findings, recommendations, proposals, etc. by whatever name described and by whatever form (herein secured, developed, written or produced by the Supplier in furtherance of this contract—shall be the property of the City. The Supplier shall take action as is necessary under law to preserve such property rights in and of the City while such property is within the control and/or custody of the Supplier. By this contract the Supplier specifically waives and/or releases to the City any cognizable property right of the Supplier to copyright, license, patent or other wise use such information, data findings, recommendations proposals, etc.
11. **CONFIDENTIALITY OF CITY INFORMATION.** Supplier understands and agrees that data, materials, and information disclosed to Supplier may contain confidential and protected data. Therefore, the Supplier promises and assures that data, material, and information gathered, based upon or disclosed to the Supplier for the purpose of this contract, will not be disclosed to others or discussed with other parties without the prior written consent of the City.
12. **EMPLOYER CERTIFICATION.** In accordance with IC 322-5-1-7, Supplier understands and agrees to enroll and verify work eligibility status of all newly hired employees of the contractor through E-Verify program or any other system of legal residence verification as approved by the United States Department of Homeland Security or the department of homeland security. Supplier further understands that they are not required to verify work eligibility of status of newly hired employees of the Supplier through the E-Verify program if the E-Verify program no longer exists. Supplier certifies that they do not knowingly employ any unauthorized aliens.
13. **COMPLIANCE WITH LAWS.** Supplier warrants that the Services shall be in strict conformity with all applicable local, state and federal laws including, but not limited to, the standards promulgated by the Occupational Safety and Health Act, Executive Order 11246, as amended, relative to Equal Employment Opportunity and all other applicable laws, rules, and regulations, including the Civil Rights Act of 1964 pertaining to equal opportunity, Section 503 of the Vocational Rehabilitation Act of 1973, the American with Disabilities Act, Section 402 of the Vietnam Era Veterans Readjustment Assistance Act of 1974 and all applicable immigration laws and regulations including the 1986 Immigration Reform and Control Act et. seq. Supplier agrees to indemnify and hold harmless the City from and against any loss, cost, claim, liability, damage, or expense (including attorney's fees) that may be sustained because of Supplier's breach of such warranty.
14. **DEFAULT.** In the event that (a) Supplier breaches any warranty contained herein; (b) Supplier fails to provide the insurance certificate required herein; (c) Supplier or Supplier's insurance carrier fails to defend, indemnify, or hold harmless the City as required herein; (d) Supplier's performance of the Services violates applicable law; (e) Supplier admits insolvency, makes an assignment for the benefit of creditors, or has a trustee appointed in take over all or a substantial part of its assets; or (f) Supplier fails to perform or comply with any other provision of this Agreement, such failure, breach, or violation shall constitute a default under this Agreement.
15. **TERMINATION.** In the event of default by Supplier under this Agreement, the City reserves the right without liability, in addition to its other rights and remedies, to terminate this Agreement by notice to Supplier as to the portion of the Services not yet rendered and to purchase substitute services at Supplier's expense. Supplier shall reimburse the City for the cost of such substitute services upon Supplier's receipt of an invoice therefor.
16. **WAIVER.** No action or inaction by the City shall constitute a waiver of any right or remedy.
17. **CANCELLATION.** City may at any time cancel this Agreement in whole or in part for its sole convenience upon written notice to Supplier, and Supplier shall stop performing the Services on the date specified in such notice. The City shall have no liability as a result of such cancellation, except that the City will pay Supplier the Rates for completed Services accepted by the City and the actual incurred cost to Supplier for Services in progress. These payments shall not exceed the Aggregate Price.
18. **FORCE MAJEURE.** Neither party shall be liable to the other or responsible for nonperformance of any of the terms of this Agreement due to unforeseeable causes beyond the reasonable control and without the fault or negligence of such party, including, but not restricted to acts of God or the public enemy, acts of government, fire, floods, epidemics, quarantine restrictions, strikes, freight embargoes, or unusually severe weather.
19. **NOTICES.** All notices required or permitted to be made or given hereunder by one party to the other party shall be in writing and shall be deemed to have been given when hand delivered, or on the date stated on the receipt if deposited in the United States mail in certified form, postage prepaid with return receipt requested, and addressed to such other party at its Notice Address or at such other address as may be specified by such other party by written notice sent or delivered in accordance herewith.
20. **ASSIGNMENT.** Any assignment, in whole or in part, of Supplier's rights or obligation under this Agreement without the prior written consent of the City shall be void. Supplier shall not use subcontractors to perform any part of the Services without the prior written consent of the City.
21. **DISPUTE RESOLUTION.** The City shall be the sole judge of the quality of services. In the event of any dispute or disagreement between the parties either with respect to the interpretation of any provision of this agreement, or with respect to the performance of either party hereunder, the dispute shall be resolved by the Director of Finance and Administration and will not be subject to arbitration.
22. **ACCESS TO RECORDS.** The Supplier shall maintain all books, documents, papers, accounting records, and other evidence pertaining to the cost incurred. They shall make such materials available at their respective offices at all reasonable times during the contract period and for three (3) years from the date of final payment under the contract for inspection by the City or by any other authorized representative of city government. Copies thereof shall be furnished at no cost to the City if requested.
23. **NONDISCRIMINATION.** Pursuant to IC 22-9-1-10, the Civil Rights Act of 1964, and Title VI, Supplier and its subcontractors shall not discriminate against any employee or applicant for employment in the performance of this contract. The Supplier shall not discriminate with respect to hire, terms, terms, conditions or privileges of employment or any matter directly or indirectly related to employment, because of race, color, religion, sex, disability, national origin or ancestry. Breach of this covenant may be regarded as a material breach of contract. Acceptance of this contract also signifies compliance with applicable Federal laws, regulations, and executive orders prohibiting discrimination in the provision of services based on race, color, national origin, age, sex, disability or status as a veteran.
24. **MISCELLANEOUS.** If any provision of this Agreement is held to be invalid or unenforceable, the validity and enforceability of the remaining provisions shall not be affected. This Agreement shall be governed by the laws of the state of Indiana and shall be subject to the exclusive jurisdiction of the courts therein. This Agreement embodies the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior agreements and understanding, whether written or oral, and all contemporaneous oral agreements and understandings relating to the subject matter hereof. No agreement hereafter made shall be effective to modify or discharge this Agreement, in whole or in part, unless such agreement is in writing and signed by the party against whom enforcement of the modification or discharge is sought. The paragraph headings are for convenience only and are not intended to affect the interpretation of the provisions hereof. This agreement shall be binding on the parties hereto and their respective personal and legal representatives, successors and assigns.



E.B.E. RIDER: \_\_\_\_\_

## E.B.E. RIDER

THIS AGREEMENT made and entered into by and between the CITY OF FORT WAYNE, hereinafter referred to as OWNER and \_\_\_\_\_, hereinafter referred to as CONTRACTOR,

WITNESSETH:

WHEREAS, the CONTRACTOR is the apparent low bidder on construction project commonly referred to as the \_\_\_\_\_, which project was bid under Resolution Number RFQ# \_\_\_\_\_.

WHEREAS, CONTRACTOR agrees that the goal for qualified Emerging Business Enterprises, hereinafter sometimes referred to as E.B.E.'s as subcontractors on this project is 10% of the contract amount; and

WHEREAS, OWNER has, pursuant to Executive Order 90-01 (as amended 05-08-06), adopted a goal of at least 10% of the contract amount to Emerging Business Enterprises as defined under said Executive Order (as amended 05-08-06); and

WHEREAS, said Executive Order (as amended 05-08-06) states:

**"Section 2, Paragraph C.** Each contractor shall be required to make a good faith effort to subcontract 10% of the contract amount to Emerging Business Enterprises on each construction contract he/she is awarded. In the event a contractor is unable to subcontract 10% of the contract amount or secure services of an Emerging Business Enterprise, he/she will be required to submit a completed Request for Waiver form on which he/she will provide a written description of the efforts taken to comply with the participation goals."

NOW, THEREFORE, in consideration of the foregoing and of the mutual agreements hereinafter contained, the sufficiency of which consideration is hereby acknowledged, the parties hereto agree as follows:

1. Conditional Award - Subject to approval by the Common Council of the City of Fort Wayne as stipulated in the construction contract to which this Rider is attached, OWNER awards the construction contract to the CONTRACTOR.
2. E.B.E. Retainage requirements - If the contractor is in compliance with the provisions of the construction contract to which this Rider is attached, the Owner will make payments for such work performed and completed. However, in any such case, the Owner will retain five percent (5%) of the total amount owing to insure compliance with this E.B.E. Rider. Upon final inspection and acceptance of the work, and determination by the Fort Wayne Board of Public Works that the contractor has made a good faith effort to subcontract 10% of the contract amount to emerging business enterprises, the contractor will be paid in full.

In the event there is a determination that good faith compliance with this E.B.E. Rider has not occurred, appropriate reduction in the final payment pursuant to paragraph 6 of this E.B.E. Rider will be made.

If the contract is in excess of \$100,000, the contract will be subject to the standard Board of Public Works escrow agreement. However, payments to the CONTRACTOR are not to exceed 95% of the total contract amount until the OWNER has verified that the CONTRACTOR has made good faith efforts to attain the E.B.E. goal stipulated in this E.B.E. Rider. Payment of the final 5% of the total contract amount will be dependent upon good faith efforts to comply with this E.B.E. Rider, and subject to reduction in the event of non-compliance as provided in paragraph 6 of this E.B.E. Rider.

3. Request for Waiver - If, at the time final payment application is made, contractor has not attained the ten 10% E.B.E. goal, contractor shall file with the final payment application a "Request for Waiver." Said Request for Waiver shall contain a written description of the efforts taken by Contractor to attain the 10% E.B.E. goal.
4. Determination of Waiver Requests - The Contract Compliance Department of the City of Fort Wayne shall examine all Requests for Waiver to determine if Contractor's efforts constitute good faith efforts to attain such goal and shall submit recommendations concerning said requests for Waiver for the final determination of the Board of Public Works of the City of Fort Wayne.
5. Good Faith Per Se. - In any case, a Contractor shall be deemed to have made good faith efforts at compliance where E.B.E.'s have subcontracted for every sub-contract for which there are qualified E.B.E.'s available.
6. Consequence of noncompliance - In the event the Board of Public Works approves a recommendation that contractor failed to make good faith efforts at compliance, the contract shall be reduced by the amount calculated as the difference between 10% and the percentage level met. Said amount shall be added to the City of Fort Wayne E.B.E. Bond Guarantee Fund and contractor agrees to accept the reduced amount as full payment under the terms of his/her contract.
7. Waiver approved - In the event the Board of Public Works determines that a good faith effort to comply with this E.B.E. Rider has been made, the contract shall not be reduced, and the balance owing to the contractor shall be paid in full.

IN WITNESS WHEREOF,

The parties have executed the E.B.E. Rider this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

CONTRACTOR

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

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

ATTEST:

\_\_\_\_\_  
Steve McDaniel, Director  
Fort Wayne Parks and Recreation

Revised 2-09



## SECTION 011000 - SUMMARY

PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

- A. Drawings and General Provisions of Contract, including other Specification Sections, apply to this Section.
- B. The Work of this Section shall be included as part of the Contract Document of the Prime Contractor and subcontractors on this Project.

## 1.2 PROJECT DESCRIPTION

- A. Summary of Work: See Section 001116 "Invitation to Bid"
- B. Job Conditions:
  - 1. No part of this work shall be performed or installed in any location or manner which may endanger the health, safety, or welfare of the public now or in the future. Means, methods, techniques, sequencing, etc. are the sole responsibility of the contractor.
  - 2. The contractor agrees that he/she shall assume sole and complete responsibility for his/her work, including safety of all persons and property; and that the contractor shall defend, indemnify, and hold the owner harmless from any and all liability, real or alleged, in connection with the contractor's performance of work on this project, excepting for liability arising from the sole negligence of the owner or tenants. Any facilities or property damaged or destroyed as a result of the contractor's operations at the sites shall be repaired or replaced at the contractor's expense.
  - 3. Any requirement of this specification which conflicts with or is in violation of any government rule, ordinance, regulation, etc. shall be void. The contractor shall notify the owner immediately of any such requirement found in this specification.
  - 4. The contractor shall, throughout the course of this work, comply with all rules, ordinances, regulations, etc. set forth by agencies having jurisdiction, which apply to the work site, the contractor, and/or his/her employees.
  - 5. All debris (construction material, litter, etc.) shall be disposed of offsite at contractor's expense.
- C. Inspection:
  - 1. Contract work may be inspected for acceptance in portions as agreeable to Owner, provided each portion of work offered for inspection is complete.
  - 2. When inspected, work which does not comply with requirements, replace rejected work until inspected by Owner and found to be acceptable. Remove materials promptly from project site.

## 1.3 CONTRACTOR USE OF PREMISES

## SUMMARY

011000 - 1

- A. During the construction period the Contractors and subcontractors shall have full use of the premises for construction operations, including use of the site. The contractor's use of the premises is limited only by the Owner's right to perform construction operations with its own forces or to employ separate contractors on portion of the project.
- B. Limit use of the premises to construction activities in areas indicated; allow for Owner occupancy and use by the public.
  - 1. Confine operations to areas within Contract limits indicated. Portions of the site beyond areas in which construction operations are indicated are not to be disturbed.
  - 2. Keep driveways and entrances serving the premises clear and available to the Owner and the Owner's employees at all times. Do not use these areas for parking or storage of materials unless otherwise noted. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.
- C. Each contractor shall limit his use of the premises for work and for storage, to allow for work by other contractors and Owner occupancy of adjacent buildings or building areas.
- D. Coordinate use of the premises, under direction of the Owner's Representative.
- E. Contractor shall assume complete responsibility for the protection and safekeeping of products under this Contract, stored on site.
- F. Contractor shall move stored products which interfere with operation of the Owner or separate Contractor.
- G. Contractor shall obtain and pay for the use of additional storage of work areas needed for operation.

#### 1.4 TAXES

- A. The City of Fort Wayne Board of Park Commissioners is not subject to federal excise taxes. Federal Tax Registry Number is 003120627 001 7. The City of Fort Wayne Board of Park Commissioners is not subject to the Indiana sales and use taxes on the purchase of goods and other materials.

#### 1.5 PERMITS, FEES, AND NOTICES

- A. The Prime Contractor shall secure the general building permit for the Owner. Each contractor shall secure and pay for other permits, governmental fees, and licenses necessary for the proper execution and completion of his Work, which are applicable at the time the bids are also received. Each contractor shall be responsible for contacting the local governing agency for such cost information and requirements.
- B. Inspection of installed work shall be performed by the governing authority as arranged for by the Prime Contractor. Work shall be covered until approved.
- C. Each Contractor shall give notices and comply with laws, ordinances, rules, regulations, and orders of public authorities bearing on the performance of his Work. If a Contractor observes that the Contract Documents are at variance therewith, he shall promptly notify the Owner's Repre-

sentative in writing, and necessary changes shall be adjusted by appropriate notifications. If a Contractor performs Work knowing it to be contrary to such laws, ordinances, rules, and regulations, and without such notice to the Owner's Representative, he shall assume full responsibility therefore and shall bear the costs attributable thereto.

## 1.6 LABOR AND MATERIALS

- A. Unless otherwise specifically noted, each Contractor shall provide and pay for labor, material, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of his Work, whether temporary or permanent and whether or not incorporated or to be incorporated at the Work.
- B. Each Contractor shall enforce strict discipline and good working order among his employees or other persons carrying out Work of his Contract and shall not permit employment of unfit person or persons or anyone not skilled in the task assigned to them.
- C. All materials used by the Contractor in the performance of the contract will, unless otherwise specified, be new, of a merchantable quality, and in no case less than the quality required by the specifications.

## 1.7 PROJECT COORDINATION

- A. The Prime Contractor shall provide full-time, on-site supervision to coordinate all aspects of his Work with other Contractors' Work. It shall be the full responsibility to coordinate with all phases of Site Work, and other separate Contract Work. All Separate Contractors shall fully cooperate with each other and the Owner's Representative.
- B. The Prime Contractor shall coordinate the performance of his subcontractors in the utilization of the site, as well as in the actual performance of their contractual obligations to the Owner.
- C. Each Subcontractor shall cooperate with the Prime Contractor and all other Contractors who may be employed by the Owner.
- D. None of the services covered by the Contract shall be sub-contracted or contracted out without the prior written approval of the Board. No subcontract will be awarded to Contractors who have been debarred or suspended from doing work for the City of Fort Wayne.

## 1.8 VERIFICATION OF DRAWING'S / SITE / EXISTING DIMENSIONS

- A. Each Contractor shall verify all dimensions shown on the Drawings and obtain all measurements required for proper execution of the Work.
- B. Before commencing Work, each Contractor shall examine all surfaces, and areas indicated on the Drawings to receive Work.. Report necessary corrections in writing immediately to the Owner's Representative. Do not proceed until corrections (if any required) have been made. Commencing Work signifies this Contractor's acceptance of said spaces, surfaces, and areas, and of job Conditions.

## 1.9 PROJECT SECURITY AND PROTECTION

- A. The Prime Contractor shall be responsible for developing and conducting a security program, specifically oriented for the protection of preventing damage, injury, or loss to the entire project site and other property at the site or adjacent thereto. This shall be acceptable to the Owner, and shall remain in effect through Substantial Completion of the Project.
- B. Each Contractor shall be responsible for securing his work and equipment at the close of each workday.
- C. It is recommended that the Contractor remove all equipment from the site at the end of each work day. Owner will not be responsible for any damage or theft to equipment left on the job site.
- D. The Contractor shall be 100% fully responsible for any and all barricades and traffic control. The Owner reserves the right to request more protection if deemed necessary.
- E. The Contractor shall obtain adequate protection of all work from possible damage, and shall protect the City's property from possible injury or damage arising from the work to be done under or by the Contractor, its employees, agents and sub contractors during the construction. He shall take all reasonable precaution for the safety of the employees on the job and shall comply with all applicable safety laws, building codes, and ordinances. The Contractor shall properly and fully guard all excavations and dangerous places and will use all due and proper precaution to prevent injury to any and all persons and property.

#### 1.10 INSURANCE

- A. Proof of Contractor's Liability Insurance will be required of each Contractor before a Contract is executed. The City of Fort Wayne has the following insurance requirements: Awarded bidder (s) will be required to submit a copy of Certificate of Insurance for General Liability with a \$1,000,000 per occurrence and \$2,000,000 per aggregate, Auto Liability with a \$1,000,000 per occurrence. Products liability \$1,000,000 per occurrence, completed operations liability \$1,000,000 per occurrence. Workers Compensation per the Indiana Statute. The "City of Fort Wayne" shall be named as an additional insured. In the event of policy cancellation, the City of Fort Wayne shall be given 30 days prior written notice.

#### 1.11 INDEMNIFICATION CLAUSE / WAIVER OF RIGHT TO MECHANICS LIENS

- A. Prior to signing of agreement, the Contractor will be required to relinquish all right to claim or file notice of Mechanic's Lien upon the City of Fort Wayne Board of Park Commissioners, or any part or division of the Fort Wayne Parks and Recreation Department. The Contractor shall observe all laws, statutes, and ordinances affecting this Work.

#### 1.12 CLEAN-UP AND WASTE REMOVAL

- A. Waste Material: Remove all waste material and debris at frequent intervals and at the end of each work day from the premises and keep premises clear. Remove waste at Owner's request.
- B. Clean-Up: At the end of each work day, the job site is to be cleaned of all debris. Such debris shall be removed from the site. It is recommended that the Contractor remove all equipment from the site at the end of each work day. Owner will not be responsible for any damage or theft to equipment left on the job site. Contractor is not to use any of the Park Department trash containers, mops, mop buckets, brooms, etc. Contractor is to supply all cleaning equipment and materials to use during project clean-up.

- C. **Damage to Site:** As stated above, Contractor will be responsible for any damage to the job site which shall include but not limited to shrubs, trees, walks, drives, buildings, utilities, and turf. At the completion of the project, Contractor will restore all areas to original or better condition.

#### 1.13 SCHEDULING OF OPERATIONS

- A. Work shall begin as soon as a purchase order has been awarded or as otherwise stated. Give the Fort Wayne Parks and Recreation Department a 48 hour notice prior to beginning any Work.
- B. **Pre-Construction Meeting:** A Pre-Construction Meeting shall be set up between the Owner, Prime Contractor, and all sub contractors involved with the Work prior to commencing construction.
- C. **Progress Meetings:** Progress meetings shall be held between the Owner, Prime Contractor, and all sub contractors involved with the current Work at a time and duration agreed to by the Owner and Prime Contractor. In no case shall the duration between meetings be more than two (2) weeks.

#### 1.14 CHANGES TO THE CONTRACT

- A. The Owner may, at any time, by written Change Order, make changes within the general scope of the Contract. If any change results in an increase or decrease in the cost of performance, time of performance, or any other material provision under the Contract price, the Owner shall make an equitable adjustment in the Contract price, time of performance, or other provision. Any claim by the Contractor for adjustment under this clause shall be submitted to the Owner in writing within thirty (30) days after the issuance of the Change Order. All such Change Orders and resultant compensation shall be incorporated as written modifications to the Contract.

#### 1.15 PROGRESS PAYMENTS AND RETAINAGE

- A. The Contractor may submit requests for payments no more often than every thirty (30) days for Work performed under the contract. If the Contractor is in compliance with the provisions of the contract, the Owner will make payments for such Work performed and completed. However, in any such case, the Owner will retain 5% (five percent), of the total amount owing to insure satisfactory completion of the Contract and to insure Contractor's compliance with the E.B.E. Rider, if required of this Contract. Payments to the Contractor are not to exceed 95% of the total Contract amount until the owner has verified that the Contractor has made good faith efforts to attain the E.B.E. goal stipulated in the E.B.E. Rider.

END OF SECTION 011000

## SECTION 01 11 21

### MISCELLANEOUS WORK ITEMS

#### PART 1 GENERAL

##### 1.1 DESCRIPTION

###### A. Scope:

1. Contractor shall provide and maintain methods, equipment, and temporary construction as required to perform the items outlined in this Section.

##### 1.2 MEASUREMENT AND PAYMENT

###### A. Mobilization and Demobilization

1. Work Item Number and Title  
**01 11 21-A Mobilization and Demobilization**
2. Payment for Mobilization and Demobilization shall be a lump sum price.
3. The lump sum unit price bid for this item shall not be more than 5 percent of the total of all other bid items of the original proposal.
4. For the purpose of payment, the pay quantity for the mobilization portion of the Work will be limited to 60 percent of the total contract bid amount for this Work Item, which will be included in the first partial payment estimate.
5. The balance of the bid price shall be considered as demobilization and will be paid for when all work is completed on the job and final clean-up is completed.
6. No additional payment will be made for demobilization and remobilization, initiated by the Contractor, due to shutdowns, suspensions of the Work, or for other mobilization activities.

###### B. Work Allowance

1. Work Item Number and Title  
**01 11 21-B Work Allowance**
2. The Contractor shall furnish all labor, materials, and equipment necessary to perform the additional miscellaneous work as directed by the Owner. This is Work not shown or specified on the drawings or specifications but which is subsequently identified by the Owner as being necessary to complete the project.
3. Payment for Work Allowance shall be made on a lump sum basis.
4. At the completion of the Contract, all remaining funds for this Item will be deducted from the final contract price by means of a Change Order.

##### 1.3 MOBILIZATION AND DEMOBILIZATION

- A. This item shall include all costs to complete all Work necessary for, but not limited to, furnishing bonds, acquiring insurance, acquiring permits, preparing schedules, delivering submittals, construction staking, performance of construction preparatory operations, coordination and administration, notifications of other utilities, agencies or individuals

associated with the Work, all supervision, labor, equipment and materials necessary for the movement of personnel, equipment, and materials to and from the project Site, the establishment of all other facilities necessary to the performance of Work and testing where not otherwise specified.

- B. This price shall also include the cost of maintaining secure storage and work areas, including the security of personnel, open trenches, equipment, and materials.

#### 1.4 WORK ALLOWANCE

- A. When Work is required under this Item, the Owner or authorized representative will request a proposal for Work from the Contractor.
- B. Contractor shall prepare proposal for Work including, but not limited to, cost estimate, scheduled, impacts to overall project schedule, and subcontractors.
- C. No Work shall be performed under this Item without the direct authorization to proceed from the Owner.

#### PART 2 PRODUCTS (NOT USED)

#### PART 3 EXECUTION (NOT USED)

+ + END OF SECTION + +

## SECTION 012100 - ALLOWANCES

## PART 1 - GENERAL

## 1.1 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
- B. Types of allowances include the following:
  - 1. Contingency allowances.
- C. Related Requirements:
  - 1. Section 012200 "Unit Prices" for procedures for using unit prices, including adjustment of quantity allowances when applicable.

## 1.2 CONTINGENCY ALLOWANCES

- A. Use the contingency allowance only as directed by the Owner. A Change Order or Change Authorization shall be prepared by Owner prior to executing any changes that charge the contingency allowance..
- B. A Contingency Allowance in the amount of \$10,000 shall be included in the Contractor's Base Bid.
- C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit.
- D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

END OF SECTION 012100

## SECTION 012500 - SUBSTITUTION PROCEDURES

## PART 1 - GENERAL

## 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
  - 1. Document 002600 "Procurement Substitution Procedures" for requirements for substitution requests prior to award of Contract.
  - 2. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

## 1.2 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
  - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
  - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

## 1.3 ACTION SUBMITTALS

- A. Substitution Requests: Submit copies of each request for consideration via email. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
  - 1. Substitution Request Form: Use form acceptable to Owner.
  - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
    - a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.
    - b. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
    - c. Detailed comparison of significant qualities of proposed substitutions with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes, such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific

- features and requirements indicated. Indicate deviations, if any, from the Work specified.
- d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
  - e. Samples, where applicable or requested.
  - f. Certificates and qualification data, where applicable or requested.
  - g. List of similar installations for completed projects, with project names and addresses as well as name and address of Owner.
  - h. Material test reports from a qualified testing agency, indicating and interpreting test results for compliance with requirements indicated.
  - i. Detailed comparison of Contractor's construction schedule using proposed substitutions with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
  - j. Cost information, including a proposal of change, if any, in the Contract Sum.
  - k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents, except as indicated in substitution request, is compatible with related materials and is appropriate for applications indicated.
  - l. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Owners Action: If necessary, Owner will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Owner will notify Contractor of acceptance or rejection of proposed substitution within 7 days of receipt of request.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Owner's Supplemental Instructions for minor changes in the Work.
  - b. Use product specified if Owner does not issue a decision on use of a proposed substitution within time allocated.

#### 1.4 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

#### 1.5 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

## 1.6 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
1. Conditions: Owner will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Owner will return requests without action, except to record noncompliance with these requirements:
    - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
    - b. Substitution request is fully documented and properly submitted.
    - c. Requested substitution will not adversely affect Contractor's construction schedule.
    - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
    - e. Requested substitution is compatible with other portions of the Work.
    - f. Requested substitution has been coordinated with other portions of the Work.
    - g. Requested substitution provides specified warranty.
    - h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Owner will consider requests for substitution if received within 21 days after the Notice of Award. Requests received after that time may be considered or rejected at discretion of Owner.
1. Conditions: Owner will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Owner will return requests without action, except to record noncompliance with these requirements:
    - a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Owner for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
    - b. Requested substitution does not require extensive revisions to the Contract Documents.
    - c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
    - d. Substitution request is fully documented and properly submitted.
    - e. Requested substitution will not adversely affect Contractor's construction schedule.
    - f. Requested substitution has received necessary approvals of authorities having jurisdiction.
    - g. Requested substitution is compatible with other portions of the Work.
    - h. Requested substitution has been coordinated with other portions of the Work.
    - i. Requested substitution provides specified warranty.
    - j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

## SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

## PART 1 - GENERAL

## 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

## 1.2 MINOR CHANGES IN THE WORK

- A. Owner will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time.
  - 1. Work Change Proposal Requests issued by Owner are not instructions either to stop work in progress or to execute the proposed change.

## 1.3 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Owner will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
  - 1. Work Change Proposal Requests issued by Owner are not instructions either to stop work in progress or to execute the proposed change.
  - 2. Within 5 days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
    - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
    - b. Indicate delivery charges, equipment rental, and amounts of trade discounts.
    - c. Include costs of labor and supervision directly attributable to the change.
    - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Owner.
  - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
  - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.

3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.

#### 1.4 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Change Proposal Request, Owner shall issue a Change Authorization denoting contract changes requiring acceptance signatures of Contractor and Owner. A Change Order shall be issued at the completion of the project.

#### 1.5 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Owner may issue a Construction Change Directive. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
  1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
  1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

#### 1.6 WORK CHANGE DIRECTIVE

- A. Work Change Directive: Owner may issue a Work Change Directive. Work Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
  1. Work Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Work Change Directive.
  1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

## SECTION 012900 - PAYMENT PROCEDURES

## PART 1 - GENERAL

## 1.1 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

## 1.2 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
  - 1. Coordinate line items in the schedule of values with items required to be indicated as separate activities in Contractor's construction schedule.
  - 2. Submit the schedule of values to Owner at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
  - 1. Arrange schedule of values consistent with format of AIA Document G703.
  - 2. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
  - 3. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
    - a. Differentiate between items stored on-site and items stored off-site.
  - 4. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
  - 5. Overhead Costs: Include total cost and proportionate share of general overhead and profit for each line item.
  - 6. Overhead Costs: Show cost of temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items.
  - 7. Closeout Costs. Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.
  - 8. Schedule of Values Revisions: Revise the schedule of values when Change Orders or Construction Change Directives result in a change in the Contract Sum. Include at least one separate line item for each Change Order and Construction Change Directive.

### 1.3 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified and paid by the Owner.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Times: Submit Application for Payment to Owner monthly. The period covered by each Application for Payment is one month ending on the last day of the month.
- D. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 or AIA Document G732 and AIA Document G703 as form for Applications for Payment.
- E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Owner will return incomplete applications without action.
  - 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
  - 2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
  - 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- F. Transmittal: Submit two signed and notarized original copies of each Application for Payment to Owner by a method ensuring receipt within two days. One copy shall include waivers of lien and similar attachments if required.
  - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- G. Waivers of Mechanic's Lien: With each Application for Payment, submit Affidavit and Waiver of Lien, as included in the bid documents.
  - 1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
  - 2. When an application shows completion of an item, submit conditional final or full waivers.
  - 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
  - 4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
  - 5. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.
- H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
  2. Schedule of values.
  3. Contractor's construction schedule (preliminary if not final).
  4. Products list (preliminary if not final).
  5. Sustainable design action plans, including preliminary project materials cost data.
  6. Schedule of unit prices.
  7. Submittal schedule (preliminary if not final).
  8. List of Contractor's staff assignments.
  9. List of Contractor's principal consultants.
  10. Copies of building permits.
  11. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
  12. Initial progress report.
  13. Report of preconstruction conference.
  14. Certificates of insurance and insurance policies.
  15. Performance and payment bonds.
  16. Data needed to acquire Owner's insurance.
- I. Application for Payment at Substantial Completion: After Owner issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
  2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- J. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
  2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
  3. Updated final statement, accounting for final changes to the Contract Sum.
  4. AIA Document G706.
  5. AIA Document G706A.
  6. AIA Document G707.
  7. Evidence that claims have been settled.
  8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

PAYMENT PROCEDURES

012900 - 3

## SECTION 013300 - SUBMITTAL PROCEDURES

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Submittal schedule requirements.
2. Administrative and procedural requirements for submittals.

#### 1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Owner's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Owner's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

#### 1.3 SUBMITTAL SCHEDULE

- A. Submittal Schedule: Submit, as an action submittal, a list of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Owner and additional time for handling and reviewing submittals required by those corrections.

#### 1.4 SUBMITTAL FORMATS

##### A. Submittal Information: Include the following information in each submittal:

1. Project name.
2. Date.
3. Name of Owner.
4. Name of Contractor.
5. Name of firm or entity that prepared submittal.
6. Names of subcontractor, manufacturer, and supplier.
7. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier; and alphanumeric suffix for resubmittals.
8. Category and type of submittal.
9. Submittal purpose and description.

10. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
  11. Drawing number and detail references, as appropriate.
  12. Indication of full or partial submittal.
  13. Location(s) where product is to be installed, as appropriate.
  14. Other necessary identification.
  15. Remarks.
  16. Signature of transmitter.
- B. Options: Identify options requiring selection by Owner.
- C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Owner on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.
- D. Electronic Submittals: This is the owner's preferred method. Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number. Email to Fort Wayne Parks Project representative.
- E. Paper Submittals:
1. Place a permanent label or title block on each submittal item for identification; include name of firm or entity that prepared submittal.
  2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Owner.
  3. Action Submittals: Submit two paper copies of each submittal unless otherwise indicated. Owner will return one copy.
  4. Informational Submittals: Submit two paper copies of each submittal unless otherwise indicated. Owner will not return copies.
  5. Transmittal for Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using AIA Document G810 transmittal form.

## 1.5 SUBMITTAL PROCEDURES

- A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
1. Email: Prepare submittals as PDF package, and transmit to Owner by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Owner.
  2. Paper: Prepare submittals in paper form, and deliver to Owner.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
  3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Owner's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow 7 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Owner will advise Contractor when a submittal being processed must be delayed for coordination.
  2. Resubmittal Review: Allow 7 days for review of each resubmittal.
- D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
- E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Owner's action stamp.

## 1.6 SUBMITTAL REQUIREMENTS

- A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
  2. Mark each copy of each submittal to show which products and options are applicable.
  3. Include the following information, as applicable:
    - a. Manufacturer's catalog cuts.
    - b. Manufacturer's product specifications.
    - c. Standard color charts.
    - d. Statement of compliance with specified referenced standards.
    - e. Testing by recognized testing agency.
    - f. Application of testing agency labels and seals.
    - g. Notation of coordination requirements.
    - h. Availability and delivery time information.
  4. For equipment, include the following in addition to the above, as applicable:
    - a. Wiring diagrams that show factory-installed wiring.
    - b. Printed performance curves.
    - c. Operational range diagrams.
    - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before Shop Drawings, and before or concurrent with Samples.
- B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
    - a. Identification of products.
    - b. Schedules.
    - c. Compliance with specified standards.
    - d. Notation of coordination requirements.
    - e. Notation of dimensions established by field measurement.
    - f. Relationship and attachment to adjoining construction clearly indicated.
    - g. Seal and signature of professional engineer if specified.
  2. Paper Sheet Size: Except for templates, patterns, and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 24 by 36 inches.
    - a. Two opaque (bond) copies of each submittal. Owner will return one copy.
- C. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other materials.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
  2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
    - a. Project name and submittal number.
    - b. Generic description of Sample.
    - c. Product name and name of manufacturer.
    - d. Sample source.
    - e. Number and title of applicable Specification Section.
    - f. Specification paragraph number and generic name of each item.
  3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics, and identification information for record.
  4. Paper Transmittal: Include paper transmittal including complete submittal information indicated.
  5. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
    - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

6. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
  - a. Number of Samples: Submit **one** full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Owner will return submittal with options selected.
7. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
  - a. Number of Samples: Submit two sets of Samples. Owner retain one Sample set; remainder will be returned.
    - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
    - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- D. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
- E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of Owners and owners, and other information specified.
- F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
- G. Certificates:
  1. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
  2. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
  3. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

4. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
5. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
6. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.

## 1.7 CONTRACTOR'S REVIEW

- A. Action Submittals and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Owner.
- B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp. Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.
  1. Owner will not review submittals received from Contractor that do not have Contractor's review and approval.

## 1.8 OWNER'S REVIEW

- A. Action Submittals: Owner will review each submittal, indicate corrections or revisions required, and return it.
  1. PDF Submittals: Owner will indicate, via markup on each submittal, the appropriate action.
  2. Paper Submittals: Owner will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
- B. Informational Submittals: Owner will review each submittal and will not return it, or will return it if it does not comply with requirements. Owner will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Owner.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Owner will return without review or discard submittals received from sources other than Contractor.
- F. Submittals not required by the Contract Documents will be returned by Owner without action.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013300

## SECTION 015639 - TEMPORARY TREE AND PLANT PROTECTION

## PART 1 - GENERAL

## 1.1 SUMMARY

- A. Fort Wayne Parks and Recreation Considers tree and plant protection imperative for maintaining the legacy of the park system. It is the contractor's responsibility to protect trees for duration of project.
- B. Section includes general protection and pruning of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction.

## 1.2 DEFINITIONS

- A. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction and indicated on Drawings.
- B. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and indicated on Drawings.

## 1.3 PREINSTALLATION MEETINGS

- A. Pre-installation Conference: Conduct conference at Project site.

## 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings:
  - 1. Include plans, elevations, sections, and locations of protection-zone fencing and signage, showing relation of equipment-movement routes and material storage locations with protection zones.
- C. Samples: For each type of the following:
  - 1. Organic Mulch: Sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch.
  - 2. Protection-Zone Fencing: Assembled Samples.
  - 3. Protection-Zone Signage: Full-size Samples.
- D. Tree Pruning Schedule: Written schedule detailing scope and extent of pruning of trees to remain that interfere with or are affected by construction.
  - 1. Contractor shall obtain written permission to prune trees from Owner.

## 1.5 INFORMATIONAL SUBMITTALS

- A. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.
- B. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.
- C. Existing Conditions: Documentation of existing trees and plantings indicated to remain, which establishes preconstruction conditions that might be misconstrued as damage caused by construction activities.

## 1.6 QUALITY ASSURANCE

- A. Arborist Qualifications: Certified Arborist as certified by ISA, licensed arborist in jurisdiction where Project is located, current member of ASCA, or registered Consulting Arborist as designated by ASCA, if applicable.

## 1.7 FIELD CONDITIONS

- A. The following practices are prohibited within protection zones:
  - 1. Storage of construction materials, debris, or excavated material.
  - 2. Moving or parking vehicles or equipment.
  - 3. Foot traffic.
  - 4. Erection of sheds or structures.
  - 5. Impoundment of water.
  - 6. Excavation or other digging unless otherwise indicated.
  - 7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
- B. Do not direct vehicle or equipment exhaust toward protection zones.
- C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Protection-Zone Fencing: Fencing fixed in position and meeting one of the following requirements: Previously used materials may be used when approved by Owner.
  - 1. Chain-Link Protection-Zone Fencing: Galvanized-steel fencing fabricated from minimum 2-inch (50-mm) opening, 0.148-inch- (3.76-mm-) diameter wire chain-link fabric; with pipe posts, minimum 2-3/8-inch- (60-mm-) OD line posts, and 2-7/8-inch- (73-mm-) OD corner and pull posts; with 1-5/8-inch- (42-mm-) OD top rails and 0.177-inch- (4.5-mm-)

diameter bottom tension wire; with tie wires, hog ring ties, and other accessories for a complete fence system.

- a. Height: 72 inches
  2. Plastic Protection-Zone Fencing: Plastic construction fencing constructed of high-density extruded and stretched polyethylene fabric with 2-inch (50-mm) maximum opening in pattern and supported by tubular or T-shape galvanized-steel posts spaced not more than 96 inches (2400 mm) apart. High-visibility orange color.
    - a. Height: 48 inches
  3. Gates: Swing access gates matching material and appearance of fencing, to allow for maintenance activities within protection zones.
- B. Protection-Zone Signage: Shop-fabricated, rigid plastic or metal sheet with attachment holes pre-punched and reinforced; legibly printed with nonfading lettering.
- C. Caution tape shall not be an acceptable barricade.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Erosion and Sedimentation Control: Examine the site to verify that temporary erosion- and sedimentation-control measures are in place. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.

#### 3.2 PREPARATION

- A. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.

#### 3.3 PROTECTION ZONES

- A. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones in a manner that will prevent people from easily entering protected areas except by entrance gates.
1. Chain-Link Fencing: Install to comply with ASTM F567 and with manufacturer's written instructions.
  2. Posts: Provide appropriate means of post support acceptable to Owner.
  3. Access Gates: As required for site accessibility.
- B. Protection-Zone Signage: Install protection-zone signage in visibly prominent locations in a manner approved by Owner.
- C. Maintain protection zones free of weeds and trash.

- D. Maintain protection-zone fencing and signage in good condition as acceptable to Owner and remove when construction operations are complete and equipment has been removed from the site.

### 3.4 EXCAVATION

- A. General: Excavate at edge of protection zones and for trenches indicated within protection zones according to requirements in Section 312000 "Earth Moving" unless otherwise indicated.
- B. Trenching within Protection Zones: Where utility trenches are required within protection zones, excavate under or around tree roots by hand or with air spade, or tunnel under the roots by drilling, auger boring, or pipe jacking. Do not cut main lateral tree roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots as required for root pruning.
- C. Do not allow exposed roots to dry out before placing permanent backfill.

### 3.5 ROOT PRUNING

- A. Obtain written consent from Owner.

### 3.6 CROWN PRUNING

- A. Obtain written consent from Owner.

### 3.7 REGRADING

- A. Lowering Grade: Where new finish grade is indicated below existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- B. Raising Grade: Where new finish grade is indicated above existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- C. Minor Fill within Protection Zone: Where existing grade is 2 inches or less below elevation of finish grade, fill with backfill soil. Place backfill soil in a single uncompacted layer and hand grade to required finish elevations.

### 3.8 FIELD QUALITY CONTROL

- A. Inspections: Engage a qualified arborist to direct plant-protection measures in the vicinity of trees, shrubs, and other vegetation indicated to remain and to prepare inspection reports.

### 3.9 REPAIR AND REPLACEMENT

- A. General: Repair or replace trees, shrubs, and other vegetation indicated to remain or to be relocated that are damaged by construction operations, in a manner approved by Owner.

1. Perform repairs of damaged trunks, branches, and roots within 24 hours according to arborist's written instructions.
2. Replace trees and other plants that cannot be repaired and restored to full-growth status, as determined by Architect.

### 3.10 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove excess excavated material, displaced trees, trash, and debris and legally dispose of them off Owner's property.

END OF SECTION 015639

## SECTION 01 57 00

### TEMPORARY CONTROLS

#### PART 1 GENERAL

##### 1.1 DESCRIPTION

- A. Scope:
1. Contractor shall provide and maintain methods, equipment, and temporary construction as required to control environmental conditions at the Site and adjacent areas.
  2. Maintain controls until no longer required.
  3. Upon completion of the Work, remove temporary controls and restore Site to specified condition; if condition is not specified, restore Site to pre-construction condition.

##### 1.2 MEASUREMENT AND PAYMENT

- A. Temporary Staking & Fencing of Boundaries:
1. Work Item Title and Number  
**01 57 00-A Temporary Staking of Fencing**  
**01 57 00-B 48" Orange Safety Fence, 2"x 2" Openings (Max.)**
  2. Payment for Temporary Staking & Fencing of Boundaries shall be on a unit price basis per type and unit, as indicated in the Bid Schedule.
  3. The payment quantity shall be based on the units actually installed, and removed upon completion, to complete the Temporary Staking & Fencing of Boundaries requirements.
- B. Temporary Controls:
1. All additional items listed in this specification are to be included in overall Project cost and not bid as a separate Work item.

##### 1.3 NOISE CONTROL

- A. Noise Control – General:
1. Contractor's vehicles and equipment shall minimize noise to greatest degree practicable. Air compressors shall be equipped with silencers and the exhaust of all gasoline and/or diesel motors and other power equipment shall be provided with mufflers.
  2. Noise levels shall conform to Laws and Regulations, including OSHA requirements and local ordinances.
  3. Noise levels shall not interfere with the work of Owner or others. No Work shall be performed within residential areas before 7:00 am or after 8:00 pm.

##### 1.4 DUST CONTROL

- A. Control objectionable dust caused by Contractor's operation of vehicles and equipment, clearing, or other actions. To minimize airborne dust, apply water or use other methods subject to acceptance of Landscape Architect and approval of authorities having jurisdiction.

- B. The Contractor shall maintain a mechanical broom on Site at all times. All open streets upon which construction activities have occurred shall be broom clean at the end of the workday or as directed. These construction activities include, but are not limited to deliveries, hauling, and equipment transport.
- C. The Contractor shall maintain filled surfaces which are subject to vehicular traffic in a dust-free condition by the use of approved treatment by the Landscape Architect until final paving or other final treatment of surface is accomplished.
- D. Dust control operations shall be performed by the Contractor at the time ordered by the Owner, but failure of the Owner to issue such order will not relieve the Contractor of this responsibility. The cost of dust treatment is considered as incidental and shall not be grounds for extra payment.

#### 1.5 PEST AND RODENT CONTROL

- A. Pest and Rodent Control – General:
  - 1. Provide rodent and pest control as required to prevent infestation of the Site, exposed storm water utilities, and storage areas.
  - 2. Employ methods and use materials that do not adversely affect conditions at the Site or on adjoining properties.

#### 1.6 POLLUTION CONTROL

- A. Pollution Control – General:
  - 1. Provide methods, means, and facilities required to prevent contamination of soil, water, or atmosphere caused by discharge of noxious substances from construction operations.
  - 2. Equipment used during construction shall conform to federal, state, and Local Laws and Regulations.
- B. Spills and Contamination:
  - 1. Provide equipment and personnel to perform emergency measures required to contain spillages, and to remove contaminated soils or liquids.
  - 2. Excavate contaminated earth and dispose of off-Site, and replace with suitable compacted fill and topsoil.
- C. Protection of Surface Waters: Implement special measures to prevent harmful substances from entering surface waters. Prevent disposal of wastes, effluents, chemicals, or other such substances in or adjacent to surface waters and open drainage routes, in sanitary sewers, or in storm sewers.
- D. Atmospheric Pollutants:
  - 1. Provide systems for controlling atmospheric pollutants related to the Work.
  - 2. Prevent toxic concentrations of chemicals.
  - 3. Prevent harmful dispersal of pollutants into atmosphere.
- E. Solid Waste:
  - 1. Provide systems for controlling and managing solid waste related to the Work.

2. Prevent solid waste from becoming airborne, and from discharging to surface waters and drainage routes.
3. Properly handle and dispose of solid waste. All debris resulting from construction operations; i.e. packaging, waste material, damaged equipment, etc. shall be trucked from the construction Site by the Contractor and disposed of in accordance with Federal, State, and City rules and regulations. Consult with City and local authorities to establish thoroughfares that can be used as haul routes. Confine construction traffic to designated haul routes. The Contractor shall police the hauling of debris to ensure that all spillage from haul trucks is promptly and completely removed from public right-of-ways.

#### 1.7 TEMPORARY FENCING FOR ENDANGERED SPECIES PROTECTION

- A. Furnish and install a temporary fence surrounding excavations and work area. Fence shall have closable openings only at vehicular, equipment and worker access points, all other sides must be contiguous.
- B. The fence shall be an orange safety fence type enclosure, 48 inches high. Fence shall be constructed of high density polyethylene with oval openings. The mesh openings shall be 1 ¾ inches by 1 ¾ inches. Posts shall be made of steel, either U, Y, T or channel section, and shall have corrugations, knobs, notches or studs. Posts shall be anchored 2 feet into the ground. Posts shall have holes every two inches that the fencing shall be attached by zip lock ties. Posts shall be placed no further than ten feet apart.

#### PART 2 PRODUCTS (NOT USED)

#### PART 3 EXECUTION

##### 3.1 INSTALLATION AND MAINTENANCE- TEMPORARY CONTROLS

- A. Temporary control measures shall be implemented and maintained to meet requirements under this section.

##### 3.2 TESTING

- A. All materials provided under this Specification shall meet the requirements of the applicable sections of the Indiana Department of Transportation Standards Specifications (INDOTSS), latest edition.

+ + END OF SECTION + +

## SECTION 01 57 13

### EROSION AND SEDIMENTATION CONTROL

#### PART 1 GENERAL

##### 1.1 DESCRIPTION

###### A. Scope:

1. Contractor shall provide and maintain methods, equipment, and temporary construction as required to control conditions at the Site and adjacent areas.
2. Contractor shall maintain all controls until Contractor warranty period is complete, or until controls are no longer needed, whichever is earlier. Upon completion of the Work, remove temporary controls and restore Site to specified condition; if condition is not specified, restore Site to pre-construction condition.
3. Contractor shall provide all labor, materials, equipment and services required to provide all permanent erosion control measures as required.

###### B. Related Sections

1. Section 31 05 19, Geosynthetics for Earthwork.

##### 1.2 QUALITY ASSURANCE

###### A. Comply with applicable provision and recommendations of the following:

1. Erosion Control methods and procedures shall comply with 327 IAC 15-5. Any inconsistencies with 327 IAC 15-5 will not apply except if inconsistency has been approved by IDEM or the IDNR Division of Soil Conservation.
2. Indiana Storm Water Quality Manual, formerly the Indiana Handbook for Erosion Control in Developing Areas. Copies are available from Indiana State Department of Agriculture, Division of Soil Conservation 101 W. Ohio Street, Suite 1200, Indianapolis, IN 46204, or downloaded at <http://www.in.gov/idem/4899.htm>.
3. Indiana Department of Transportation (INDOT) Standard Specifications, current edition.

##### 1.3 SUBMITTALS

###### A. Erosion Control Plan:

1. Plan for construction staging and maintenance of the Site relative to erosion and sediment controls. Indicate on a Site plan approximate areas of planned disturbance of soils and soil cover over time during the Project. For areas not indicated in the Contract Documents as being disturbed and that Contractor proposes to disturb, Erosion Control Plan shall include proposed erosion and sediment control measures for the additional area.
2. Location and details of temporary construction entrance(s).

###### B. Product Data, Manufacturer Installation and Maintenance Instructions:

1. Submit manufacturer product data, installation instructions and maintenance instructions for all erosion control products included in this specification.

- C. Erosion Control Inspection Log
  - 1. Contractor shall submit a copy of all erosion control inspection logs, completed in accordance with Section 3.2, with each monthly pay application.
  - 2. Pay application will not be approved without the submittal of the erosion control inspection log.

#### 1.4 MEASUREMENT AND PAYMENT

- A. Erosion and Sedimentation Control:
  - 1. Work Item Title and Number  
**01 57 13-A Silt Fence by Mirafi**
  - 2. Payment for Erosion and Sedimentation Control shall be on a unit price basis per type and unit, as indicated in the Bid Schedule.
  - 3. The payment quantity shall be based on the units actually installed, and removed upon completion, to complete the erosion control plan requirements.
- B. Permanent Erosion and Sedimentation Control:
  - 1. Work Item Title and Number  
**01 57 13-C SC150 Erosion Control Blanket**  
**01 57 13-D SC150BN Erosion Control Blanket**
  - 2. Payment for Erosion and Sedimentation Control shall be on a unit price basis per type and unit, as indicated in the Bid Schedule.
  - 3. The payment quantity shall be based on the units actually installed, as shown on the Drawings.
  - 4. Payment for Erosion and Sedimentation Control shall be a lump sum price.

#### 1.5 STORMWATER RUNOFF

- A. Stormwater Control – General:
  - 1. Provide methods to control stormwater runoff (surface drainage) and water from excavations and structures to prevent damage to the Work, the Site, and adjoining properties.
  - 2. Control fill, grading, and ditching to direct water away from excavations, pits, tunnels and other construction areas and to direct drainage to proper runoff courses to prevent erosion, damage, or nuisance.
- B. Equipment and Facilities for Stormwater Control: Provide, operate, and maintain equipment and facilities of adequate size to control storm water runoff.
- C. The Contractor shall at all times during construction provide and maintain ample means and devices with which to remove promptly and dispose of properly all stormwater runoff entering the excavations or other parts of the Work and shall keep said excavations dry until the structures to be built or pipelines to be placed therein are completed. No stormwater shall be allowed to rise over or come in contact with masonry until the concrete and mortar have attained a satisfactory set, except in cases where the concrete has been tremied into place with the approval of the Landscape Architect. In water bearing sand, well points and/or sheeting shall be supplied, together with pumps and other appurtenances of ample capacity to keep the excavation free of stormwater.

- D. Discharge and Disposal: Dispose of stormwater in manner to prevent flooding, erosion, and other damage to any and all parts of the Site and adjoining areas, and that conforms to Laws and Regulations.
1. Water used for working or processing, resulting from dewatering operations, or containing oils or sediments that will reduce the quality of the water downstream of the point of discharge, shall not be directly discharged. Such waters shall be diverted through a settling basin, filter or other approved method, before being discharged.
  2. Contractor will be held responsible for the condition of any pipe, conduit or channel used for drainage purposes and all such pipes, conduits or channels shall be left clean and free of sediment.

## 1.6 EROSION CONTROL

### A. Erosion Control – General:

1. Plan and execute construction and earthwork by methods to control surface drainage from cuts and fills, and from borrow and waste disposal areas, to prevent erosion and sedimentation.
2. Hold to a minimum the areas of bare soil exposed at one time.
3. Provide temporary control measures such as berms, dikes, and drains.
4. Construct fills and waste areas by selective placement to reduce surface silts or clays that will erode.
5. Periodically inspect earthwork to detect evidence of the start of erosion; apply corrective measures as required to control erosion. Continue inspections and corrective measures until permanent vegetation has been established.
6. The Contractor shall maintain drainage flow at all times through any ditches disturbed during construction. The Contractor shall minimize disturbance and sedimentation due to excavation in ditches and shall restore the ditches to their original condition and performance.
7. Periodically inspect impacted ditches and streams to detect evidence of the start of erosion; apply corrective measures as required to control erosion. Continue inspections and corrective measures until permanent erosion control and vegetation have been established.

### B. Erosion Control

1. Contractor shall follow the Indiana Storm Water Quality Manual.
2. Contractor shall maintain all silt fence and construction fences installed per requirements of the Endangered Species Act pursuant to all Work, daily before commencement of work. Any endangered species discovered within the work limits shall be removed and placed in a safe, nearby location of similar type as to where the animal was found.
3. Contractor shall install and maintain erosion control around stockpiles of granular material using gravel filled bags.
4. Contractor shall install and maintain erosion control around existing and newly constructed inlets downstream from construction activity.
5. Contractor shall furnish, install, and maintain erosion control measures such as silt fences and temporary seeding and sodding on all disturbed areas.
6. Contractor to minimize granular deposits on the street surfaces and sidewalks, open to traffic. Excess material shall be removed at end of workday by approved methods. (i.e.

street sweeper, brooming). Contractor shall not remove material by flushing street with water.

7. Contractor shall provide a trained individual to oversee the installation and maintenance of erosion and sedimentation control.
8. Contractor to inspect, repair, and maintain erosion and sedimentation control a minimum of once each week or by the end of the next business day after a storm event greater than 0.5" of rainfall in 24 hours. A trained individual shall prepare a written evaluation of each inspection, repair, and maintenance performed. The evaluation must include: the name of the individual performing the evaluation; the date of the evaluation; problems identified at the project site; and details of corrective actions recommended and completed.
9. Corrective actions required, as a result of an inspection or control measure failure shall be scheduled within 24 hours of inspection or failure.
10. Contractor shall make the Construction Drawings and inspection reports available upon request.
11. Contractor to record any revisions to the Storm Water Pollution Prevention Plan.
12. Areas to be left inactive for 15 days or more to be treated with temporary or permanent seeding or sodding.
13. If provisions of these specifications conflict with provisions of the Standard Specifications the provisions of this specification will govern.

## 1.7 WARRANTY

- A. General Warranty: The special warranties specified in this Section shall not deprive Owner of other rights or remedies that Owner may otherwise have under the Contract Documents and shall be in addition to, and run concurrent with, other warranties required by Contractor under the Contract Documents.
- B. Special Warranties: The Contractor shall guarantee a good stand vegetation that is part of permanent erosion controls, by watering, regrading and reseeding eroded areas and otherwise maintaining all permanent erosion controls until final acceptance. Any areas which do not show uniform growth or has bare spots shall be replanted and repaired at the Contractor's expense with the plantings and materials as originally used thereon and such replanting and repairs shall be repeated until all affected areas are repaired. Final acceptance of all permanent erosion control measures may be required by the Contractor after 60 days from the date of installation. The above does not release the Contractor from the standard provisions included in the Guaranty or Maintenance Bond agreement.

## 1.8 MAINTENANCE

- A. Contractor shall maintain erosion controls during Contractor warranty period. Including inspections after rain events, and restoration to original design condition as required.

## PART 2 PRODUCTS

### 2.1 GENERAL-EROSION AND CONTROL

- A. All erosion control products shall be in accordance with the Indiana Department of Transportation Standards Specifications (INDOTSS).
- B. All materials provided under this Specification shall meet the requirements of the applicable sections of the Indiana Department of Transportation Standards Specifications (INDOTSS), latest edition or Indiana Storm Water Quality Handbook.

2.2 SITE PREPARATION

- A. Temporary Perimeter Protection - Silt Fence
  - 1. Construction of sediment barriers shall conform to the details provided in the Contract Documents.
  - 2. Sediment barriers shall be designed and used in situations in which only sheet or overland flows are expected.
  - 3. Geotextile fabrics for use in sediment barriers shall conform to the following table:

Woven Geotextile Fabric Requirements			
Sediment Barrier Installation			
Physical Property	Test Method	Unit	Min. Value
Grab Tensile Strength	ASTM D 4632	lbs.	95-125
Grab Tensile Elongation	ASTM D 4632	%	15
Puncture Strength	ASTM D 4833	lbs.	60
Apparent Opening Size (AOS)	ASTM D 4751	U.S. Sieve	#30
Permittivity	ASTM D 4491	sec <sup>-1</sup>	0.1
Flow Rate	ASTM D 4491	gal/min/ft <sup>2</sup>	10

- 4. Sediment barriers shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.
- 5. Sediment barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.
- 6. Should the sediment barrier decompose or become ineffective prior to the upslope area being permanently stabilized, the barrier shall be replaced promptly.
- 7. Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately one-half the height of the barrier.
- 8. Any sediment deposits remaining, in place, after the barrier has been removed shall be dressed to conform to the existing grade, prepared, and seeded.

2.3 EROSION CONTROL BLANKETS

- A. Short-term (less than 6 month functional longevity) Erosion Control Blankets.
  - 1. The blanket shall be 100% straw fiber matrix.
  - 2. Stitching shall be photodegradable thread.
  - 3. The blanket shall be double-net construction.

4. Contractor shall prepare soil according to the grading, seeding, fertilization and restoration requirements of the contract documents, prior installing erosion control blankets.
5. Installation of erosion control blankets shall conform to the details provided in the Contract Documents.
6. Anchoring shall be by means of 6" to 12" staples or pins and installed per manufacturers recommendations for specific application.
7. The blanket shall conform to the minimum requirements listed in the following table:

<b>Erosion Control Blanket Requirements</b>		
<b>Short-Term Installation (Less than 6 Months Functional Longevity)</b>		
<b>Physical Property</b>	<b>Unit</b>	<b>Min. Value</b>
Top Net Weight	lbs/1,000 ft <sup>2</sup>	1.5
Straw Fiber Density	lbs/yd <sup>2</sup>	0.5
Bottom Net Weight	lbs/1,000 ft <sup>2</sup>	1.5
Anchoring	Anchors/yd <sup>2</sup>	1.5

- B. Long-term (more than 12 month functional longevity) Erosion Control Blankets.
  1. The blanket shall be constructed of straw fiber and coconut fiber combination, with a minimum coconut content of 30%.
  2. Stitching shall be photodegradable thread.
  3. The blanket shall be double-net construction.
  4. Contractor shall prepare soil according to the grading, seeding, fertilization and restoration requirements of the contract documents, prior installing erosion control blankets.
  5. Installation of erosion control blankets shall conform to the details provided in the Contract Documents.
  6. Anchoring shall be by means of 8" to 12" staples or pins and installed per manufacturers recommendations for specific application.
  7. The blanket shall conform to the minimum requirements listed in the following table:

<b>Erosion Control Blanket Requirements</b>		
<b>Long-Term Installation (6 - 12 Months Functional Longevity)</b>		
<b>Physical Property</b>	<b>Unit</b>	<b>Min. Value</b>
Top Net Weight	lbs/1,000 ft <sup>2</sup>	3
Straw Fiber Density	lbs/yd <sup>2</sup>	0.35
Coconut Fiber Density	lbs/yd <sup>2</sup>	0.15
Bottom Net Weight	lbs/1,000 ft <sup>2</sup>	1.5
Anchoring	Anchors/yd <sup>2</sup>	2

#### 2.4 TEMPORARY SEDIMENT CONTROL DEWATERING BAG

A. General

1. A temporary sediment control dewatering bag shall be installed at the discharge point of all dewatering pipes and hoses.
2. Dewatering bags shall be proprietary devices and shall be submitted for approval prior to installation.
3. Proprietary dewatering bags shall provide a filtering efficiency that removes at least 80% of the Total Suspended Solids.

B. Material

1. Dewatering bags shall be made of non-woven geotextile fabric and shall be constructed specifically for the purpose of sediment control from dewatering pipes and hoses.
2. Geotextile fabrics shall conform to the following table:

<b>Non-Woven Geotextile Fabric Requirements</b>			
<b>Dewatering Bag</b>			
Physical Property	Test Method	Unit	Min. Value
Grab Tensile Strength	ASTM D 4632	lbs.	205
Grab Tensile Elongation	ASTM D 4632	%	50
Puncture Strength	ASTM D 4833	lbs.	130
Apparent Opening Size (AOS)	ASTM D 4751	U.S. Sieve	#80
Flow Rate	ASTM D 4491	gal/min/ft <sup>2</sup>	95
UV Resistance (at 500 hrs)	ASTM D4355	% strength retained	70

C. Installation

1. Dewatering bag installation shall conform to the manufacturer recommendations.
2. Dewatering bags should only be used on pipe or hoses sizes that they were specifically designed for.
3. Dewatering bags shall be placed on an aggregate underlayment for stabilization.
4. A nonwoven geotextile fabric shall be installed for separation of sub-base and aggregate underlayment. Geotextile fabrics shall conform to the following table:

<b>Non-Woven Geotextile Fabric Requirements</b>			
<b>Dewatering Bag Aggregate Underlayment Installation</b>			
Physical Property	Test Method	Unit	Min. Value
Grab Tensile Strength	ASTM D 4632	lbs.	200
Grab Tensile Elongation	ASTM D 4632	%	50
Puncture Strength	ASTM D 4833	lbs.	500
Apparent Opening Size (AOS)	ASTM D 4751	U.S. Sieve	#80
Flow Rate	ASTM D 4491	gal/min/ft <sup>2</sup>	95

D. Maintenance

1. Remove accumulated sediment when the bag is half full of sediment or as required to maintain the capacity of the dewatering system.
2. All sediment shall be removed and disposed of off-site.
3. Dewatering bags shall be removed from the Site at the completion of dewatering and shall not be buried or left on Site.

### PART 3 EXECUTION

#### 3.1 GENERAL INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL

- A. All erosion and sediment control items shall be installed in strict conformance with the manufacturer's instructions for proprietary items. On-site construction methods shall conform to the Indiana Storm Water Quality Handbook.
- B. Prior to site work, erosion control measures shall be installed for the Construction Phase or activity to be conducted to control erosion and prevent sediment laden water from exiting the site. This shall include, but not be limited to, the installation of temporary earthen berms, silt fences, filter curtains, riprap, drainage piping, catch basins, inlet protection and other items that are needed to control sediment.
- C. Both temporary and final seeding is required. Should any areas outside of the project area remain inactive for a period of 15 days or more, it shall be seeded with a temporary or permanent vegetative cover such as oats, wheat or rye.
- D. Construction operations shall be carried out in such a manner and sequence that erosion shall be minimized and held within acceptable limits. It is important that material excavated from this Project be contained.

#### 3.2 INSPECTION AND MAINTENANCE SCHEDULE

- A. The Project area shall be inspected no less than once per week, and after every rainfall event greater than 0.5" in 24 hours. Deficiencies and damages to the erosion control measures must be rectified within 24 hours.
- B. An Inspection and Maintenance form or record log shall be kept by the Contractor.
- C. The following Erosion Control Schedule shall be used for this Project:

CONTROL MEASURE	INSTALLATION SEQUENCE	INSPECTION AND MAINTENANCE
Construction Entrance	Prior to Clearing and Grading	Minimum of 1 Entrance shall be Maintained
Silt Fence Perimeter Protection	Prior to Clearing and Grading	Weekly, after Storm Events and as Needed

CONTROL MEASURE	INSTALLATION SEQUENCE	INSPECTION AND MAINTENANCE
Existing Inlet/Drain Pipe Protection	Prior to Clearing and Grading	Weekly, after Storm Events and as Needed
Tree Protection	Along with Rough Grading	Weekly, after Storm Events and as Needed
Temporary Seeding	After Rough Grading	Water as Needed
Permanent Seeding	After Finish Grading	Water as Needed
Erosion Control Matting (Blankets)	After Finish Grading	Weekly, after Storm Events and as Needed
Endangered Species Perimeter Protection	Prior to ANY work activity	Daily, before work commences
Soil Stabilization (Seeding)	After Finish Grading Around Finished Inlets	Water as Needed
Removal of Inlet Protection	After All Areas Draining to These Areas Are Stabilized	N/A
Removal of Perimeter Protection	After All Areas Draining to These Areas Are Stabilized	N/A

++ END OF SECTION ++

## SECTION 016000 - PRODUCT REQUIREMENTS

## PART 1 - GENERAL

## 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
  - 1. Section 012500 "Substitution Procedures" for requests for substitutions.

## 1.2 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
  - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
  - 2. New Products: Items that have not previously been incorporated into another project or facility. Salvaged items or items reused from other projects are not considered new products. Items that are manufactured or fabricated to include recycled content materials are considered new products, unless indicated otherwise.
  - 3. Comparable Product: Product by named manufacturer that is demonstrated and approved through the comparable product submittal process described in Part 2 "Comparable Products" Article, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product" or "or approved equal", including make or model number or other designation. Published attributes and characteristics of basis-of-design product establish salient characteristics of products.
  - 1. Evaluation of Comparable Products: In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification.
- C. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section,

provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications; submit a comparable product request or substitution request, if applicable.

- D. Comparable Product Request Submittal: An action submittal requesting consideration of a comparable product, including the following information:
  - 1. Identification of basis-of-design product or fabrication or installation method to be replaced, including Specification Section number and title and Drawing numbers and titles.
  - 2. Data indicating compliance with the requirements specified in Part 2 "Comparable Products" Article.
- E. Basis-of-Design Product Specification Submittal: An action submittal complying with requirements in Section 013300 "Submittal Procedures."
- F. Substitution: Refer to Section 012500 "Substitution Procedures" for definition and limitations on substitutions.

### 1.3 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

### 1.4 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products, using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

### 1.5 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
  - 1. Manufacturer's Warranty: Written standard warranty form furnished by individual manufacturer for a particular product and issued in the name of the Owner or endorsed by manufacturer to Owner.
  - 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner and issued in the name of the Owner or endorsed by manufacturer to Owner.

## PART 2 - PRODUCTS

## 2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
  2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
  3. Owner reserves the right to limit selection to products with warranties meeting requirements of the Contract Documents.
  4. Where products are accompanied by the term "as selected," Owner will make selection.
  5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
- B. Product Selection Procedures:
1. Limited List of Products: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered unless otherwise indicated.
    - a. Limited list of products may be indicated by the phrase "Subject to compliance with requirements, provide one of the following."
  2. Non-Limited List of Products: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed or an unnamed product that complies with requirements.
    - a. Non-limited list of products is indicated by the phrase "Subject to compliance with requirements, available products that may be incorporated in the Work include, but are not limited to, the following."
    - b. Provision of an unnamed product is not considered a substitution, if the product complies with requirements.
  3. Limited List of Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered unless otherwise indicated.
    - a. Limited list of manufacturers is indicated by the phrase "Subject to compliance with requirements, provide products by one of the following."
  4. Non-Limited List of Manufacturers: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed or a product by an unnamed manufacturer that complies with requirements.

- a. Non-limited list of manufacturers is indicated by the phrase "Subject to compliance with requirements, available manufacturers whose products may be incorporated in the Work include, but are not limited to, the following."
  - b. Provision of products of an unnamed manufacturer is not considered a substitution, if the product complies with requirements.
5. Basis-of-Design or "or approved equal" Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications may additionally indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
- a. For approval of products by unnamed manufacturers, comply with requirements in Section 012500 "Substitution Procedures" for substitutions for convenience.
- C. Visual Matching Specification: Where Specifications require the phrase "match Owner's sample," provide a product that complies with requirements and matches Owner's sample. Owner's decision will be final on whether a proposed product matches.
1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Owner from manufacturer's full range" or a similar phrase, select a product that complies with requirements. Owner will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

## 2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration of Comparable Products: Owner will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Owner may return requests without action, except to record noncompliance with the following requirements:
1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work.
  2. Detailed comparison of significant qualities of proposed product with those of the named basis-of-design product. Significant product qualities include attributes, such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.
  3. Evidence that proposed product provides specified warranty.
  4. List of similar installations for completed projects, with project names and addresses and names and addresses of Owners and owners, if requested.
  5. Samples, if requested.

- B. Owner's Action on Comparable Products Submittal: If necessary, Owner will request additional information or documentation for evaluation, as specified in Section 013300 "Submittal Procedures."
  - 1. Form of Approval of Submittal: As specified in Section 013300 "Submittal Procedures."
  - 2. Use product specified if Owner does not issue a decision on use of a comparable product request within time allocated.
- C. Submittal Requirements, Two-Step Process: Approval by the Owner of Contractor's request for use of comparable product is not intended to satisfy other submittal requirements. Comply with specified submittal requirements.
- D. Submittal Requirements, Single-Step Process: When acceptable to Owner, incorporate specified submittal requirements of individual Specification Section in combined submittal for comparable products. Approval by the Owner of Contractor's request for use of comparable product and of individual submittal requirements will also satisfy other submittal requirements.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

## SECTION 01 66 00

### PRODUCT STORAGE AND HANDLING REQUIREMENTS

#### PART 1 GENERAL

##### 1.1 DESCRIPTION

- A. This Section includes General Requirements for storing and protecting materials and equipment.

##### 1.2 MEASUREMENT AND PAYMENT

- A. This item is to be included in overall Project cost and not bid as a separate Work item.

##### 1.3 STORAGE

- A. Store and protect materials and equipment in accordance with manufacturer's recommendations and the Contract Documents.
- B. Contractor shall make all arrangements and provisions necessary for, and pay all costs for, storing materials and equipment. Excavated materials, construction equipment, and materials and equipment to be incorporated into the Work shall be placed to avoid damaging the Work and existing facilities and property, and so that free access is maintained at all times to all parts of the Work and to public utility installations in vicinity of the Work. Store materials and equipment neatly and compactly in locations that cause minimum inconvenience to Owner, other contractors, public travel, and owners, tenants, and occupants of adjoining property. Arrange storage in manner to provide easy access for inspection.
- C. Areas available at the Site for storing materials and equipment shall be as shown or indicated in the Contract Documents, or as approved by Owner.
- D. Contractor shall be fully responsible for loss or damage (including theft) to stored materials and equipment.
- E. Do not open manufacturer's containers until time of installation, unless recommended by the manufacturer, required to verify all contents or otherwise specified in the Contract Documents.
- F. Do not store materials or equipment in structures being constructed unless approved by Landscape Architect in writing.
- G. Do not use lawns or other private property for storage without written permission of the owner or other person in possession or control of such premises. Prior to use written permission must be submitted to Landscape Architect for record purposes.

#### 1.4 PROTECTION

- A. Equipment shall be boxed, crated, or otherwise completely enclosed and protected during shipping, handling, and storage, in accordance with Section 01 65 00, Product Delivery Requirements.
- B. Store all materials and equipment off the ground or floor on raised supports such as skids or pallets.
- C. Protect painted surfaces against impact, abrasion, discoloration, and other damage. Painted equipment surfaces that are damaged or marred shall be repainted in their entirety in accordance with equipment manufacturer and paint manufacturer requirements, to the satisfaction of Landscape Architect.
- D. Protect electrical equipment, controls, and instrumentation against moisture, water damage, heat, cold, and dust. Space heaters provided in equipment shall be connected and operating at all times until equipment is placed in operation and permanently connected.

#### 1.5 UNCOVERED STORAGE

- A. The following types of materials may be stored outdoors without cover on supports so there is no contact with the ground:
  - 1. Piping.
  - 2. Precast concrete materials.
  - 3. Castings.
  - 4. Grating.
  - 5. Gabions.
  - 6. Stone.
  - 7. Loose granular material.
  - 8. Coir Logs.
  - 9. Fencing.
  - 10. Plants.
  - 11. Others as directed by Owner.

#### 1.6 COVERED STORAGE

- A. The following materials and equipment may be stored outdoors on supports and completely covered with covering impervious to water and UV light:
  - 1. Geosynthetics.
  - 2. Filter media.
  - 3. Others as directed by Owner.
- B. Tie down covers with rope, and slope covering to prevent accumulation of water.

#### 1.7 FULLY PROTECTED STORAGE

- A. Store all material and equipment not named in Articles 1.5 and 1.6 of this Section in on supports in buildings or trailers that have concrete or wooden flooring, roof, and fully closed

walls on all sides. Covering with visquine plastic sheeting or similar material in space without floor, roof, and walls is not acceptable. Comply with the following:

1. Provide heated storage for materials and equipment that could be damaged by low temperatures or freezing.
2. Provide air-conditioned storage for materials and equipment that could be damaged by high temperatures.
3. Protect mechanical and electrical equipment from being contaminated by dust, dirt, and moisture.
4. Maintain humidity at levels recommended by manufacturers for electrical and electronic equipment.
5. Plant seed shall be kept in a refrigerated area (40°F-45°F) for long-term storage (14+days) and shall not be kept above 65°F until seeded.

#### 1.8 HAZARDOUS PRODUCTS

- A. Prevent contamination of personnel, storage area, and the Site. Comply with Laws and Regulations and manufacturer's instructions.

#### 1.9 MAINTENANCE OF STORAGE

- A. On scheduled basis, periodically inspect stored materials and equipment to ensure that:
  1. State of storage facilities is adequate to provide required conditions.
  2. Required environmental conditions are maintained on continuing basis.
  3. Materials and equipment exposed to elements are not adversely affected.
- B. Mechanical and electrical equipment requiring long-term storage shall have complete manufacturer's instructions for servicing each item, with notice of enclosed instructions shown on exterior of container or package.
  1. Comply with manufacturer's instructions on scheduled basis.
  2. Space heaters that are part of electrical equipment, shall be connected and operated continuously until equipment is placed in service and permanently connected.

#### 1.10 MICROPROCESSORS, PANELS, AND INSTRUMENTATION STORAGE

- A. Microprocessor-based equipment, store panels, electronics, and other devices subject to damage or decreased useful life because of temperatures below 40 degrees F or above 100 degrees F, relative humidity above 90 percent, or exposure to rain or exposure to blowing dust in climate-controlled storage space.
- B. Requirements:
  1. Storage shall be at a location approved by the Owner.
  2. Owner and Landscape Architect have the right to inspect materials and equipment during normal working hours.
  3. Placed inside each panel or device a desiccant, volatile corrosion inhibitor blocks (VCI), moisture indicator, and maximum-minimum indicating thermometer.
  4. Check panels and equipment at least once per month. Replace desiccant, VCI, and moisture indicator as often as required, or every six months, whichever occurs first.

5. Certified record of daily maximum and minimum temperature and humidity in storage facility shall be available for inspection by Owner and Landscape Architect. Certified record of monthly inspection, noting maximum and minimum temperature for month, condition of desiccant, VCI, and moisture indicator, shall be available for inspection by Owner and Landscape Architect.
- C. Costs for storing climate-sensitive materials and equipment shall be paid by Contractor. Replace panels and devices damaged during storage, or for which storage temperatures or humidity range has been exceeded, at no additional cost to Owner. Delays resulting from such replacement are causes within Contractor's control.
- D. Do not ship panels and equipment to the Site until conditions at the Site are suitable for installation, including slabs and floors, walls, roofs, and environmental controls. Failure to have the Site ready for installation shall not relieve Contractor from complying with the Contract Documents.

#### 1.11 RECORDS

- A. Keep up-to-date account of materials and equipment in storage to facilitate preparation of Applications for Payment, if the Contract Documents provide for payment for materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing.

#### PART 2 PRODUCTS (NOT USED)

#### PART 3 EXECUTION (NOT USED)

++ END OF SECTION ++

## SECTION 017300 - EXECUTION

## PART 1 - GENERAL

## 1.1 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work, including, but not limited to, the following:
  - 1. Construction layout.
  - 2. Field engineering and surveying.
  - 3. Installation of the Work.
  - 4. Cutting and patching.
  - 5. Coordination of Owner's portion of the Work.
  - 6. Coordination of Owner-installed products.
  - 7. Progress cleaning.
  - 8. Starting and adjusting.
  - 9. Protection of installed construction.
  
- B. Related Requirements:
  - 1. Section 011000 "Summary" for coordination of Owner-furnished products, Owner-performed work, Owner's separate contracts, and limits on use of Project site.
  - 2. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, replacing defective work, and final cleaning.
  - 3. Section 024119 "Selective Demolition" for demolition and removal of selected portions of the building.

## 1.2 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.
  
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

## 1.3 INFORMATIONAL SUBMITTALS

- A. Certified Surveys (if applicable): Submit 2 copies signed by land surveyor.

## 1.4 CLOSEOUT SUBMITTALS

- A. Final Property Survey: Submit two paper copies and one PDF electronic copy showing the Work performed and record survey data.

## 1.5 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.
- B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
  - 1. Structural Elements: When cutting and patching structural elements, or when encountering the need for cutting and patching of elements whose structural function is not known, notify Owner of locations and details of cutting and await directions from Owner before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
  - 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
  - 3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
  - 4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Owner's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of specified products and equipment.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Comply with requirements specified in other Sections.
  - 1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with sustainable design requirements.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
  - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Owner for the visual and functional performance of in-place materials. Use materials that are not considered hazardous.

- C. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
  - 1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
  - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, gas service piping, and water-service piping; underground electrical services; and other utilities.
  - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
  - 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
  - 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
  - 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
  - 1. Description of the Work, including Specification Section number and paragraph, and Drawing sheet number and detail, where applicable.
  - 2. List of detrimental conditions, including substrates.
  - 3. List of unacceptable installation tolerances.
  - 4. Recommended corrections.
- D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility and Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Owner in accordance with requirements in Section 013100 "Project Management and Coordination."

### 3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks and existing conditions. If discrepancies are discovered, notify Owner and Owner's Consultant promptly.
- B. Engage a land surveyor or professional engineer experienced in laying out the Work, using the following accepted surveying practices:
  - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
  - 2. Establish limits on use of Project site.
  - 3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
  - 4. Inform installers of lines and levels to which they must comply.
  - 5. Check the location, level and plumb, of every major element as the Work progresses.
  - 6. Notify Owner when deviations from required lines and levels exceed allowable tolerances.
  - 7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

- E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Owner.

### 3.4 FIELD ENGINEERING

- A. Identification: Owner will identify existing benchmarks, control points, and property corners.
- B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
  - 1. Do not change or relocate existing benchmarks or control points without prior written approval of Owner. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Owner before proceeding.
  - 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.
- C. Benchmarks: Establish and maintain a minimum of **two** permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
  - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
  - 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
  - 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.
- D. Certified Survey (if applicable): On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.
- E. Final Property Survey (if applicable): Engage a land surveyor or professional engineer to prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor or professional engineer, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.
  - 1. Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a site corner to a legal point.

### 3.5 INSTALLATION

- A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb, and make horizontal work level.
  2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
  3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
  4. Maintain minimum headroom clearance of 96 inches (2440 mm) in occupied spaces and 90 inches (2300 mm) in unoccupied spaces, unless otherwise indicated on Drawings.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure satisfactory results as judged by Owner. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations, so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy of type expected for Project.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on-site and placement in permanent locations.
- F. Tools and Equipment: Select tools or equipment that minimize production of excessive noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for Work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions with manufacturer.
1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Owner.
  2. Allow for building movement, including thermal expansion and contraction.
  3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed Work are not indicated, arrange joints for the best visual effect, as judged by Owner. Fit exposed connections together to form hairline joints.
- J. Repair or remove and replace damaged, defective, or nonconforming Work.
1. Comply with Section 017700 "Closeout Procedures" for repairing or removing and replacing defective Work.

### 3.6 CUTTING AND PATCHING

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
  - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of Work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching in accordance with requirements in Section 011000 "Summary."
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.
- G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
  - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
  - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
  - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond core drill.
  - 4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
  - 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
  - 6. Proceed with patching after construction operations requiring cutting are complete.
- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as practicable, as judged by Owner. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
  2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
    - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    - b. Restore damaged pipe covering to its original condition.
  3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
    - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch, corner to corner of wall and edge to edge of ceiling. Provide additional coats until patch blends with adjacent surfaces.
  4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
  5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.
- 3.7 COORDINATION OF OWNER'S PORTION OF THE WORK
- A. Site Access: Provide access to Project site for Owner's construction personnel and Owner's separate contractors.
1. Provide temporary facilities required for Owner-furnished, Contractor-installed products.
  2. Refer to Section 011000 "Summary" for other requirements for Owner-furnished, Contractor-installed products
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel and Owner's separate contractors.
1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.

### 3.8 PROGRESS CLEANING

- A. Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
  - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
  - 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F (27 deg C).
  - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
    - a. Use containers intended for holding waste materials of type to be stored.
  - 4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where Work is in progress to the level of cleanliness necessary for proper execution of the Work.
  - 1. Remove liquid spills promptly.
  - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls" and Section 017419 "Construction Waste Management and Disposal."
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

- J. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

### 3.9 STARTING AND ADJUSTING

- A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 019113 "General Commissioning Requirements."
- B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

### 3.10 PROTECTION AND REPAIR OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Repair Work previously completed and subsequently damaged during construction period. Repair to like-new condition.
- C. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.
- D. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300

## SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

## PART 1 - GENERAL

## 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
  - 1. Salvaging nonhazardous demolition and construction waste.
  - 2. Disposing of nonhazardous demolition and construction waste.
- B. Related Requirements:
  - 1. Section 011200 "Multiple Contract Summary" for coordination of responsibilities for waste management.
  - 2. Section 042000 "Unit Masonry" for disposal requirements for masonry waste.
  - 3. Section 044313.13 "Anchored Stone Masonry Veneer" for disposal requirements for excess stone and stone waste.
  - 4. Section 044313.16 "Adhered Stone Masonry Veneer" for disposal requirements for excess stone and stone waste.
  - 5. Section 311000 "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

## 1.2 DEFINITIONS

- A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building, structure, and site improvement materials resulting from demolition operations.
- C. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, incinerator acceptable to authorities having jurisdiction, or designated spoil areas on Owner's property.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

### 1.3 SALVAGING DEMOLITION WASTE

- A. Comply with requirements in Section 024116 "Structure Demolition", Section 024119 "Selective Demolition", Section 024296 "Historic Removal and Dismantling for salvaging demolition waste, if applicable.
- B. Salvaged Items for Reuse in the Work:
  - 1. Clean salvaged items.
  - 2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
  - 3. Store items in a secure area until installation.
  - 4. Protect items from damage during transport and storage.
  - 5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.
- C. Salvaged Items for Sale and Donation: Not permitted on Project site.
- D. Salvaged Items for Owner's Use:
  - 1. Clean salvaged items.
  - 2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
  - 3. Store items in a secure area until delivery to Owner.
  - 4. Transport items to Owner's storage area designated by Owner.
  - 5. Protect items from damage during transport and storage.

### 1.4 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged or recycled, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
  - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of to accumulate on-site.
  - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. General: Except for items or materials to be salvaged or recycled, remove waste materials and legally dispose of at designated spoil areas on Owner's property.
- C. Burning: Do not burn waste materials.

END OF SECTION 017419

## SECTION 017700 - CLOSEOUT PROCEDURES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for Contract closeout, including, but not limited to, the following:
  - 1. Substantial Completion procedures.
  - 2. Final completion procedures.
  - 3. Warranties.
  - 4. Final cleaning.
- B. Related Requirements:
  - 1. Section 017823 "Operation and Maintenance Data" for additional operation and maintenance manual requirements.
  - 2. Section 017839 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
  - 3. Section 017900 "Demonstration and Training" for requirements to train the Owner's maintenance personnel to adjust, operate, and maintain products, equipment, and systems.

#### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of cleaning agent.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at Final Completion.

#### 1.3 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.

#### 1.4 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's "punch list"), indicating the value of each item on the list and reasons why the Work is incomplete.

- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 7 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction, permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
  2. Submit closeout submittals specified in other Division 01 Sections, including Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
  3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
  4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Owner. Label with manufacturer's name and model number.
  5. Submit testing, adjusting, and balancing records, if required.
  6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 7 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Advise Owner of pending insurance changeover requirements.
  2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
  3. Complete startup and testing of systems and equipment with facility representative and Owner's representative in attendance.
  4. Perform preventive maintenance on equipment used prior to Substantial Completion.
  5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
  6. Advise Owner of changeover in utility services.
  7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
  8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
  9. Complete final cleaning requirements.
  10. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 7 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Owner will either proceed with inspection or notify Contractor of unfulfilled requirements. Owner will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Owner, that must be completed or corrected before certificate will be issued.

## 1.5 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining Final Completion, complete the following:
1. Submit a final Application for Payment in accordance with Section 012900 "Payment Procedures."
  2. Certified List of Incomplete Items: Submit certified copy of Owner's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Owner. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
  3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
  4. Submit pest-control final inspection report.
- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 7 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Owner will either proceed with inspection or notify Contractor of unfulfilled requirements. Owner will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

## 1.6 LIST OF INCOMPLETE ITEMS

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor, listed by room or space number.
  2. Organize items applying to each space by major element, including categories for ceilings, individual walls, floors, equipment, and building systems.
  3. Include the following information at the top of each page:
    - a. Project name.
    - b. Date.
    - c. Name of Owner.
    - d. Name of Contractor.
    - e. Page number.
  4. Submit list of incomplete items in the following format:
    - a. MS Excel Electronic File: Owner will return annotated file.
    - b. PDF Electronic File: Owner will return annotated file.

## 1.7 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Owner for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial

- Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
  - C. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
  - D. Warranties in Paper Form:
    - 1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (215-by-280-mm) paper.
  - E. Provide additional copies of each warranty to include in operation and maintenance manuals.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

## PART 3 - EXECUTION

### 3.1 FINAL CLEANING

- A. Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
  - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
    - a. Clean Project site of rubbish, waste material, litter, and other foreign substances.
    - b. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
    - c. Remove debris and surface dust from limited-access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.

- d. Clean flooring, removing debris, dirt, and staining; clean according to manufacturer's recommendations.
  - e. Vacuum and mop concrete.
  - f. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
  - g. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
  - h. Remove labels that are not permanent.
  - i. Wipe surfaces of mechanical and electrical equipment[, **elevator equipment,**] and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
  - j. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
  - k. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
  - l. Clean ducts, blowers, and coils.
  - m. Clean luminaires, lamps, globes, and reflectors to function with full efficiency.
  - n. Clean strainers.
  - o. Leave Project clean and ready for occupancy.
- C. Construction Waste Disposal: Comply with waste-disposal requirements in Section 015000 "Temporary Facilities and Controls."
- D. Complete repair and restoration operations required by Section 017300 "Execution" before requesting inspection for determination of Substantial Completion.

END OF SECTION 017700

## SECTION 017823 - OPERATION AND MAINTENANCE DATA

## PART 1 - GENERAL

## 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
  - 1. Operation and maintenance documentation directory manuals.
  - 2. Emergency manuals.
  - 3. Systems and equipment operation manuals.
  - 4. Systems and equipment maintenance manuals.
  - 5. Product maintenance manuals.

## 1.2 CLOSEOUT SUBMITTALS

- A. Submit operation and maintenance manuals. Provide content for each manual as specified in individual Specification Sections, and as reviewed and approved at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
- B. Format: Submit operation and maintenance manuals in the following format:
  - 1. Submit .PDF format to Owner.
  - 2. Submit two paper copies. Owner will return one marked up copy either via email or mail.
- C. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 7 days before commencing demonstration and training. Owner will return copy with comments.
  - 1. Correct or revise each manual to comply with Owner's comments. Submit copies of each corrected manual within 7 days of receipt of Owner's comments and prior to commencing demonstration and training.
- D. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

## 1.3 FORMAT OF OPERATION AND MAINTENANCE MANUALS

- A. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.
  - 1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.

2. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.
- B. Manuals, Paper Copy: Submit manuals in the form of hard-copy, bound and labeled volumes.
1. Binders: Heavy-duty, three-ring, vinyl-covered, binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (215-by-280-mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
  2. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
    - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
    - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.
- 1.4 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS
- A. Organization of Manuals: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
1. Title page.
  2. Table of contents.
  3. Manual contents.
- B. Title Page: Include the following information:
1. Subject matter included in manual.
  2. Name and address of Project.
  3. Name and address of Owner.
  4. Date of submittal.
  5. Name and contact information for Contractor.
  6. Name and contact information for Construction Manager.
  7. Name and contact information for Owner.
  8. Name and contact information for Commissioning Authority.
  9. Names and contact information for major consultants to the Owner that designed the systems contained in the manuals.
  10. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

## 1.5 EMERGENCY MANUALS

- A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- B. Content: Organize manual into a separate section for each of the following:
  - 1. Type of emergency.
  - 2. Emergency instructions.
  - 3. Emergency procedures.
- C. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
  - 1. Fire.
  - 2. Flood.
  - 3. Gas leak.
  - 4. Water leak.
  - 5. Power failure.
  - 6. Water outage.
  - 7. System, subsystem, or equipment failure.
  - 8. Chemical release or spill.
- D. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- E. Emergency Procedures: Include the following, as applicable:
  - 1. Instructions on stopping.
  - 2. Shutdown instructions for each type of emergency.
  - 3. Operating instructions for conditions outside normal operating limits.
  - 4. Required sequences for electric or electronic systems.
  - 5. Special operating instructions and procedures.

## 1.6 SYSTEMS AND EQUIPMENT OPERATION MANUALS

- A. Systems and Equipment Operation Manual: Assemble a complete set of data indicating operation of each system, subsystem, and piece of equipment not part of a system. Include information required for daily operation and management, operating standards, and routine and special operating procedures.
- B. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
  - 1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
  - 2. Performance and design criteria if Contractor has delegated design responsibility.
  - 3. Operating standards.
  - 4. Operating procedures.
  - 5. Operating logs.
  - 6. Wiring diagrams.
  - 7. Control diagrams.
  - 8. Piped system diagrams.
  - 9. Precautions against improper use.
  - 10. License requirements including inspection and renewal dates.
- C. Descriptions: Include the following:
  - 1. Product name and model number. Use designations for products indicated on Contract Documents.
  - 2. Manufacturer's name.
  - 3. Equipment identification with serial number of each component.
  - 4. Equipment function.
  - 5. Operating characteristics.
  - 6. Limiting conditions.
  - 7. Performance curves.
  - 8. Engineering data and tests.
  - 9. Complete nomenclature and number of replacement parts.
- D. Operating Procedures: Include the following, as applicable:
  - 1. Startup procedures.
  - 2. Equipment or system break-in procedures.
  - 3. Routine and normal operating instructions.
  - 4. Regulation and control procedures.
  - 5. Instructions on stopping.
  - 6. Normal shutdown instructions.
  - 7. Seasonal and weekend operating instructions.
  - 8. Required sequences for electric or electronic systems.
  - 9. Special operating instructions and procedures.
- E. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

- F. Piped Systems: Diagram piping as installed, and identify color coding where required for identification.

## 1.7 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

- A. Systems and Equipment Maintenance Manuals: Assemble a complete set of data indicating maintenance of each system, subsystem, and piece of equipment not part of a system. Include manufacturers' maintenance documentation, preventive maintenance procedures and frequency, repair procedures, wiring and systems diagrams, lists of spare parts, and warranty information.
- B. Content: For each system, sub-system, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranties and bonds, as described below.
- C. Manufacturers' Maintenance Documentation: Include the following information for each component part or piece of equipment:
  - 1. Standard maintenance instructions and bulletins; include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
    - a. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
  - 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
  - 3. Identification and nomenclature of parts and components.
  - 4. List of items recommended to be stocked as spare parts.
- D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
  - 1. Test and inspection instructions.
  - 2. Troubleshooting guide.
  - 3. Precautions against improper maintenance.
  - 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
  - 5. Aligning, adjusting, and checking instructions.
  - 6. Demonstration and training video recording, if available.
- E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
- F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

- G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
    - 1. Include procedures to follow and required notifications for warranty claims.
  - H. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.
- 1.8 PRODUCT MAINTENANCE MANUALS
- A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
  - B. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
  - C. Product Information: Include the following, as applicable:
    - 1. Product name and model number.
    - 2. Manufacturer's name.
    - 3. Color, pattern, and texture.
    - 4. Material and chemical composition.
    - 5. Reordering information for specially manufactured products.
  - D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
    - 1. Inspection procedures.
    - 2. Types of cleaning agents to be used and methods of cleaning.
    - 3. List of cleaning agents and methods of cleaning detrimental to product.
    - 4. Schedule for routine cleaning and maintenance.
    - 5. Repair instructions.
  - E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
  - F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
    - 1. Include procedures to follow and required notifications for warranty claims.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017823

OPERATION AND MAINTENANCE DATA

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## SECTION 017839 - PROJECT RECORD DOCUMENTS

## PART 1 - GENERAL

## 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for Project Record Documents, including the following:
  - 1. Record Drawings.
  - 2. Record specifications.
  - 3. Record Product Data.
- B. Related Requirements:
  - 1. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

## 1.2 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
  - 1. Number of Copies: Submit one set of marked-up record prints.
  - 2. Number of Copies: Submit copies of Record Drawings as follows:
    - a. Initial Submittal:
      - 1) Submit one set paper-copy set(s) of marked-up record prints.
      - 2) Submit PDF electronic files of scanned record prints and one set of file prints.
      - 3) Owner will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
    - b. Final Submittal:
      - 1) Submit two paper-copy set(s) of marked-up record prints.
      - 2) Submit PDF electronic files of scanned Record Prints and one set of file prints.
      - 3) Print each drawing, whether or not changes and additional information were recorded.
- B. Record Specifications: Submit annotated PDF electronic files and paper copies of Project's Specifications, including addenda and Contract modifications.
- C. Record Product Data: Submit annotated PDF electronic files and directories and paper copies of each submittal.

1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

### 1.3 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
  1. Preparation: Mark record prints to show the actual installation, where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
    - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
    - b. Accurately record information in an acceptable drawing technique.
    - c. Record data as soon as possible after obtaining it.
    - d. Record and check the markup before enclosing concealed installations.
    - e. Cross-reference record prints to corresponding photographic documentation.
  2. Content: Types of items requiring marking include, but are not limited to, the following:
    - a. Dimensional changes to Drawings.
    - b. Revisions to details shown on Drawings.
    - c. Depths of foundations.
    - d. Locations and depths of underground utilities.
    - e. Revisions to routing of piping and conduits.
    - f. Revisions to electrical circuitry.
    - g. Actual equipment locations.
    - h. Duct size and routing.
    - i. Locations of concealed internal utilities.
    - j. Changes made by Change Order or [**Construction**] [**Work**] Change Directive.
    - k. Changes made following Owner's written orders.
    - l. Details not on the original Contract Drawings.
    - m. Field records for variable and concealed conditions.
    - n. Record information on the Work that is shown only schematically.
  3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
  4. Mark record prints with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
  5. Mark important additional information that was either shown schematically or omitted from original Drawings.
  6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Owner[ **and Construction Manager**]. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:

1. Format: Same digital data software program, version, and operating system as for the original Contract Drawings.
  2. Format: DWG, Version 2018 or newer, Microsoft Windows operating system.
  3. Format: Annotated PDF electronic file.
  4. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
  5. Refer instances of uncertainty to Owner for resolution.
  6. Owner will furnish Contractor with one set of digital data files of the Contract Drawings for use in recording information.
- C. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
  2. Format: Annotated PDF electronic file.
  3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
  4. Identification: As follows:
    - a. Project name.
    - b. Date.
    - c. Designation "PROJECT RECORD DRAWINGS."
    - d. Name of Owner.
    - e. Name of Contractor.

#### 1.4 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation, where installation varies from that indicated in Specifications, addenda, and Contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
  3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
  4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
  5. Note related Change Orders, Record Product Data, and Record Drawings where applicable.
- B. Format: Submit record specifications as scanned PDF electronic file(s) of marked-up paper copy of Specifications.

## 1.5 RECORD PRODUCT DATA

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and revisions to Project Record Documents as they occur; do not wait until end of Project.
- B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
  - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
  - 3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.
- C. Format: Submit Record Product Data as scanned PDF electronic file(s) of marked-up paper copy of Product Data.
  - 1. Include Record Product Data directory organized by Specification Section number and title, electronically linked to each item of Record Product Data.

## 1.6 MAINTENANCE OF RECORD DOCUMENTS

- A. Maintenance of Record Documents: Store Record Documents in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Owner's reference during normal working hours.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017839

## SECTION 017900 - DEMONSTRATION AND TRAINING

## PART 1 - GENERAL

## 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
  - 1. Instruction in operation and maintenance of systems, subsystems, and equipment.

## 1.2 QUALITY ASSURANCE

- A. Facilitator Qualifications: An individual experienced with installed equipment and in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.

## 1.3 COORDINATION

- A. Coordinate instruction/demonstration schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.

## 1.4 INSTRUCTION PROGRAM

- A. Training: Include instruction for the following as applicable to the system, equipment, or component:
  - 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
    - a. System, subsystem, and equipment descriptions.
    - b. Performance and design criteria if Contractor is delegated design responsibility.
    - c. Operating standards.
    - d. Regulatory requirements.
    - e. Equipment function.
    - f. Operating characteristics.
    - g. Limiting conditions.
    - h. Performance curves.
  - 2. Documentation: Review the following items in detail:
    - a. Emergency manuals.
    - b. Systems and equipment operation manuals.
    - c. Systems and equipment maintenance manuals.
    - d. Product maintenance manuals.

- e. Project Record Documents.
  - f. Identification systems.
  - g. Warranties and bonds.
  - h. Maintenance service agreements and similar continuing commitments.
3. Emergencies: Include the following, as applicable:
- a. Instructions on meaning of warnings, trouble indications, and error messages.
  - b. Instructions on stopping.
  - c. Shutdown instructions for each type of emergency.
  - d. Operating instructions for conditions outside of normal operating limits.
  - e. Sequences for electric or electronic systems.
  - f. Special operating instructions and procedures.
4. Operations: Include the following, as applicable:
- a. Startup procedures.
  - b. Equipment or system break-in procedures.
  - c. Routine and normal operating instructions.
  - d. Regulation and control procedures.
  - e. Control sequences.
  - f. Safety procedures.
  - g. Instructions on stopping.
  - h. Normal shutdown instructions.
  - i. Operating procedures for emergencies.
  - j. Operating procedures for system, subsystem, or equipment failure.
  - k. Seasonal and weekend operating instructions.
  - l. Required sequences for electric or electronic systems.
  - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
- a. Alignments.
  - b. Checking adjustments.
  - c. Noise and vibration adjustments.
  - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
- a. Diagnostic instructions.
  - b. Test and inspection procedures.
7. Maintenance: Include the following:
- a. Inspection procedures.
  - b. Types of cleaning agents to be used and methods of cleaning.
  - c. List of cleaning agents and methods of cleaning detrimental to product.
  - d. Procedures for routine cleaning.
  - e. Procedures for preventive maintenance.
  - f. Procedures for routine maintenance.
  - g. Instruction on use of special tools.

8. Repairs: Include the following:
  - a. Diagnosis instructions.
  - b. Repair instructions.
  - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
  - d. Instructions for identifying parts and components.
  - e. Review of spare parts needed for operation and maintenance.

## 1.5 PREPARATION

- A. Perform necessary steps to prepare for demonstration(s).

## 1.6 INSTRUCTION

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Scheduling: Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
- C. Training/Demonstration Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in place. Conduct training using final operation and maintenance data submittals.

## PART 2 - PRODUCTS

## PART 3 - EXECUTION

END OF SECTION 017900

## SECTION 05 56 00

### METAL CASTINGS

#### PART 1 GENERAL

##### 1.1 DESCRIPTION

###### A. Scope:

1. Contractor shall provide labor, materials, equipment, and incidentals as shown, specified, and required to furnish and install metal castings.
2. Castings include metal items that are not part of miscellaneous metal fabrications or metal systems in other Specifications Sections.
3. Manhole riser rings and chimney seals are included in this Section.

###### B. Coordination:

1. Review installation procedures under this and other Sections and coordinate installation of items to be installed with or before metal castings Work.
2. Where coordination of Work by others is required, notify other contractors in advance of installing castings to provide other contractors with sufficient time for installing items included in their contracts to be installed with or before metal castings Work.

###### C. Related Sections:

1. Section 33 44 13, Drainage Structures.

##### 1.2 MEASUREMENT AND PAYMENT

###### A. Metal Castings Various Sizes and Types

1. Costs associated with castings are included with manholes or storm drainage structures and are not paid for separately.

##### 1.3 REFERENCES

###### A. Standards referenced in this Section are listed below:

1. American Association of State Highway and Transportation Officials (AASHTO)
  - a. AASHTO H-20 Loading
2. ASTM International.
  - a. ASTM A48/A48M, Specification for Gray Iron Castings.
  - b. ASTM D4632, Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.
  - c. ASTM D4833, Standard Test Method for Index Puncture Resistance of Geomembranes and Related Products.
  - d. ASTM D4751, Standard Test Method for Determining Apparent Opening Size of a Geotextile.
  - e. ASTM D4491, Standard Test Methods for Water Permeability of Geotextiles by Permittivity.

#### 1.4 QUALITY ASSURANCE

##### A. Manufacturer's Qualifications:

1. Manufacturer shall have at least five years of experience manufacturing products substantially similar to those required and shall be able to submit documentation of at least five installations in satisfactory operation for at least five years each.

##### B. Component Supply and Compatibility:

1. Obtain all frame, lid or cover, and grate products included in this Section regardless of component manufacturer, from a single castings manufacturer.
2. Castings manufacturer shall review and approve or prepare all Shop Drawings and other submittals for all components furnished under this Section.
3. Components shall be constructed for specified service conditions and shall be integrated into overall assembly by castings manufacturer.

#### 1.5 SUBMITTALS

##### A. Action Submittals: Submit the following:

1. Product Data:
  - a. Provide copies of manufacturer's catalog information for the products proposed for use, specifications, load tables, dimension diagrams, anchor details, and installation instructions. Include indication of specific products or models being used.

##### B. Informational Submittals: Submit the following:

1. Qualifications Statements: Submit qualifications for the following:
  - a. If submitting an unlisted product or manufacturer as a comparable equal to listed products and manufacturers.

#### 1.6 DELIVERY, STORAGE AND HANDLING

##### A. Packing, Shipping, Handling, and Unloading:

1. Deliver products to the Site to ensure uninterrupted progress of the Work. Deliver anchorage materials to be embedded in concrete in ample time to prevent delaying the Work.
2. Comply with Section 01 65 00, Product Delivery Requirements.

##### B. Storage and Protection:

1. Protect materials from corrosion and deterioration.
2. Comply with Section 01 66 00, Product Storage and Handling Requirements.

### PART 2 PRODUCTS

#### 2.1 CASTING MATERIALS

- A. See Section 33 44 13, Drainage Structures for Casting Specifications

#### 2.2 CASTING FABRICATION

- A. Fabrication, General:
1. Castings shall be of uniform quality, free of sand holes, gas holes, shrinkage cracks, and other surface defects.
  2. Castings shall be ground smooth and well-cleaned by shot blasting in the shop.
  3. Design and fabricate round frames and covers to prevent rocking and rattling under traffic loads that will be imposed in actual use.
  4. Fabricate castings true to pattern so that component parts fit together.
  5. The surface of drainage inlets shall have a casted marker that displays that it drains to waterways, as shown on Drawings.
  6. Each casting shall be identifiable and, depending on its size, shall indicate the following: name of producing foundry, ASTM material designation, individual part number, and cast or heat date. Castings shall include all lettering shown or indicated on the Drawings.

### 2.3 RISER RINGS

- A. Riser rings shall be precast concrete and shall have a minimum thickness of 2 inches and a maximum thickness of 6 inches.
- B. Riser ring joints shall be sealed with the following method:
1. Preformed Flexible Joint Sealant in accordance with ASTM C990 and AASHTO- M198.
    - a. Manufactures: Provide joint sealant from the following:
      - 1) EZ Stik, by Press-Seal Gasket Corporation.
      - 2) Kent Seal No 2, by Hamilton Kent.
      - 3) Or equal.
- C. Storm Manhole Chimney Seal
1. Provide non-woven geotextile wrap around exterior of manhole chimney. Geotextiles shall conform to the requirements in the following table:

Non-Woven Geotextile Fabric Requirements				
Physical Property	Test Method	Unit	Min. Value	
Grab Tensile Strength	ASTM D 4632	lbs.	200	
Grab Tensile Elongation	ASTM D 4632	%	50	
Puncture Strength	ASTM D 4833	lbs.	500	
Apparent Opening Size (AOS)	ASTM D 4751	U.S. Sieve	#80	
Flow Rate	ASTM D 4491	gal/min/ft <sup>2</sup>	95	

## PART 3 EXECUTION

### 3.1 INSPECTION

- A. Examine conditions under which Work is to be performed and notify Landscape Architect in writing of conditions detrimental to proper and timely completion of the Work. Do not proceed with installation until unsatisfactory conditions are corrected.

### 3.2 RISER RINGS

- A. Use riser rings to provide adjustment of the casting to finish grade.
- B. Use precast concrete riser rings for all precast and masonry manholes and structures, where watertight castings are NOT required.
- C. Riser rings shall be used for all precast and masonry manholes and structures, where required. Riser ring stacks shall be a maximum of 12-inches in height, and shall be provided between the top of the cone or slab and the underside of the manhole casting for adjustment of the casting to finished grade. No more than 2 grade rings shall be stacked together to reach the finished grade.
- D. Riser rings shall be provided between the top of the cone or slab and the underside of the manhole casting.
- E. Riser rings for precast manholes shall be laid in rubber base extrudable preformed gasket material and shall conform to details shown.
- F. Joints between the casting, riser rings, and top section of the manhole shall be sealed using the applicable external chimney seal.
- G. Landscape Architect shall be notified if the above requirements cannot be met for specific field installations and Contractor shall not proceed without written approval from Landscape Architect.

### 3.3 INSTALLATION

- A. Comply with casting manufacturer's printed instructions and the Contract Documents. Where castings are installed on precast concrete, fabricated fiberglass, or other fabricated products, install casting in accordance with requirements of manufacturer of product on which casting will be installed.
- B. Set castings accurately to required location, alignment, and elevation, plumb, level, true and free of rack, measured from established lines and levels. Where applicable, brace temporarily or anchor temporarily in formwork.

+ + END OF SECTION + +

## SECTION 31 00 05

### TRENCHING AND EARTHWORK

#### PART 1 GENERAL

##### 1.1 DESCRIPTION

###### A. Scope:

1. Contractor shall provide all labor, materials, equipment and incidentals required to perform all demolition, excavation, backfill, fill, rough grading, compacting, and disposing of earth materials as shown, specified, and required for construction of earthen dams, drainage structures, manholes, vaults, utilities, conduits, pipelines, maintenance access berms, shot-rock, cross-vanes, open cross-vanes, check dams, coir logs, stone toe protection, brush matting, bank realignment, sedimentation basins, emergency spillways, and any other items required to complete the Work in every respect.
2. All necessary preparation of subgrade for walks, drives, slabs, and pavements is included.
3. Two classifications of excavated materials will be made.
  - a. Excavation for the removal of grouted revetment.
  - b. Excavation including all other materials regardless of type, character, composition, moisture, or condition thereof

###### B. Related Sections:

1. Section 31 05 19, Geosynthetics for Earthwork.
2. Section 31 36 10, Gabions and Revetment Mattresses.

###### C. Definitions

1. Backfill – Material that is placed within an excavation. Material shall be in accordance with Section 2.1A of this section, approved on-site or off-site materials are acceptable.
2. Fill – Material that is placed on an existing surface to increase the elevation of the final surface. Material shall be in accordance with Section 2.1A of this section, approved on-site or off-site materials are acceptable.
3. Special Backfill – Material that is placed within an excavation and provides structural support. Material shall be in accordance with Section 2.1B of this section, and an approved off-site material.

##### 1.2 MEASUREMENT AND PAYMENT

###### A. Common Excavation:

1. Work Item Number and Title  
**31 00 05-A Common Excavation**
2. This item shall consist of all excavation which is not otherwise classified and paid for. Including the costs to remove all soils and subbase where proposed construction activities, drainage improvements, forebays, maintenance access, etc. will be necessary for the completion of work.
3. Common excavation does not include excavation required for the installation of other Work items, including but not limited to utility piping, manholes, and structures. Unless

specifically stated elsewhere, excavation required for the installation of other Work items shall be included in the measurement and payment of those Work items.

4. The common excavation shall be measured in cubic yards for the removed material.
5. The payment for common excavation shall be based on the unit price per cubic yard as listed on the submitted Bid schedule.

B. Special Excavation by Hand:

1. Work Item Number and Title

**31 00 05-B Special Excavation by Hand**

2. This item shall consist of all excavation by hand which is associated with the removal of all soil, backfill, subbase, etc. around existing drainage structures or where excavation is necessary and areas are not accessible making mechanical removal not possible or where small amounts of precise earthwork will need to be conducted by hand tools.
3. Special excavation by hand does not include excavation required for the installation of other Work items, including but not limited to utility piping, manholes, and structures. Unless specifically stated elsewhere, excavation required for the installation of other Work items shall be included in the measurement and payment of those Work items.
4. The special excavation by hand shall be measured in cubic yards for the removed material.
5. The payment for special excavation by hand shall be based on the unit price per cubic yard as listed on the submitted Bid schedule.

C. Special Excavation of Riprap & Concrete Riprap:

1. Work Item Number and Title

**31 00 05-C Special Excavation of Riprap & Concrete riprap**

2. This item shall consist of all excavation which associated with the removal of all riprap, concrete riprap, subbase, debris, unsuitable material associated with the work.
3. Special excavation of riprap & concrete riprap does not include excavation required for the installation of other Work items, including but not limited to utility piping, manholes, and structures. Unless specifically stated elsewhere, excavation required for the installation of other Work items shall be included in the measurement and payment of those Work items.
4. The Special excavation of riprap & concrete riprap shall be measured in cubic yards for the removed material.
5. The payment Special excavation of riprap & concrete riprap shall be based on the unit price per cubic yard as listed on the submitted Bid schedule.

D. Common Earthwork:

1. Work Item Number and Title

**31 00 05-D Common Earthwork**

2. This item shall consist of all earthwork which is not otherwise classified and paid for. Including the costs to furnish all labor, materials, equipment, tools, necessary to place, compact, and test soils, as well as any additional suitable fill, labor, materials, etc. that may be necessary for completion of the earthen berm and emergency outlet structure or to achieve desired rough grades.
3. Common earthwork does not include earthwork required for the installation of other Work items, including but not limited to utility piping, manholes, and structures. Unless specifically stated elsewhere, earthwork required for the installation of other Work items shall be included in the measurement and payment of those Work items.

4. The common earthwork shall be measured in cubic yards for the material moved, placed, compacted, etc. necessary for the completion of work per the Contract Documents, and Construction Drawings.
5. The payment for common excavation shall be based on the unit price per cubic yard as listed on the submitted Bid schedule.

E. Special Backfill

1. Work Item Number and Title  
**31 00 05-E Special Backfill, Compacted Aggregate**
2. This item shall include all costs to furnish all labor, materials, equipment, tools, and compacting required to place and compact Special Backfill material described as herein. Special Backfill is to be placed under drainage upgrades or as shown on the Drawings.
3. The quantity of Special Backfill shall be calculated by the following equation:

$$yd^3 = \frac{(L)(D)(W)}{27}$$

Where:

- yd<sup>3</sup> = The quantity of Special Backfill in cubic yards
- L = The actual length of a cut at the surface in feet requiring backfill material (ft)
- D = The vertical distances in feet from surface to a point one foot above the top of the pipe (ft)
- W = The width of the trench, in feet, having a maximum pay width of outside diameter + 2.5 ft

4. The payment of Special Backfill shall be based on the unit price per ton as listed on the submitted Bid schedule.

F. Excavation of Unsuitable Material

1. Work Item Number and Title  
**31 00 05-F Excavation of Unsuitable Material**
2. This item shall include all cost associated with excavation below bottom elevation of structure bedding, or as directed by Landscape Architect, temporary sheeting, shoring, disposal of excavated material, dewatering, and erosion control.
3. The quantity will be the cubic yard calculated in the rectangular cross section having a maximum width of 30 inches plus the outside diameter of the drainage improvement therein. Depth shall be anything greater than 18 inches below the required bedding, as is shown.
4. The payment shall be on a unit price basis per cubic yard.

G. Haul-Off:

1. Work Item Number and Title  
**31 00 05-G Haul-Off**

2. This item shall consist of all haul-off. Including the costs to remove all excess or unsuitable soils, unsuitable riprap, demolished concrete riprap and subbase, and any other extraneous material not suitable for construction or future use.
3. The haul-off shall be measured in tons for the removed material.
4. The payment for haul-off shall be based on the unit price per ton as listed on the submitted Bid schedule.

II. Additional Special Backfill for Unsuitable Material

1. Work Item Number and Title  
**31 00 05-H Additional Special Backfill for Unsuitable Material**
2. This item shall include all cost associated with furnishing, placing, and compaction of special backfill to replace excavated unsuitable material, as directed by the Landscape Architect.
3. The quantity will be the cubic yards calculated for the area below that shown on the plans and as directed by the Landscape Architect.
4. The payment shall be on a unit price basis per ton.

I. Retentions and Course Aggregates

1. Work Item Number and Title  
**31 00 05-I #1 Crushed Limestone**  
**31 00 05-J Limestone Retention**  
**31 00 05-K Class II Limestone Riprap**  
**31 00 05-L Class III Limestone Shot Rock**  
**31 00 05-M Class IV Limestone Shot Rock**  
**31 00 05-N Class V Limestone Shot Rock**  
**31 00 05-O Class I Glacial Stone**  
**31 00 05-P Class II Glacial Stone**  
**31 00 05-Q Class III Glacial Stone**  
**31 00 05-R Class IV Glacial Stone**
2. This item shall include all cost associated with furnishing and placing riprap as directed by the Landscape Architect. Including any earth excavation, subgrade preparation, material disposal and incidentals for performing all Work as specified unless otherwise broken down as a separate bid item.
3. The quantity will be measured per ton.

J. Other Trenching and Earthwork:

1. All other items listed in this specification are to be included in overall Project cost and not bid as a separate Work item.

1.3 REFERENCES

A. Standards referenced in this Section are listed below:

1. ASTM International:
  - a. ASTM D422, Test Method for Particle-Size Analysis of Soils.
  - b. ASTM D698, Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft – lbf/ft<sup>3</sup>).

- c. ASTM D1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft – lbf/ft<sup>3</sup>)
  - d. ASTM D2166, Test Method for Unconfined Compressive Strength of Cohesive Soils.
  - e. ASTM D4318, Test Method for Liquid Limit, Plastic Limit and Plasticity Index of Soils.
2. Indiana Department of Transportation (INDOT) - Standard Specifications:
- a. 211, B Borrow and Structural Backfill
  - b. 616.05, Placing Revetment Riprap
  - c. 901.01(b), Portland Cement
  - d. 904.01, Aggregates
  - e. 904.02, Fine Aggregate
  - f. 904.03, Coarse Aggregate
  - g. 904.04, Riprap
  - h. 913.01, Water

#### 1.4 QUALITY ASSURANCE

- A. Testing Services:
1. General: Testing of materials, testing for moisture content during placement and compaction of fill materials, and testing of compaction for compliance with technical requirements of these Specifications shall be performed by a testing laboratory as specified in the Contract Documents. Testing shall conform to ASTM D422, ASTM D427, ASTM D1557, ASTM D 2166, ASTM D 698, and ASTM D4318.
  2. Contractor's Laboratory Services Scope:
    - a. Test proposed materials in the laboratory and/or field for compliance with the Contract Documents.
    - b. Perform field moisture content and density tests to verify that the specified compaction of backfill materials has been obtained.
    - c. Inspect and approve subgrades and fill layers are in compliance with the Contract Documents before further Work is performed thereon.
    - d. Report test results to the Landscape Architect.
  3. Authority and Duties of Testing Agency: Technicians representing the testing laboratory shall inspect the materials in the field, perform tests, and report their findings to the Landscape Architect and Contractor. When the materials furnished or the Work performed fails to fulfill Specification requirements, the technician will direct the attention of the Landscape Architect and Contractor to such failure.
    - a. The technician shall not act as foreman or perform other duties for Contractor. Work will be checked as it progresses. Failure to detect any defective Work or materials at the time of installation shall not in any way prevent later rejection of the Work if defects are later discovered, nor shall it obligate the Landscape Architect for final acceptance. Technicians are not authorized to revoke, alter, relax, enlarge, or release any requirements of the Contract Documents, nor to approve or accept any portion of the Work.
  4. Responsibilities and Duties of Contractor, relative to testing:
    - a. The use of testing services shall in no way relieve Contractor of the responsibility to provide Work in full compliance with the Contract Documents.
    - b. To facilitate testing services, Contractor shall:

- 1) Secure and deliver to the Landscape Architect or to the testing agency, without cost, preliminary representative samples of the materials the Contractor proposes to use which are required to be tested.
  - 2) Furnish such casual labor as is necessary to obtain and handle samples at the Site or at other sources of material.
  - 3) Advise the laboratory service at least two days in advance of any backfill operations to allow for completion of quality tests and for the assignment of personnel.
- c. It shall be the responsibility of the Contractor to accomplish the specified compaction for backfill, fill, and other earthwork. It shall be the responsibility of the Contractor to control their operations by confirmation tests to verify and confirm that Contractor has complied, and is complying at all times, with the requirements of these Specifications concerning compaction, control, and testing.
- d. Contractor shall demonstrate the adequacy of compaction equipment and procedures to the Landscape Architect before exceeding any of the following amounts of earthwork quantities:
- 1) 200 linear feet of Special Trench Backfill.
  - 2) 10 cubic yards of structural backfill.
  - 3) 100 cubic yards of embankment work.
  - 4) 50 cubic yards of base material.
- e. Until the specified degree of compaction on the previously specified amounts of earthwork is achieved, no additional earthwork of the same kind shall be performed.
- f. Periodic compliance tests may be made by the Landscape Architect to verify that compaction is conforming to the requirements previously specified, at no cost to Owner. Contractor shall remove the overburden above the level at which the Landscape Architect wishes to test and shall backfill and recompact the excavation after the test is complete.
- g. If compaction fails to conform to the specified requirements, Contractor shall remove and replace the backfill at proper density or shall bring the density up to specified level by other means acceptable to the Landscape Architect. Subsequent tests required to confirm and verify that the reconstructed backfill has been brought up to specified density shall be paid by Contractor. Contractor confirmation tests shall be performed in a manner acceptable to the Landscape Architect. Frequency of confirmation tests for remedial Work shall be double the amount specified for initial confirmation tests.
- B. Quality Control Testing During Construction: Testing service shall inspect and approve subgrades and fill layers before construction Work is performed thereon. Tests of subgrades and fill layers shall be taken as follows:
1. The frequency of Contractor confirmation tests shall be not less than as follows: Each test location for trenches, berms, embankments, etc. shall include tests for each layer, type, or class of backfill from bedding to finish grade.
    - 1) Trenches for Underground Facilities:
      - a) Under pavement cuts or within two feet of pavement edges: One location every 400 linear feet.
    - 2) For Structural Backfill: On 30-foot intervals on all sides of the structure for every compacted lift, but no less than one per lift on each side of the structure for structures less than 60 feet long on a side.

- 3) In Embankment or Fill: One per 1,000 square feet on every compacted lift.
  - 4) Base Material: One per 1,000 square feet on every compacted lift.
  - 2. Copies of the test reports shall be submitted promptly to the Landscape Architect. Contractor tests shall be performed by a soils testing laboratory acceptable to the Landscape Architect.
  - 3. Footing Subgrade: For each strata of soil on which footings will be placed, conduct at least 1 test to verify required design bearing capacities. Subsequent verification and approval of each footing subgrade may be based on a visual comparison of each subgrade with related tested strata, when acceptable to Landscape Architect.
- C. Permits and Regulations:
- 1. The contractor shall obtain all necessary permits for Work in roads, right-of-ways, railroads, and other property where permits are required. Also, obtain permits as required by local, state and federal agencies for discharging water from excavations.
  - 2. Perform excavation Work in compliance with applicable requirements of governing authorities having jurisdiction.

## 1.5 SUBMITTALS

- A. Action Submittals: Submit the following:
- 1. Samples:
    - a. Submit samples of all select geotextiles, fill, gravel and base materials required: Deliver samples to Landscape Architect. Where materials are too large to be sampled, photos of the selected material shall be submitted that includes an item of known dimension for scale purposes (i.e. yard stick).
  - 2. Product Data:
    - a. Submit source of materials, and when gradation is specified, submit gradation test for each type of material specified.
- B. Informational Submittals: Submit the following:
- 1. Delegated Design Submittals:
    - a. Contractor shall prepare Shop Drawings for the following items:
      - 1) Sheeting and bracing, or other protective system(s).
      - 2) Dewatering system.
      - 3) Cofferdams.
      - 4) Underpinning.
    - b. Drawings shall be prepared by a Professional Landscape Architect, registered in the State of Indiana, recognized as expert in the specialty involved. Drawings shall be submitted to Landscape Architect for record purposes only. Calculations shall not be submitted. Drawing submittals will not be checked and will not imply approval by Landscape Architect of the Work involved. Contractor shall be solely responsible for designing, installing, operating and maintaining whatever system is necessary to satisfactorily accomplish all necessary sheeting, bracing, protection, underpinning, and dewatering.
  - 2. Site Quality Control Submittals:

- a. Test Reports for Borrow, Backfill, and Grading: Testing laboratory shall submit copies of the following reports directly to Landscape Architect, with copy to the Contractor:
    - 1) Tests on borrow material.
    - 2) Test of excavation subgrade, including footers.
    - 3) Field density tests.
    - 4) Optimum Moisture: Maximum density curve for each soil used for backfill.
    - 5) Tests of actual unconfined compressive strength or bearing tests of each strata.
    - 6) Tests of Flowable Fill.
  - b. Submit the proposed compaction procedure and equipment to be used.
  - c. Submit the proposed sheet shoring and bracing procedure and equipment to be used.
  - d. Submit any additional reports from required field testing as specified in Part 3 of this specification.
3. Qualifications Statements:
- a. Submit qualifications for earthwork testing agency.

## 1.6 JOB CONDITIONS

- A. Existing Underground Facilities: The Drawings show certain surface and underground structures and utilities adjacent to the Work. This information has been obtained from existing records. It is not guaranteed to be correct or complete and is shown for the convenience of Contractor. Contractor shall explore ahead of the required excavation to determine the exact location of all structures. They shall be supported and protected from damage by Contractor. If they are broken or damaged due to the Contractor's construction activities, then they shall be restored immediately by Contractor at no additional cost to the Owner.
  - 1. Locate existing Underground Facilities in the areas of the Work. If facilities are to remain in place, provide adequate means of protection during all operations.
  - 2. Should uncharted or incorrectly charted piping, structures, or other utilities be encountered during excavation, consult utility owner and Landscape Architect immediately for directions as to how to proceed. Cooperate with Owner and utility owner in keeping services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.
  - 3. In general, service lines to individual houses and businesses are not shown. Contractor shall assume that services exist for each utility to each house or business.
  - 4. Do not interrupt existing utilities serving facilities occupied and used by Owner or others, except when permitted in writing by Landscape Architect and utility owner and then only after acceptable temporary utility services have been provided.
  - 5. Demolish and completely remove from the Site existing Underground Facilities indicated to be removed. Coordinate with utility owner for shut-off of services if lines are active.
- B. The use of explosives will not be permitted.
- C. Protection of Work and Property must conform to requirements in Contract Documents. Refer to Section 01 71 33 - Protection of Work and Property.
- D. Dust Control must conform to requirements in Contract Documents. Refer to Section 01 57 00 - Temporary Controls.

- E. Roadways and Walks: Unless otherwise approved by Landscape Architect, excavated material and materials of construction shall be stockpiled, and the Work shall be conducted to maintain open and free for pedestrian traffic in all crosswalks, and for vehicular traffic, provide a roadway driving lane not less than ten feet wide. All hydrants, valves, fire alarm boxes, letterboxes, and other facilities which may require access during construction shall be kept accessible for use. During the progress of the Work, Contractor shall maintain such crosswalks, sidewalks, and roadways in satisfactory condition, and the Work shall at all times be conducted to cause a minimum inconvenience to public travel and to permit safe and convenient access to private and public property along the line of the Work.

## PART 2 PRODUCTS

### 2.1 MATERIALS

- A. Backfill and Fill:
1. Materials acceptable for use as backfill against walls, foundations, underground ductbanks, and other structures shall be stockpiled native sandy clay or granular soils obtained from on-site excavations and which are uniformly mixed, contain no organic matter, nor contain rocks or fragments greater than 3 inches in size, nor have greater than 40 percent passing the 200 sieve. The maximum expansion of on-site materials shall be 1.5 percent as performed on a sample remolded to approximately 95 percent of the maximum dry density as determined in accordance with ASTM D698 at two percent below optimum moisture content under a 100 psf surcharge pressure.
  2. Backfill and fill materials from off-site sources shall consist of silty or clayey sand soils that are uniformly mixed, contain no organic matter and which have a Plasticity Index less than ten. The maximum particle size of imported soils shall be 3-inches or less, if required to satisfy trenching, landscaping, or other requirements. The maximum expansion of off-site materials shall be 1.5 percent as performed on a sample remolded to approximately 95 percent of the maximum dry density as determined in accordance with ASTM D698 at two percent below optimum moisture content under a 100 psf surcharge pressure.
  3. All materials for use as backfill and fill material shall be tested by the laboratory services, as requested by the Landscape Architect.
  4. If on-site material is unsuitable, as determined by the Landscape Architect, Special Backfill or approved off-site fill shall be used.
- B. Special Backfill:
1. Special backfill for use beneath structures, concrete slabs and asphalt pavements (and where shown or specified below and around structures) shall be in accordance with the Indiana Department of Transportation (INDOT) Standard Specifications latest edition, Sections 211 and 904.
  2. The material shall be acceptable quality, free from large or frozen lumps, wood, or other extraneous matter.
  3. Special backfill shall be in accordance with gradations for No. 53 or No. 73 coarse aggregate in accordance with the gradation requirements of INDOT Standard

Specifications latest edition, Section 904.03(e). Coarse Aggregate, No. 53 or No. 73 shall be crushed stone or air-cooled blast furnace slag (ACBF), Class D or higher.

4. Use of "B" Borrow is not acceptable.
  - a. "B" Borrow is defined in accordance with the Indiana Department of Transportation (INDOT) Standard Specifications latest edition, Sections 211 and 904.

C. Bedding

1. The following pipe materials are classified as Rigid:
  - a. Reinforced Concrete Pipe (RCP)
2. The following pipe materials are classified as Flexible:
  - a. High Density Polyethylene (HDPE)
3. Bedding for Rigid Pipes
  - a. Compacted Granular Bedding Material: The compacted granular bedding shall consist of angular 1/4 inch to 1 1/2 inch, graded stone. INDOT Classification No. 5, No. 8 and No. 9 are acceptable. Required backfill is then placed on top of the compacted granular bedding.
  - b. Shaped Subgrade Bedding with compacted granular bedding: The subgrade material shall be No. 8 crushed stone. The compacted granular bedding shall consist of angular, 1/4 inch to 1 1/2 inch graded stone. INDOT Classification No. 5, No.8 or No. 9 is acceptable. Required backfill is then placed on top of the compacted angular bedding.
4. Bedding for Flexible Pipes
  - a. All flexible pipes shall be bedded in Class "F" (crushed stone) bedding. INDOT Classifications No. 5 and No. 8 are acceptable. The crushed stone shall be placed from a minimum depth beneath the pipe of the outer pipe diameter divided by eight (4 inch minimum) to the pipe's springline. Compacted granular bedding material is then placed on top of the crushed stone, level across the trench, to a point a minimum of 12 inches above the crown of the pipe. The compacted granular bedding material shall consist of angular, graded stone. INDOT Classification No. 5, No. 8, No. 9 are acceptable. Required backfill is then placed on top of the compacted angular bedding.
5. Bedding for Precast Concrete Structures
  - a. Precast concrete base sections for structures shall be placed on a well graded, compacted granular bedding material. The compacted granular bedding material shall consist of angular, graded stone. INDOT Classification No. 5, No. 8, No. 9, in accordance with INDOT 211, is acceptable. The bedding course shall extend to the limits as shown on the Drawings.

Class III Limestone Shot Rock Gradation	
Percent Smaller	
Size, in.	Hand Laid
48+	
48	
42	
36	100
30	40-60
24	0
18	
12	
Depth of Stone	See Plans

Class IV Limestone Shot Rock Gradation	
Percent Smaller	
Size, in.	Hand Laid
48+	
48	100
42	40-60
36	0
30	
24	
18	
12	
Depth of Stone	See Plans

Class V Limestone Shot Rock Gradation	
Percent Smaller	
Size, in.	Hand Laid
48+	100
48	0
42	
36	

30	
24	
18	
12	
Depth of Stone	See Plans

Class I Glacial Stone Gradation	
Percent Smaller	
Size, in.	Hand Laid
30	
24	
18	
12	100
8	20-30
6	0
3	
1	
Depth of Stone	See Plan

Class II Glacial Stone Gradation	
Percent Smaller	
Size, in.	Hand Laid
30	
24	
18	100
12	0
8	
6	
3	
1	
Depth of Stone	See Plan

## PART 3 EXECUTION

### 3.1 INSPECTION

- A. Provide Landscape Architect with 2 business days notice and with means to examine the areas and conditions under which excavating, filling, and grading are to be performed. Landscape Architect will notify Contractor, in writing, if conditions are found that may be detrimental to the proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions have been corrected in an acceptable manner.

### 3.2 TEST PITS

- A. General:
  - 1. Contractor shall excavate and backfill, in advance of the construction, test pits to determine conditions or location of the existing utilities and structures. Contractor shall perform all the Work required in connection with excavating, stockpiling, maintaining, sheeting, shoring, backfilling and replacing pavement for the test pits.
    - a. Contractor shall be responsible for the definite location of each existing facility involved within the area of excavation for the Work under this Contract. Care shall be exercised during such location work to avoid damaging and/or disrupting the affected facility. Contractor shall be responsible for repairing, at his expense, damage to any structure, piping, or utility caused by his Work.

### 3.3 EXCAVATION

- A. Perform all excavations required to complete the Work as shown, specified and required. Excavations shall include earth, sand, clay, gravel, hardpan, boulders not requiring drilling and blasting for removal, decomposed material, pavements, rubbish, abandoned utilities and all other materials within the excavation limits.
- B. Provide excavation protection system(s) required by ordinances, codes, Laws, and Regulations to prevent injury to workers and to prevent damage to new and existing structures or utilities.
- C. Where the structure or utility is to be placed below the ground water table, use well points, cofferdams or other acceptable methods to permit construction of said structure or pipeline under dry conditions. Dry conditions shall be maintained until concrete has reached sufficient strength to withstand earth and hydrostatic loads and until the pipelines are properly jointed, tested and acceptably backfilled. Water level shall be maintained below subgrade until backfilling and compaction is completed.

D. INDOT Sieve Analysis Requirements

- The following lists the coarse aggregate sieve analysis requirements in accordance with INDOT Section 903:

INDOT – Sieve Analysis Requirements

Sieve Sizes	COARSE AGGREGATE SIZES (PERCENT PASSING)									
	COARSE GRADED							DENSE GRADED		
	2	5	8	9	11	12	43(1)	91	53(1)	73(1)
4 in. (100 mm)										
3 1/2 in. (90 mm)										
2 1/2 in. (63 mm)	100									
2 in. (50 mm)	80-100									
1 1/2 in. (37.5 mm)		100					100		100	
1 in. (25 mm)	0-25	85-98	100				70-90	100	80-100	100
3/4 in. (19 mm)	0-10	60-85	75-95	100			50-70		70-90	90-100
1/2 in. (12.5 mm)	0-7	30-60	40-70	60-85	100	100	35-50		55-80	60-90
3/8 in. (9.5 mm)		15-45	20-50	30-60	75-95	95-100				
No. 4 (4.75 mm)		0-15	0-15	0-15	10-30	50-80	20-40		35-60	35-60
No. 8 (2.36 mm)		0-10	0-10	0-10	0-10	0-35	15-35		25-50	
No. 30 (600 µm)						0-4	5-20		12-30	12-30
No. 200 (75 µm)(2)							0-6.0		5.0-10.0(4)	5.0-12.0
Decant (PCC)(3)		0-1.5	0-1.5	0-1.5	0-1.5	0-1.5		0-1.5		
Decant (Non-PCC)	0-2.5	0-2.5	0-3.0	0-2.5	0-2.5	0-2.0		0-2.5		

Notes: 1. The liquid limit shall not exceed 25 (35 if slag) and the plasticity index shall not exceed 5. The liquid limit shall be determined in accordance with AASHTO T 89 and the plasticity index in accordance with AASHTO T 90. 2. Includes the total amount passing the No. 200 (75 µm) sieve as determined by AASHTO T 11 and T 27. 3. Decant may be 0-2.5 for stone and slag. 4. When slag is used for separation layers as defined in 302.01, the total amount passing the No. 200 (75 µm) sieve shall be 10.0 to 12.0.

E. Revetment Riprap

- Provide revetment Riprap in accordance with INDOT Section 904.04, class F or higher, with a maximum dimension of 3 times the minimum dimension.
- The aggregate shall be as defined by INDOT Standards for revetment riprap, must be crushed stone, and must meet the following gradations:

INDOT Revetment Riprap Gradation	
Percent Smaller	
Size, in.	Revetment
30	
24	
18	100
12	90-100

Class III Glacial Stone Gradation	
Percent Smaller	
Size, in.	Hand Laid
30	
24	100
18	0
12	
8	
6	
3	
1	
Depth of Stone	See Plan

Class IV Glacial Stone Gradation	
Percent Smaller	
Size, in.	Hand Laid
36	100
30	40-60
24	0
18	
12	
8	
6	
3	
Depth of Stone	See Plan

- D. Pumping of water from excavations shall be completed in such a manner to prevent the carrying away of unsolidified concrete materials, and to prevent damage to the existing subgrade.
- E. When excavations are made below the required grades, without the written order of Landscape Architect, they shall be backfilled with suitable material, as approved and directed by Landscape Architect in writing, at the expense of Contractor.
- F. Subgrades for roadways, structures and trench bottoms shall be firm, dense, and thoroughly compacted and consolidated; shall be free from mud, muck, and other soft or unsuitable materials; and shall remain firm and intact under all construction operations. Subgrades which are otherwise solid, but which become soft or mucky on top due to construction operations, shall be reinforced with crushed stone or gravel. The finished elevation of stabilized subgrades shall not be higher than subgrade elevations shown.
- G. Pipe Trench Preparation:
  - 1. No more than 200 feet of trench may be opened in advance of pipe laying. Trenches in rock shall be fully opened at least 30 feet in advance of where pipe is being laid.
  - 2. Trench width shall be minimized to the greatest extent practical, but shall conform to the following:
    - a. Sufficient to provide room for installing, jointing and inspecting piping.
    - b. Sufficient for shoring and bracing, or shielding and dewatering.
    - c. Sufficient to allow thorough compaction of backfill adjacent to bottom half of pipe.
    - d. Where the existing material beneath the bedding material is considered unsuitable by Landscape Architect, Contractor shall remove and replace it with backfill or fill material as approved by Landscape Architect.
  - 3. Depth of trench shall be as shown. If required and approved by Landscape Architect, in writing, depths may be revised.
- H. Material Storage: Stockpile satisfactory excavated materials in approved areas, until required for backfill or fill. Place, grade and shape stockpiles for proper drainage.
  - 1. Locate and retain soil materials away from edge of excavations.
  - 2. Do not store within drip line of trees to be protected.
  - 3. Dispose of excess soil material and waste materials as specified hereinafter.
  - 4. Stockpiled excavated soils for use as subsequent fill shall be classified by laboratory as on-site granular or sandy clay soils. Use and placement of fill shall be performed as specified for each class.
  - 5. Excess soil from excavations shall be disposed off-site. Disposal shall be in accordance with state and local regulatory requirements.

### 3.4 UNAUTHORIZED EXCAVATION

- A. All excavation outside the lines and grades shown, and which is not approved by Landscape Architect, together with the removal and disposal of the associated material shall be restored at Contractor's expense. Unauthorized excavations shall be filled and compacted with backfill, or fill material as approved by Landscape Architect, or concrete by Contractor at no additional cost to the Owner. Claims and damages resulting from unauthorized excavation will be the sole responsibility of the Contractor.

### 3.5 EROSION CONTROL, DRAINAGE AND DEWATERING

- A. Erosion control, drainage, and dewatering must conform to requirements in Contract Documents. Refer to Section 01 57 13 Erosion and Sedimentation Control.

### 3.6 SHEETING, SHORING AND BRACING

- A. General:
  - 1. Material utilized for sheeting, shoring, and bracing shall be in good condition, not damaged or excessively pitted. All steel or wood sheeting designated to remain in place shall be new. New or used sheeting may be used for temporary Work.
  - 2. Unless otherwise shown, specified, or directed, all materials used for temporary construction shall be removed when Work is completed. Such removal shall be made in a manner not injurious to the structure or its appearance or to adjacent Work.
  - 3. Safe and satisfactory sheeting, shoring and bracing shall be the entire responsibility of Contractor.
- B. Shop Drawings for sheeting, shoring and bracing shall be submitted for record; they will not be reviewed.

### 3.7 TRENCH SHIELDS

- A. Excavation of earth material below the bottom of a shield shall not exceed the limits established by ordinances, codes, Laws, and Regulations.
- B. When using a shield for the installation of structures, the bottom of the shield shall not extend below the top of the bedding for the structures.
- C. When a trench shield is removed or moved ahead, care shall be taken to prevent the movement of pipe or structures and the disturbance of the placed bedding and backfill for pipe or structures. Pipe, structures, bedding and backfill that are disturbed shall be removed and reinstalled as specified.

### 3.8 GENERAL REQUIREMENTS FOR BEDDING, BACKFILL, AND COMPACTION

- A. Furnish, place and compact all Special Backfill, backfill, fill and other materials required for structures, embankments, pipelines, ductbanks, and other requirements.
- B. Provide the finished grades as shown and as described herein to be furnished, placed and compacted by Contractor.
- C. Backfill excavations as promptly as Work permits, but not until completion of the following:
  - 1. Inspection, successful completion and acceptance of testing, approval, and recording of locations of Underground Facilities.
  - 2. Removal of concrete formwork.
  - 3. Removal of shoring and bracing, and backfilling of voids with satisfactory materials.
  - 4. Acceptance by the Landscape Architect of construction below finish grade, including dampproofing, waterproofing and perimeter insulation.

5. Permanent or temporary horizontal bracing is in place on horizontally supported walls.
  6. Placement of settlement plates.
  7. Removal of trash and debris.
- D. Fill containing organic materials or other unacceptable material shall be removed and replaced with approved fill material as specified.
- E. Placement of Bedding
1. Bedding materials, both below the bottom and above the crown of the pipe, classes of bedding to be used, and placement and compaction of bedding materials shall conform to the following requirements:
    - a. Granular bedding shall be spread and the surface graded to provide a uniform and continuous support beneath the pipe at all points between bell holes or pipe joints. It will be permissible to slightly disturb the finished subgrade surface by withdrawal of pipe slings or other lifting tackle. After each pipe has been graded, aligned, placed in final position on the bedding material and shoved home, sufficient pipe bedding material shall be deposited and compacted under and around each side of the pipe and back of the bell or end thereof to hold the pipe in proper position and to maintain alignment during subsequent pipe jointing and bedding operations. Bedding material shall be deposited and compacted uniformly and simultaneously on each side of the pipe to prevent lateral displacement. The bedding material shall then be placed and compacted to a level elevation 12 inches above the top of pipe across the trench.
    - b. Compacted backfill shall be required for the full depth of the trench above the granular pipe bedding material. Where the trench for one pipe passes beneath the trench for another pipe or electrical ductbank, the lower trench shall be compacted to the level of the bottom of the upper trench.
    - c. Each layer of bedding material shall be compacted by at least two complete coverages of all portions of the surface of each lift using approved compaction equipment. One coverage is defined as the conditions reached when all portions of the fill lift have been subjected to the direct contact of the compacting surface of the compactor.
    - d. The method of compaction and the equipment used shall be appropriate for the material to be compacted and shall not transmit damaging shocks to the pipe.
    - e. The degree of compaction required for granular bedding is expressed as a percentage of the maximum density obtained by the test procedure presented in ASTM D698.
- F. General - Placement of Special Backfill, Backfill, and Fill:
1. Special backfill and backfill shall be placed to the grades shown. Bring special backfill, backfill around structures and piping up evenly on all sides. The lift thickness and compaction moisture content range given herein is approximate. These values shall be finally determined from the laboratory test results on the materials.
  2. All special backfill shall be placed in horizontal loose lifts, not exceeding 8 inches in thickness, and shall be mixed and spread in a manner assuring uniform lift thickness after placing. Each lift shall be compacted by not less than two complete coverages of the specified compactor. Special backfill shall be placed to the underside of all concrete slabs. The material shall extend a minimum of 2 feet outside the face of each structure and be 12 inches below finished grade on all structures. When used under concrete slabs

with exposed edges, the maximum slope of special backfill to the subgrade shall be one vertical to one horizontal.

3. Backfill and fill around and outside of structures and over special backfill shall be deposited in layers not to exceed 8 inches in uncompacted thickness and mechanically compacted, using platform type tampers.
4. Keep excavations dry during backfilling operations. No special backfill, backfill or fill material shall be placed when free water is standing on the surface of the area where the fill is to be placed.

G. General – Compaction of Special Backfill, Backfill, and Fill:

1. Compaction of structures backfilled by rolling will be permitted provided the desired compaction is obtained and damage to the structure is prevented.
2. Compaction of special backfill and/or backfill by inundation with water will not be permitted. All materials shall be deposited as specified herein and as shown on the Drawings.
3. The material shall be placed at a moisture content and density as specified. Contractor shall provide equipment capable of adding measured amounts of water to the backfill and/or special backfill material to bring it to a condition within the range of the required moisture content.
4. Contractor shall provide equipment capable of discing, aerating, and mixing the soil to ensure reasonable uniformity of moisture content throughout the fill material and to reduce the moisture content of the borrow material by air drying, if necessary. If the subgrade or lift of earth material must be moisture conditioned before compaction, the fill material shall be sufficiently mixed or worked on the subgrade to ensure a uniform moisture content throughout the lift of material to be compacted. Materials at moisture content in excess of the specified limit shall be dried by aeration or stockpiled for drying.
5. No compaction of fill will be permitted with free water on any portion of the fill to be compacted. No fill shall be placed or compacted in a frozen condition or on top of frozen material.
6. Any fill containing organic materials or other unacceptable material previously described shall be removed and replaced with approved fill material prior to compaction.
7. Compaction shall be performed with equipment suitable for the type of material being placed. Contractor shall select equipment that is capable of providing the minimum density required by these Specifications. Hand operated compacting equipment shall be used within a distance of ten feet from the wall of any completed below grade structure. Equipment shall be provided that is capable of compacting in restricted areas next to structures and around piping. The effectiveness of the equipment selected by Contractor shall be tested at the commencement of compaction Work by construction of a small section of material within the area where the material is to be placed. If tests on this section of material show that the specified compaction is not obtained, Contractor shall increase the amount of coverage, decrease the lift thicknesses or obtain a different type of compactor.
8. Levels of special backfill or backfill against concrete walls shall not differ by more than 2 feet on either side of walls, unless walls are adequately braced or all floor framing is in place up to and including grade level slabs. Particular care shall be taken to compact structure special backfill or backfill, which will be beneath pipes, roads, or other surface construction or structures. In addition, wherever a trench passes through structure special backfill or backfill, the structure special backfill or backfill shall be placed and

8	
6	20-40
3	0-10
1	
Depth of Riprap	18 inches

F. Hand-Laid Riprap and Glacial Stone

1. Hand-laid aggregate shall consist of pieces, except spalls, not less than the minimum allowable size per gradation requirements listed herein. The width of each piece shall be no less than the smallest size listed in each gradation.
2. The stone shall be as defined by INDOT Standards, must be crushed limestone stone or glacial till and must meet the following gradations:

INDOT Class I Riprap Gradation	
Percent Smaller	
Size, in.	Hand Laid
30	
24	100
18	85-100
12	35-50
8	
6	10-30
3	0-10
1	
Depth of Riprap	24 inches

INDOT Class II Riprap Gradation	
Percent Smaller	
Size, in.	Hand Laid
30	100
24	85-100
18	60-80
12	20-40
8	
6	0-20
3	0-10
1	
Depth of Riprap	30 inches

compacted to an elevation 12 inches above the top of the pipe before the trench is excavated. Compacted areas, in each case, shall be adequate to support the item to be constructed or placed thereon.

9. The compaction requirements specified are predicated on the use of normal materials and compaction equipment. In order to establish criteria for the placement of a controlled fill so that it will have compressibility and strength characteristics compatible with the proposed structural loadings, a series of laboratory compaction and/or compressive strength tests shall be performed on the samples of materials submitted by Contractor. From the results of the laboratory tests, the final values of the required percent compaction, the acceptable compaction moisture content range, and the maximum permissible lift thickness will be established for the fill material and construction equipment proposed.
10. Control the water content of fill material during placement within the range necessary to obtain the compaction specified. In general, the moisture content of the fill shall be within three percent of the optimum moisture content for compaction as determined by laboratory tests. Perform all necessary Work to adjust the water content of the material to within the range necessary to permit the compaction specified.
11. Compact fill shall be compacted by at least 2 coverages of all portions of the surface of each lift by compaction equipment. One coverage is defined as the condition obtained when all portions of the surface of the fill material have been subjected to the direct contact of the compactor.
12. If the specified densities are not obtained because of improper control of placement or compaction procedures, or because of inadequate or improperly functioning compaction equipment, Contractor shall perform whatever Work is required to provide the required densities. This Work shall include complete removal of unacceptable special backfill, backfill and fill areas, and replacement and recompaction until acceptable material is provided, at no additional cost to the Owner.
13. Contractor shall repair, at his own expense, any after settlement that occurs, during the warranty period. Contractor shall make all repairs and replacements required within 30 days after notice from Landscape Architect or Owner.

## II. Backfill or Special Backfill in Pipe Trenches:

1. Place all backfill or special backfill in pipe trenches which are below structures, other pipes, or paved areas, in horizontal layers or lifts not exceeding 6 inches in depth and thoroughly compact each before the next layer or lift is placed. In other pipe trenches, compacted layers shall be 6 inches up to the pipe center line and 8 inches thereafter.
2. Where pipe is laid in rock excavation, crushed stone or gravel bedding shall be carefully placed and tamped over the rock before the pipe is laid. Depth of crushed stone or gravel shall be at least 6 inches for pipe that is 16 inches and smaller and 9 inches for pipe that is 18 inches and larger. After laying pipe, the balance of the backfill shall be placed as described herein.
3. Prior to the installation of pipes which are to be installed in fill sections, place the fill as described herein, until a minimum height of two feet above the soffit of the pipe is reached, unless otherwise required in other Sections. The fill for the trench width shall then be excavated and the pipe installed and backfilled. The remainder of the fill shall then be placed.
4. Pipeline trenches may be backfilled prior to pressure testing, but no structure shall be constructed over any pipeline until it has been tested.

- I. Backfill or Special Backfill Around Manholes and Drainage Structures:
  1. Backfill or special backfill should be placed evenly around manhole in 6 inch maximum lifts and should be thoroughly tamped to standard proctor density referenced below, before the next layer is installed.
  2. Backfill material shall be subject to approval by the Landscape Architect.

J. Compaction Density Requirements:

1. The degree of compaction required for all types of fills shall be 95 percent density as determined by the Modified Proctor Test or as approved by Landscape Architect. Compaction may be obtained by mechanically tamping the material in no greater than 6-inch lifts. Material shall be moistened or aerated as necessary to provide the moisture content that will facilitate obtaining the specified compaction.
    - a. All backfill, special backfill and fill must be wetted and thoroughly mixed to achieve +2% or -1% of the optimum moisture content, with the following exceptions: On-site clayey soils optimum to plus 3 percent.
    - b. Natural undisturbed soils or compacted soil subsequently disturbed or removed by construction operations shall be replaced with materials compacted as specified above.
  2. Testing service shall perform tests required to provide data for selection of backfill, special backfill and fill material and control of placement water content.
  3. Field density tests, to ensure that the specified density is being obtained, shall be performed by testing service during each day of compaction Work.
  4. If the tests indicate unsatisfactory compaction, Contractor shall provide the additional compaction necessary to obtain the specified degree of compaction. All additional compaction Work shall be performed by Contractor, at no additional cost to the Owner, until the specified compaction is obtained. This Work shall include complete removal of unacceptable (as determined by the Landscape Architect) fill areas and replacement and re-compaction until acceptable backfill, special backfill and fill is provided.
- K. Replacement of Unacceptable Excavated Materials: In cases where over-excavation for the replacement of unacceptable soil materials is required, the excavation shall be backfilled to the required subgrade with special backfill material and thoroughly compacted as specified. Sides of the excavation shall be sloped in accordance to the maximum inclinations specified for each structure location.

### 3.9 REVETMENT RIPRAP

- A. Install revetment riprap in accordance with INDOT Section 616.05. Riprap may be placed by dumping if conducted in a fashion as to not: tear, rip, dislodge, or otherwise compromise the integrity of any geosynthetics or other work items and shall be placed to the required thickness. The finish surface shall be free from clusters of small stones or of large ones. The finished surface shall vary from a true plane no more than 9 inches for revetment riprap as indicated on drawings.
- B. Install an aggregate separation geosynthetic layer in accordance with Section 31 05 19, Geosynthetics for Earthwork.

### 3.10 HAND-LAID RIPRAP

- A. Hand-laid riprap shall be placed to produce a surface of approximate regularity with edges having projections no more than 3 in. above the required cross section.
- B. "Hand-Laid" Riprap and Shot Rock over 18" may be mechanically placed if conducted in a fashion as to not tear, rip, dislodge, or otherwise compromise the integrity of any geosynthetics or other work items. The Contractor is responsible for any damages resulting in mechanically placing stone at no additional cost to the Owner.

### 3.11 EMBANKMENTS

- A. To the maximum extent available, use excess earth obtained from structure and trench excavations for construction of embankments. Obtain additional material from off-site borrow pits as necessary. After preparation of the embankment area, level and roll the subgrade so that surface materials of the subgrade will be compact and well bonded with the first layer of the embankment. All material deposited in embankments shall be free from rocks or stones, brush, stumps, logs, roots, debris, and organic or other objectionable materials. Construct embankments in horizontal layers not exceeding 8 inches in uncompacted thickness. Spread and level material deposited by excavating and hauling equipment prior to compaction. Thoroughly compact each layer by rolling or other method acceptable to the Landscape Architect to 95% percent of the maximum density at optimum moisture content as determined by ASTM D1557. If the material fails to meet the density specified, compaction methods shall be altered. Wherever a trench passes through a fill or embankment, the fill or embankment material shall be placed and compacted to an elevation 24 inches above the top of the pipe before the trench is excavated.

### 3.12 GRADING

- A. General: Uniformly grade areas within limits of grading as shown or specified, including adjacent transition areas. Smooth subgrade surfaces within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.
- B. Compaction:
  - 1. After grading, compact subgrade surfaces to the depth and percentage of maximum required for each area classification.

### 3.13 DISPOSAL OF EXCAVATED MATERIALS

- A. Materials removed from the excavations which do not conform to the requirements for fill or are in excess of that required for backfill shall be hauled away from the Site by Contractor and disposed of in compliance with ordinances, codes, Laws and Regulations, at no additional cost to the Owner.
- B. Contractor shall notify Owner in writing of all off-site locations for the disposal of excavated material.
- C. The Contractor may dispose of unsuitable fill or fill in excess of the required for backfill on-site in an area designated by the Owner after receiving written permission from the Owner.

- D. Pavement, sidewalks, driveways, roadways, animal habitat, or any areas disturbed or damaged by Contractor operations, except in areas designed as proposed Work or within the Limits of Work as defined by the Contract Documents, shall be restored by Contractor at his own expense to a condition equal to or greater than they were previous to the commencement of the Work and in accordance with applicable local and state highway Specifications or requirements.

#### 3.14 ENVIRONMENTAL PROTECTION AND RESTORATION

- A. Due to the presence of two State Endangered Species, there are special requirements listed in the Contract Documents regarding protective measures the Contractor is required to follow per the 401-Regional General Permit as determined by the Indiana Department of Natural Resources – Division of Nature Preserves and issued by the Indiana Department of Environmental Management. It is the sole responsibility of the Contractor to follow all of the requirements, provisions, limitations, etc. of the permit(s) issued. Any fines, fees, or otherwise extraneous costs to the project as incurred by the Contractor shall be the responsibility of the Contractor at no additional cost to the Owner.

++ END OF SECTION ++

## SECTION 31 05 19

### GEOSYNTHETICS FOR EARTHWORK

#### PART 1 GENERAL

##### 1.1 DESCRIPTION

- A. Scope:
  - 1. Contractor shall provide all labor, materials, equipment, and services required to provide and place geosynthetics as shown and specified.
- B. Related Sections:
  - 1. Section 01 57 13, Erosion and Sedimentation Control.

##### 1.2 MEASUREMENT AND PAYMENT

- A. Geotextile:
  - 1. Work Item Number and Title
    - 31 05 19-A 1160N Non-Woven Polypropylene Geotextile by Mirafi**
    - 31 05 19-B FW700 Woven Polypropylene Geotextile by Mirafi**
  - 2. This item shall include all costs associated with Site grading, including compaction, where shown on the Drawings, to adjust existing grade to new elevations. This item also includes all costs associated with scraping existing pavement, where shown on the Drawings, to remove sediment and debris.
  - 3. The payment shall be on a unit basis.
  - 4. Areas included in this item are under limestone revetments, gabions, and any other compacted aggregate placed on top of or adjacent to compacted soils, subbase, etc. where fine particles will interact, encounter, or potentially migrate into compacted aggregate or limestone revetments.

##### 1.3 REFERENCES

- A. Standards referenced in this Section are listed below:
  - 1. American Society for Testing and Materials, (ASTM).
    - a. ASTM D1505 – Test Method for Density of Plastics by the Density-Gradient Technique.
    - b. ASTM D1693 – Test Method for Environmental Stress-Cracking of Ethylene Plastics.
    - c. ASTM D4355 - Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture and Heat in a Xenon Arc Type Apparatus
    - d. ASTM D4491 – 99a(2009) Test Methods for Water Permeability of Geotextiles by Permittivity
    - e. ASTM D4632 - 08 Standard Test Method for Grab Breaking Load and Elongation of Geotextiles
    - f. ASTM D5199 – Test Method for Measuring Nominal Thickness of Geosynthetics.

#### 1.4 QUALITY ASSURANCE

##### A. Manufacturer's Qualifications:

1. Geosynthetic manufacturer shall be a specialist in the manufacture of geosynthetic cushion fabric, and have produced and successfully installed a minimum of five million square feet.

#### 1.5 SUBMITTALS

##### A. Action Submittals: Submit the following:

1. Product Data:
  - a. Submit geosynthetic manufacturer's data, Specifications, installation instructions and dimensions.

##### B. Informational Submittals: Submit the following:

1. Certificates:
  - a. Submit an affidavit certifying that the filter fabric furnished complies with all requirements specified herein.
  - b. No fabric shall be shipped until the affidavit is submitted to the Landscape Architect.

#### 1.6 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. All geosynthetics delivered to the Site shall be labeled by the manufacturer identifying the manufacturer's name and product identification.
- B. All rolls and packages shall be inspected by Contractor upon delivery to the Site. Contractor shall notify Landscape Architect if any loss or damage exists to geosynthetics. Replace loss and repair damage to new condition, in accordance with manufacturer's instructions.
- C. Geosynthetics shall be protected from ultraviolet light exposure, precipitation or other inundation, mud, dirt, dust, puncture, cutting or any other damaging or deleterious conditions. Geosynthetic rolls shall be shipped and stored in relatively opaque and watertight wrappings.

### PART 2 PRODUCTS

#### 2.1 GEOTEXTILE

##### A. Non-Woven Geotextiles –Aggregate Separation

1. Install Geotextiles for aggregate separation including but not limited to these applications.
  - a. Rock check dam/cross-vanes/etc.
  - b. Riprap
2. Non-woven geotextiles for aggregate separation shall conform to the following:

Physical Properties	Test Method	Unit	Min Value
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Grab Tensile Strength	ASTM D 4632	lbs.	200
Grab Tensile Elongation	ASTM D 4632	%	50
Puncture Strength	ASTM D4833	lbs.	500
Apparent Opening Size (AOS)	ASTM D 4751	U.S. Sieve	#80
Flow Rate	ASTM D 4491	gal/min/ft <sup>2</sup>	95

3. Product and Manufacturer:
  - a. Mirafi 1160N.
  - b. Or equal.

B. Woven Geotextiles for Gabions

1. Woven geotextiles for gabion and revetment mattress shall conform to the following:

Physical Properties	Test Method	Unit	Min Value
Grab Tensile Strength	ASTM D 4632	lbs.	200
Grab Tensile Elongation	ASTM D 4632	%	15
Trapezoid Tear Strength	ASTM D 4533	lbs.	75
CBR Puncture	ASTM D6241	lbs.	700
Permittivity	ASTM D 4491	sec <sup>-1</sup>	0.05
Flow Rate	ASTM D 4491	gal/min/ft <sup>2</sup>	4
UV Resistance	ASTM D 4355	% Strength Retained	70 @ 500 hr

1. Product and Manufacturer:
  - a. Mirafi FW700
  - b. Or equal.

## PART 3 EXECUTION

### 3.1 INSPECTION

- A. Contractor shall examine the conditions under which the Work is to be installed and notify the Landscape Architect, in writing, of conditions detrimental to the proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions have been corrected.

### 3.2 GEOTEXTILE INSTALLATION - GENERAL

- A. Cut geosynthetic to proper dimensions prior to placement providing the Manufacturer's recommended overlap length as an accepted minimum.

- B. Place the geosynthetic roll in desired location and unroll to the necessary length.
- C. Anchor the edges of the geosynthetic with heavy objects to prevent the geosynthetic from shifting prior to placement of aggregate or gabion.
- D. Where overlaps are necessary between rolls, allow for 3 foot overlap from the upstream onto the toed-in downstream roll.
- E. All geotextiles shall be weighted with sandbags or the equivalent when required. Such sandbags shall be installed during placement and shall remain until replaced with cover material or geomembrane.
- F. Contractor shall take any necessary precautions to prevent damage to underlying layers during placement of the geotextile as well as precautions to prevent damage to the geotextile during installation of stone, revetment, and/or gabions.
- G. Geotextiles shall not be exposed to precipitation prior to being installed, and shall not be exposed to direct sunlight for more than 15 days.

### 3.3 GEOTEXTILE REPAIR

- A. Any holes or tears in the fabric shall be repaired as follows:
  - 1. On slopes: A fabric patch shall be sewn into place using a double sewn lock stitch (1/4-inch to 3/4-inch apart and no closer than 1-inch from any edge). Should any tear exceed ten percent of the width of the roll, that roll shall be removed from the slope and replaced.
  - 2. Non-slopes: A fabric patch shall be spot-seamed in place with a minimum of 24-inches of overlap in all directions.

### 3.4 PLACEMENT OF COVER MATERIALS

- A. Contractor shall place all cover materials in such a manner to ensure the geotextile is not damaged; minimal slippage of the geotextile on underlying layers; and no excess tensile stresses in the geotextile.

++ END OF SECTION ++

## SECTION 31 11 00

### CLEARING AND GRUBBING

#### PART 1 GENERAL

##### 1.1 DESCRIPTION

###### A. Scope:

1. Contractor shall provide all labor, materials, equipment, and incidentals required to perform clearing and grubbing as shown and specified in the Contract Documents.
2. The Work includes removing from the Site and disposing of trees, stumps, brush, roots, shrubs, vegetation, logs, rubbish, and other objectionable material.
3. Pay all costs associated with transporting and disposing of debris resulting from clearing.
4. Limits of Clearing and Grubbing: Clear and grub the areas shown or indicated on the Drawings.

###### B. Related Sections:

1. Section 31 00 05, Trenching and Earthwork.

##### 1.2 MEASUREMENT AND PAYMENT

###### A. Clearing and Grubbing

1. Work Item Number and Title  
**31 11 00-A Clearing and Grubbing**
2. The pay quantity for this item shall be the percentage of Work completed at the time of billing (i.e., 10 percent of the lump sum amount will be earned at 10 percent of earned Contract amount).
3. Payment under this item is to be a per acre basis.
4. The unit price shall constitute full compensation for providing all labor, materials, and equipment, both temporary and permanent, and all other cost associated with clearing and grubbing as listed in the bid schedule.

###### B. Tree Demolition

1. Work Item Number and Title  
**31 11 00-B Tree Demolition (3"-6" DBH)**  
**31 11 00-C Tree Demolition (7"-12" DBH)**  
**31 11 00-D Tree Demolition (13"+ DBH)**
2. The pay quantity shall be the actual numbers of tree(s) removed and demolished.
3. Payment for tree demolition shall be on a unit price basis for all tree(s) to be removed and demolished, as shown on Contract Drawings or as indicated by the Landscape Architect.
4. This item shall include all costs to furnish all labor, materials, and equipment, both permanent and temporary, needed to remove and demolish trees via chipping.

###### C. Tree Removal

1. Work Item Number and Title  
**31 11 00-E Tree Removal (3"-6" DBH)**

**31 11 00-F Tree Removal (7"-12" DBH)**

**31 11 00-G Tree Removal (13"+ DBH)**

2. The pay quantity shall be the actual numbers of tree(s) removed from within the Ordinary High-Water Mark.
3. Payment for tree removal shall be on a unit price basis for all tree(s) to be removed as shown on Contract Drawings or as indicated by the Landscape Architect.
4. This item shall include all costs to furnish all labor, materials, and equipment, both permanent and temporary, needed to remove trees from within the Ordinary High-Water Mark.

D. Tree Securement

1. Work Item Number and Title

**31 11 00-H Tree Securement**

**31 11 00-I Duckbill II 138 Earth Anchors w/ 5/16" 7x19 Galvanized Cable**

2. The pay quantity shall be the actual numbers of tree(s) successfully anchored, either completely or partially, within the Ordinary High-Water Mark as described in the Contract Drawings.
3. Payment for tree securement shall be on a unit price basis for all tree(s) to be secured in place as described in the Contract Drawings or as indicated by the Landscape Architect.
4. This item shall include all costs to furnish all labor, materials, and equipment, both permanent and temporary, needed to secure trees in place.

1.3 QUALITY ASSURANCE

A. Regulatory Requirements:

1. Laws and Regulations applying to the Work under this Section include, but are not necessarily limited to, the following:
  - a. Section 401, IDEM.
  - b. Section 404, ACOE.
  - c. IC 14-21-1-27
  - d. IC 14-21-1-29
2. Permits required for the Work under this Section include:
  - a. Section 404 permit, obtain from ACOE (#LRE-2018-00102-102-R18, DPHA #23389).
  - b. Section 401 WQC, obtain from IDEM (#2018-871-02-MTM-A).

1.4 SUBMITTALS

A. Action Submittals: Submit the following

1. Shop Drawings:
  - a. Plan for removing trees and other large vegetation not explicitly shown or indicated for removal in the Contract Documents.
  - b. Plan showing proposed limits of clearing and grubbing, if different from clearing and grubbing limits shown or indicated in the Contract Documents.

PART 2 PRODUCTS

## 2.1 EARTH ANCHORS

- A. All earth anchors shall be Duckbill II 138 anchors cabled with 5/16" 7x19 galvanized steel cable.
- B. Earth anchors shall be driven to a depth sufficient to, either singularly or with additional anchors, achieve necessary holding potential accounting for all variables and forces that will be exerted upon large woody debris during high-water flows including additional safety factors.
- C. Any additional hardware necessary to correctly install the Earth Anchor to the Manufacturer's specifications shall be by the recommendation of the Earth Anchor Manufacturer.

## PART 3 EXECUTION

### 3.1 PREPARATION

- A. Protection:
  - 1. Throughout the Project, protect existing Site improvements, including streets, drives, and Underground Facilities to remain (if any), and adjacent property and structures. Repair damage caused by Contractor to original condition or replace in kind, to satisfaction of Landscape Architect, at no additional cost to Owner.
  - 2. Protect trees, shrubs, vegetation, and grassed areas to remain by providing temporary fencing, barricades, wrapping, or other methods shown, specified, or accepted by Landscape Architect. Correct at Contractor's expense damage caused by Contractor outside the limits of clearing Work.
  - 3. Do not remove trees without approval of Landscape Architect, unless shown or indicated for removal.
  - 4. Do not locate construction equipment, stored materials, or stockpiles within drip line of trees and vegetation to remain.
- B. Site Preparation:
  - 1. Clear all areas to be occupied by permanent construction or embankments of all trees, brush, roots, stumps, logs, wood and other materials and debris. Clean and strip vegetation, sod, topsoil and organic matter from subgrades for fills and embankments. All waste materials shall be removed from the Site and properly disposed by Contractor. Burning will not be permitted.
  - 2. Obtain, pay costs associated with, and comply with applicable permits required for clearing and grubbing Work.
  - 3. Delineation of Clearing and Grubbing Limits:
    - a. Locate and clearly flag trees and vegetation to remain, and other materials to remain in the clearing and grubbing limits. Locate and clearly flag salvageable vegetation to be relocated.
    - b. Provide flagging to delineate limits of areas to be cleared or grubbed. Review at Site with Landscape Architect before commencing removal of trees, vegetation, and other materials to be removed.

- c. Replace flagging that is lost, removed, or destroyed, until clearing and grubbing Work is complete and Landscape Architect allows removal of flagging.
- 4. Erosion and Sediment Controls:
  - a. Provide applicable erosion and sediment controls before commencing clearing and grubbing Work.
  - b. Comply with erosion and sediment control requirements of Section 01 57 13, Erosion and Sedimentation Controls.
  - c. Continue providing erosion and sediment controls as clearing and grubbing Work progresses to previously uncleared, ungrubbed areas of the Site.

### 3.2 CLEARING AND GRUBBING

- A. Remove and dispose all trees, shrubs, stumps, roots, brush, logs, rubbish, and debris within limits of clearing and grubbing shown or indicated in the Contract Documents, unless otherwise shown or indicated.
  - 1. Items of brush which consist of fallen trees, dead material, rubbish or debris shall be removed within the entire clearing and grubbing areas shown in, or as described in, the Contract Drawings.
  - 2. All saplings or heavy brush shall be cut off close to the ground, and in no case shall any stump be left to extend above the surface of the ground more than 3 inches.
  - 3. Whenever any stump is loosened by excavation, it shall be fully removed and disposed as brush, and the earth cut away to a solid soil and removed as directed by the Landscape Architect.
- B. Trees and Shrubs Improperly Destroyed or Damaged on Private Lands and Easements:
  - 1. Contractor has the option to come to a mutually acceptable written agreement with the owner of the property for compensation of improperly destroyed or damaged trees and shrubs. For each tree or shrub to remain that is destroyed or damaged beyond repair by Contractor, the Contractor shall replace or otherwise compensate the owner of the property per the mutually signed agreement. A signed copy of all agreements between Contractor and the owner of private property must be submitted to Owner prior to Project completion.
  - 2. If an agreement between the owner of property and Contractor cannot be reached, the following requirements shall be met:
    - a. Trees shall be replaced with new trees by a reputable tree specialist with a minimum 1 year's growth guaranteed. The size, type and number shall be approved by the Park's Department of the City of Fort Wayne. The trees shall be replaced by Contractor at no additional cost to Owner, or owner of property.
- C. Trees and Shrubs Improperly Destroyed or Damaged on Public Lands or Rights of Way:
  - 1. For each tree or shrub to remain that is destroyed or damaged beyond repair by Contractor, provide new trees by a reputable tree specialist with a minimum 1 year's growth guaranteed. The size, type and number shall be approved by the Park's Department of the City of Fort Wayne. The trees shall be replaced by Contractor at no additional cost to Owner.
- D. Disposal of Cleared and Grubbed Materials:

1. Dispose at appropriate off-site location: trees, stumps, rubbish, debris, and other cleared and grubbed material. Cleared or grubbed materials may remain at the Site only when allowed in the Contract Documents or when approved by Owner in writing. Do not use cleared or grubbed material as fill, backfill, or in embankments.
2. Dispose of cleared and grubbed material in accordance with applicable Laws and Regulations.
3. Do not burn clearing debris at the Site, unless approved by Owner and authorities having jurisdiction. If burning is permitted, comply with requirements of authorities having jurisdiction and applicable Laws and Regulations. If burning is permitted at the Site, also comply with Owner's requirements.
4. The Contractor may elect to dispose of certain material by "chipping"; this material is to be disposed in a manner acceptable to the Owner and Landscape Architect.

### 3.3 TOPSOIL REMOVAL

- A. Existing topsoil to be removed is defined as friable, clay loam, surface soil present in depth of at least 4 inches. Topsoil shall be free of subsoil, clay lumps, stones, and other objects over 1 inch diameter and other objectionable material.
- B. Stripping:
  1. Strip topsoil to depths encountered, in a manner that prevents intermingling of topsoil with underlying subsoil or other objectionable material. Remove heavy growths of grass and vegetation from areas before stripping.
  2. Do not strip topsoil from within drip line of each tree to remain as part of the completed Project.
- C. Stockpile topsoil, or material deemed acceptable as topsoil in Section 32 90 00, in storage stockpiles in areas shown, or where otherwise accepted by Landscape Architect. Construct storage piles so that surface water drains freely. Stabilize large topsoil piles with a cover crop and mulch, and provide silt fencing around perimeter of pile to prevent topsoil erosion and sedimentation; silt fencing shall be in accordance with Section 01 57 13, Erosion and Sedimentation Controls. Cover smaller topsoil stockpiles, when used, with reinforced fabric to prevent windblown dust. Topsoil in excess of the quantity required for the finished Project shall remain property of Owner and shall be either properly disposed of or placed in an upland location at the discretion and approval of the Owner.

### 3.4 ENVIRONMENTAL PROTECTION AND RESTORATION

- A. The Contractor shall be solely responsible for adherence to any and all applicable laws, rules, regulations, statutes, codes, ordinances, etc. that are pursuant to all work to be conducted or any damage, disturbance, or otherwise deleterious effects upon the Owner or property of the Owner by the Contractor or its representatives, employees, subcontractors, et al.

++ END OF SECTION ++

## SECTION 31 32 21

### VEGETATED COIR LOGS

#### PART I GENERAL

##### 1.1 DESCRIPTION

- A. Contractor shall provide all labor, materials, tools, equipment and incidental as shown, specified and required to furnish and install vegetated coir logs.
- B. Scope:
  - 1. Examination – Verifying fine grading is complete and ready to received Vegetated Coir Log installation.
  - 2. Preparation
  - 3. Excavation and Placement
  - 4. Maintenance
  - 5. Reconditioning existing lawn areas
  - 6. Replanting unsatisfactory or damaged Vegetated Coir Logs
- C. Related Sections:
  - 1. Section 01 57 13, Erosion & Sedimentation Control
  - 2. Section 31 05 19, Geosynthetics for Earthwork
  - 3. Section 32 92 00, Lawns and Grasses

##### 1.2 MEASUREMENT AND PAYMENT

- A. Vegetated Coir Logs
  - 1. Work Item Title and Number  
**31 32 21-A 12" Vegetated Coir Logs**
  - 2. Payment for Vegetated Coir Logs shall be made at the contract unit price per linear foot installed in accordance with manufacturer recommendations.
  - 3. Payment shall constitute full compensation for providing all labor, materials, and equipment, both temporary and permanent, and all other cost associated with the installation and maintenance of Vegetated Coir Logs.

##### 1.3 REFERENCES

- A. Standards referenced in this Section are listed below:
  - 1. American Society for Testing and Materials, Inc., (ASTM).
    - a. ASTM D-2434- Standard Test Method for Permeability of Granular Soils.
    - b. ASTM D-4632- Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.
    - c. ASTM D-4716- Standard Test Method for Determining the (In-plane) Flow Rate per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head

- d. ASTM D-4833 - Standard Test Method for Index Puncture Resistance of Geomembranes and Related Products.
- e. ASTM D-5199 - Standard Test Method for Measuring the Nominal Thickness of Geosynthetics.

#### 1.4 QUALITY ASSURANCE

- A. **Manufacturer Qualifications:** Manufacturer shall have actively and directly engaging in vegetated coir log production for a period of two (2) or more years. Provide proof of ten (10) or more successful vegetated coir log Projects of a similar magnitude of the proposed system.
- B. **Installer Qualifications:** Installer must have completed installation work of an erosion control system using similar materials and designs. Additionally, Installer must have a record of successful native plant establishment of the erosion control system. Installer is to document a minimum of five similar projects.
  - 1. **Installers Field Supervision:** Require Installer to maintain an experienced full-time supervisor on the project site during times that Vegetated Coir Log installation is in progress. Supplier shall be on site on an "as needed" basis.

#### 1.5 SUBMITTALS

- A. **Action Submittals:** Submit the following:
  - 1. **Shop Drawings:**
    - a. Submit Vegetated Coir Log installation schedule indicating order date and anticipated dates and locations for each type of activity.
  - 2. **Product Data:**
    - a. Provide Manufacturer's and Supplier's vegetated coir logs product data.
- B. **Informational Submittals:** Submit the following:
  - 1. **Certificates:**
    - a. Certification by manufacturer or vendor that the products supplied comply with Vegetated Coir Log requirements, including:
      - 1) Specified core and exterior net material properties, the botanical name, common name and percentage by count of each native species and variety, the date of planting and Coir Log manufacture, the composition of growing media, cored planting holes size and spacing.
  - 2. **Qualification Data:**
    - a. Manufacturer and installer qualification data specified to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and address of architects and owners, and other information specified.
- C. **Closeout Submittals:** Submit the following:
  - 1. **Operation and Maintenance Data**
    - a. **Maintenance Instructions:** Manufacturer's recommended procedures established by Owner for maintenance of exterior plants during a calendar year.
  - 2. **Warranty Documentation**
    - a. Submit written warranty, signed by Contractor and landscape installer, as specified.

## 1.6 DELIVERY, STORAGE AND HANDLING

### A. General

1. Material delivery, storage and handling must conform to requirements in Contract Documents. Refer to Section 01 65 00 Product Delivery Requirements and Section 01 66 00 Product Storage and Handling Requirements.
- B. Deliver in a labeled, undamaged, fully vegetated and rooted through condition.
- C. Deliver, store, and handle Vegetated Coir Logs according to the requirements of the manufacturer, vendor, or nursery.

## 1.7 COORDINATION AND SCHEDULING

- A. Planting Season: Vegetated Coir Logs can be installed at any time of the year. Ordering, coordination, scheduling and release for shipping to be in accordance with the requirements of the manufacturer, supplier, and nursery.
- B. Coordinate Vegetated Coir Log installation with the planting or installation of native seeds, live stakes, live fascines, lawns, trees, shrubs, groundcovers, annuals, and perennials. If installation occurs after lawn work, protect lawn areas and promptly repair damage to lawns resulting from installation operations.
- C. Weather Limitations: Proceed with installation only when existing and forecast weather conditions are suitable for work.

## 1.8 MAINTENANCE

- A. Begin maintenance of installed Vegetated Coir Logs immediately after each installation until acceptable vegetation is established. This shall not be less than 60 days after date of Substantial Completion.
- B. Maintain and establish Vegetated Coir Log by avoiding mowing equipment and other deleterious operations such as herbicide application. Replant bare areas to produce a uniform cover of vegetation.

## 1.9 WARRANTY

- A. General Warranty: The special warranties specified in this Section shall not deprive Owner of other rights or remedies that Owner may otherwise have under the Contract Documents and shall be in addition to, and run concurrent with, other warranties required by Contractor under the Contract Documents.
- B. Special Warranties: The Contractor shall guarantee a good stand vegetation that is part of permanent streambank protection, by maintaining all vegetated coir logs until final acceptance. Any areas which do not show uniform growth or has bare spots shall be replanted and repaired at the Contractor's expense with the plantings and materials as originally used thereon and such replanting and repairs shall be repeated until all affected areas are repaired. Final acceptance of all permanent erosion control measures may be required by the Contractor

after 60 days from the date of installation. The above does not release the Contractor from the standard provisions included in the Guaranty or Maintenance Bond agreement.

## PART 2 PRODUCTS

### 2.1 MATERIALS

- A. Provide vegetated Coir Logs with the following material requirements:
1. Coconut fiber – 100% bristle and mattress coir fiber
    - a. Machined pressed uniformly compacted to 9lbs. /ft<sup>3</sup>.
    - b. Constant Head Permeability (ASTM D-2434) 16.3 cm sec<sup>-1</sup>.
    - c. Hydraulic Transmissivity (ASTM D-4716) 9.15 gpm/ft.
    - d. Puncture Resistance (ASTM D-4833) 335.0 lbs.
    - e. Moisture content 15% maximum.
    - f. Pith dust and foreign matter content 3% maximum.
  2. Exterior Netting: Knotless Virgin Coir net exterior and factory fabricated integral and continuous coupler system shall have a rhombic opening and shall meet the following properties:
    - a. Net Thickness (ASTM D-5199) 0.1 inches.
    - b. Net Grab Tensile (ASTM D-4632) 250 lbs. minimum.
    - c. Net UV Resistance 250 kly.
    - d. Net Mesh bar length approximately 1.75 inches.
- B. Anchoring Systems:
1. Hardwood Stakes (2"x 2" Min., Pencil tip)
  2. Hi-Visibility Polypropylene Twine
- C. Plant Species for Vegetated Coir Logs are to include the following in a per roll count indicated on Drawings:
- |                                |                     |
|--------------------------------|---------------------|
| 1. <i>Carex emoryi</i>         | Emory's Sedge       |
| 2. <i>Carex frankii</i>        | Frank's Sedge       |
| 3. <i>Carex lacustris</i>      | Lake Sedge          |
| 4. <i>Carex muskingumensis</i> | Palm Sedge          |
| 5. <i>Carex normalis</i>       | Oval Sedge          |
| 6. <i>Carex pellita</i>        | Wooly Ledge         |
| 7. <i>Carex trichocarpa</i>    | Hairy-Fruited Sedge |
| 8. <i>Glyceria striata</i>     | Fowl Manna Grass    |

### 2.2 SOURCE QUALITY CONTROL

- A. Factory Testing and Inspection
1. The following testing and inspection requirements shall be certified by the supplier or nursery, and inspected by the project Landscape Architect:
    - a. Weight of the Coir Log prior to vegetation will be equal to 9lbs/ft<sup>3</sup> density uniformly machine compacted coir fiber at a maximum moisture content of 15%, with a maximum pith dust and foreign matter content of 3%.

- b. Vegetated Coir Log pieces shall measure 12" in diameter by 10'-0" in length as indicated on the Drawings.
- c. Inspect all joints to ensure that there are no gaps or voids between adjacent Vegetated Coir Log and that all exterior netting is continuous and that the factory made integral and continuous coupler system has been secured and the voids between adjacent coir logs filled tightly with loose coir fiber.
- d. Inspect all Vegetated Coir Log to verify root growth and penetration through the bottom of the Coir Log core.
- e. Planting date of Vegetated Coir Log must be a minimum of 2 months prior to installation. This is to be documented with a certified and notarized letter.
- f. Core planting holes a minimum of 1-1/2" diameter by 6" deep, 20 planting holes per 10' long 12" diameter coir log.

### PART 3 EXECUTION

#### 3.1 EXAMINATION

- A. Examine areas to receive Vegetated Coir Log installation for compliance with requirements and for conditions affecting performance of work of this Section. Do not proceed with installation until unsatisfactory conditions have been corrected.
- B. Verify the site is within 2 inches of specified grade. Verify that the soils and rock in the location of the Vegetated Coir Log anchor trench are sufficiently firm, i.e. less than one-half inch indentation with foot traffic.
- C. Verify that the location of Vegetated Coir Log installation is clean and free of debris.

#### 3.2 PREPARATION FOR VEGETATED COIR LOG INSTALLATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and native seed installations from damage caused by installation operations.
- B. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
- C. Remove rocks, sticks, roots, rubbish, and other extraneous matter from the location of Vegetated Coir Log installation. Limit preparation to areas that will be installed promptly after preparation.
- D. Supplier shall be available on an "as-needed" basis during construction. Installing plants into Coir Logs on site may not be substituted for installing mature Vegetated Coir Logs with roots protruding the bottom of the coir log core.

#### 3.3 EXCAVATION AND PLACEMENT

- A. Create a trench or seat to the dimensions and at the elevations specified by approved Construction Documents.

- B. Place Coir Log in trenches or on seats, and at specified elevations, to ensure that there are no gaps or voids between adjacent Coir Logs and that all exterior netting is continuous and that the factory made integral and continuous coupler system has been secured and the voids between adjacent coir logs filled tightly with loose coir fiber.

#### 3.4 MAINTENANCE

- A. Begin maintenance of Vegetated Coir Logs immediately after installation is complete until acceptable vegetative cover is established.
- B. Maintain, establish, replant, maintain, and establish bare areas to produce a uniform cover of vegetation.

#### 3.5 SATISFACTORY VEGETATED COIR LOG INSTALLATION

- A. Vegetated Coir Log installation will be satisfactory when requirements, including maintenance, have been met. Furthermore, a healthy, uniform, close stand of vegetation must be established. Vegetation stand must be free of surface irregularities or bare spots exceeding twelve by eight to twelve by twenty inches depending on the diameter and dimension of Vegetated Coir Logs as specified. No more than ten percent of total area will have bare areas.
- B. Replant Vegetated Coir Log areas that do not meet requirements and continue maintenance until satisfactory.

#### 3.6 CLEANUP AND PROTECTION

- A. Promptly remove soil and debris created by Vegetated Coir Log installation. Clean wheels of vehicles before leaving site to avoid tracking soil onto surface of roads, walks, or other paved areas.
- B. Erect barricades and warning signs to indicate and to protect newly planted areas from traffic. Maintain barricades throughout maintenance period until vegetation is established as required.

++END OF SECTION++

## SECTION 31 36 10

### GABIONS AND REVETMENT MATTRESSES

#### PART 1 GENERAL

##### 1.1 DESCRIPTION

###### A. Scope:

1. Contractor shall provide all labor, materials, equipment, and services required to provide and place gabions as shown and specified.

###### B. Related Sections:

1. Section 31 00 05 – Trenching and Earthwork.
2. Section 31 05 19 – Geosynthetics for Earthwork.

##### 1.2 MEASUREMENT AND PAYMENT

###### A. Gabions:

1. Work Item Number and Title  
**31 36 10-A 6'x 3'x 1' Gabions**  
**31 36 10-B 6'x 3'x 3' Gabions**  
**31 36 10-C 12'x 3'x 3' Gabions**
2. This item shall include costs associated with the Work including, but not limited to the gabion (wire, lacing, rings, accessories, etc.), the stone base and all other labor, equipment, material, compaction, and placement of the gabions.
3. The payment shall be on an individual basis for each work item.
4. Areas included in this item are as shown on the Drawings.

##### 1.3 REFERENCES

###### A. Standards referenced in this Section are listed below:

1. American Society for Testing and Materials, (ASTM).
  - a. ASTM A370 – Standard Test Methods and Definitions for Mechanical Testing of Steel Products
  - b. ASTM A641 – Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire
  - c. ASTM A975 - Standard Specification for Double- Twisted Hexagonal Mesh Gabions and Revet Mattresses (Metallic-Coated Steel Wire or Metallic-Coated Steel Wire with PVC Coating)

##### 1.4 QUALITY ASSURANCE

###### A. Manufacturer's Qualifications:

1. Gabions manufacturer shall be a specialist in the manufacture of gabions, and have produced and successfully installed gabions on five projects.

## 1.5 SUBMITTALS

- A. Action Submittals: Submit the following:
  - 1. Product Data:
    - a. Submit manufacturer's product data, Specifications, installation instructions, and maintenance instructions.
    - b. Submit gradation test of stone fill for Gabions and Revetment Mattresses.

## 1.6 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Material delivery, storage and handling must conform to requirements in Contract Documents. Refer to Section 01 65 00 Product Delivery Requirements and Section 01 66 00 Product Storage and Handling Requirements.

## PART 2 PRODUCTS

### 2.1 GENERAL

- A. Gabions shall be fabricated to be a single unit, including the base lids and sides.
- B. Steel mesh properties shall be in accordance with ASTM A975.
- C. Geosynthetic Fabric
  - 1. Use Non-woven geotextile fabric refer to Section 31 05 19 – Geosynthetics for Earthwork for material requirements.

### 2.2 GABION BOX

- A. Gabion Box:
  - 1. Provide Gabion Boxes per the dimensions listed in Paragraph 1.2, as Manufactured by:
    - a. Maccaferri Inc
    - b. Terra Aqua Inc.
    - c. Or Equal
- B. Stone Fill
  - 1. Gabion box shall be filled with hand-laid, clean, hard, dense, durable stone, rounded and angular shape that shall not disintegrate on exposure to water of weathering during the life of the structure.
  - 2. No stone shall pass through the mesh.
  - 3. Provide stone with dimensions between 4-inches and 8-inches.

### 2.3 WIRE MESH

- A. Wire Mesh
  - 1. Gabions shall be fabricated to be a single unit, including the base lids and sides.
  - 2. Mesh shall be hexagonal woven mesh with joints formed by twisting each pair of wires through 3 ½ times.
  - 3. Steel wire shall have a tensile strength of 75,000 psi, in accordance with ASTM A641.

4. Steel wire elongation shall not be less than 12 percent, in accordance with ASTM A370.
- B. Coating
1. Wire mesh shall be coated in zinc conforming to ASTM A641, Class III soft temper coating.
  2. Utilize the same coating for lacing wire and stiffeners as the wire mesh.

## PART 3 EXECUTION

### 3.1 PREPARATION

- A. Gabions and revetment mattresses shall be placed on properly graded and dressed subgrades in accordance with lines and grades shown on the drawings or as required by Landscape Architect.

### 3.2 INSTALLATION

- A. Gabions and revetment mattresses shall be designed and installed per manufacturer's recommendations.
- B. Gabions and revetment mattresses shall be laid over 6" thick #2 stone base.
- C. Place a porous heavy duty geosynthetic fabric between interface of gabions and revetment mattresses and the subbase interface. The unexposed sides of gabions shall also be wrapped using a geosynthetic. Refer to section 31 05 19 – Geosynthetics for Earthwork for material requirements.
- D. Filling
1. Place stone fill in the gabion box or revetment mattresses to minimize voids.
  2. Over fill the gabions and/or mattresses by 1 inch to allow for settlement.
  3. Stone filling shall not exceed 24 inch vertical drop and shall be arranged by hand to maximize density and limit settling.
- E. Lacing and Bracing Wire
1. Lacing wire shall be secured at the corner of the gabion or mattress and the lacing wire shall be laced alternating with single and double loops every other opening at intervals of not more than 6 inches. Rings may be used in lieu of lacing wire.
- F. Lid Closing
1. Once the gabions and mattresses are filled, the lid shall be pulled tight until the lid meets the perimeter edges. Lid shall be tightly laced and/or fastened along all edges, ends and tops of diaphragms.

### 3.3 MAINTENANCE

- A. Gabions and mattress linings shall be maintained per manufacturer's recommendations.

- B. Inspect gabions and revetment mattresses for settlement, scour, damaged wire mesh, or wire corrosion.

++ END OF SECTION ++

## SECTION 32 90 00

### PLANTING

#### PART 1 GENERAL

##### 1.1 DESCRIPTION

###### A. Scope

1. Contractor shall provide all labor, materials, tools, equipment and incidentals as shown, specified and required to furnish and install plants.
2. Extent of planting and plant types are shown on the Drawings.
3. Types of products required include the following.
  - a. Securement and protection accessories.
  - b. Accessories.

###### B. Related Sections

1. Section 01 57 00, Erosion and Sedimentation Control
2. Section 31 00 05, Trenching and Earthwork
3. Section 32 92 00, Lawns and Grasses
4. Section 32 93 00, Exterior Plants

##### 1.2 MEASUREMENT AND PAYMENT

###### A. Planting & Seeding

1. All items listed in this specification are to be included in overall plant and seed costs and not bid as a separate work item.

##### 1.3 REFERENCES

###### A. American Society for Testing and Materials, (ASTM)

1. ASTM D 5268, Specification for Topsoil Used for Landscape Purposes

###### B. Indiana Department of Transportation Standard Specifications

1. 621.06, Seed Mixtures

###### C. American National Standards Institute (ANSI)

1. ANSI Z60.1, "American Standard for Nursery Stock"

###### D. Hortus Third: A Concise Dictionary of Plants Cultivated in the United States and Canada

##### 1.4 SUBMITTALS

###### A. Action Submittals: Submit the following:

1. Product Data for each type of product indicated.
  - a. Manufacturer's product data and specifications for all required materials.

- b. Provide quality, size, genus, species, and variety of exterior plants indicated, complying with applicable requirements in ANSI Z60.1, "American Standard for Nursery Stock".
    - c. Seed Mixture for each type of seed and each seed lot. Include bulk weight of seed required to equal one pound of 100 percent pure, germinated seed.
  - 2. Schedule: Indicating anticipated planting dates for each type of planting.
- B. Information Submittals: Submit the following:
  - 1. Source Quality Control Submittals
    - a. Plants, seed, live stakes, and brush matting shall be from Heartland Restoration Services, 14921 Hand Road, Fort Wayne, IN 46818, contact @ 260.489.8511. If plant material cannot be sourced by H.R.S., the Contractor shall submit name of Supplier(s) of plant and seed materials, botanical names, Yellow Tag or source verification, quantity, and date of expected delivery for approval to the Landscape Architect.
  - 2. Certificates:
    - a. Certificates required by law to accompany shipments.
    - b. Upon completion of the installation, deliver certificates to the Landscape Architect.
    - c. Certification of Seed: From seed vendor for each seed or mixture stating the botanical and common name and percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.
  - 3. Manufacturers' Instructions
    - a. Manufacturer's installation instructions for all required materials.
- C. Closeout Submittals
  - 1. Operation and Maintenance Data
    - a. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of exterior plants during a calendar year.
  - 2. Warranty Documentation
    - a. Submit written warranty, signed by Contractor and landscape installer, as specified.
    - b. Submit extended service inspection and recommendation reports.

## 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified landscape installer who maintains an experienced full-time supervisor on Project site when seeding and planting is in progress.
  - 1. Preinstallation Conference: Conduct conference at Project site.
- B. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirement and the methods needed for proper performances of the work of this Section.
- C. Contractor shall have actively and directly engaging in seed installation for a period of two (2) or more years. Provide proof of three (3) or more successful wetland seed and tree installations.
- D. Contractor shall have access to and experiences with a no-till seed drill designed for seed installations. Such drills are manufactured by Truax, Great Plains, and John Deer, Inc. Hydroseeding may not be substituted for drill seeding.

## 1.6 PRODUCT DELIVERY, STORAGE AND HANDLING

### A. General

1. Material delivery, storage and handling must conform to requirements in Contract Documents. Refer to Section 01 65 00 Product Delivery Requirements and Section 01 66 00 Product Storage and Handling Requirements.

### B. Delivery of Materials:

1. Deliver each type of plant as the Work progresses, after preparations for planting that specific type of plant is completed, and when plants will be planted immediately upon arrival at the Site. Do not stockpile plants on-Site.
2. Deliver packaged materials in original, unopened containers, legibly showing weight, analysis and name of manufacturer. Protect materials from deterioration during delivery. Provide protective covering.
3. Do not drop plants during delivery.
4. Immediately remove unacceptable material from Site.

### C. Storage of Materials:

1. If planting is delayed more than two hours after delivery, set plants in shade, protect from weather and mechanical damage, and keep roots moist.
2. Set balled stock on ground and cover ball with soil, moistened peat moss or other acceptable material.
3. Heel-in bare root plants in a bed containing adequate peat moss to keep roots in a moist condition. Soak roots in water for two hours before planting.
4. Store and cover materials to prevent deterioration. Remove packaged materials that have become wet, or show deterioration or water marks, from Site.

### D. Handling of Materials:

1. Handle balled and burlapped plants so that the ball will not be loosened or broken. Immediately remove split, broken or loosened balled and burlapped material from Site and replace with new material.
2. Do not remove container-grown plants from containers until planting time.
3. Do not lift or drag plants by stems or trunks. Handle plants by lifting root ball or container.
4. Water as necessary to maintain plant root systems in a moist condition.

## 1.7 PROJECT CONDITIONS

### A. Existing Conditions:

1. Obstructions Below Ground and Utilities: Exercise extreme caution in all planting operations, as there are underground electric and telephone cables, sewer lines and water lines throughout the entire Site. Study and be familiar with the location of these obstructions and underground utilities. Place plantings, where shown in the proximity of these obstructions and underground utilities, clear of any interference. Repair all damages to obstructions and underground utilities caused by the Work of this Section.

### B. Environmental Requirements:

1. Proceed with and complete planting as rapidly as portions of the Site become available, working within the seasonal limitations for each type of planting required.

2. Proceed with planting only when current and forecasted weather conditions are favorable to successful planting and establishment of plants.
    - a. Do not spread seed when wind velocity exceeds five miles per hour.
    - b. Do not plant when drought, or excessive moisture, or other unsatisfactory conditions prevail.
  3. Begin maintenance immediately after each area is planted and continue until acceptable growth is established.
  4. Herbicides, chemicals and insecticides shall not be used on areas bordering wetlands.
  5. Do not resort to chemical control measures at the first sign of insect or disease attack. Make an attempt to determine the environmental cause of the attack and take corrective measures.
- C. Scheduling:
1. Plant during one of the following periods:
    - a. Spring Planting: April 1 to June 15.
    - b. Fall Planting: September 1 to October 30.
    - c. During other periods, the time of planting shall be determined by the Landscape Architect.
  2. Do not proceed with installation of plants until all subgrade utility services have been installed, are operating successfully and have been approved by Landscape Architect.
  3. Plant only after final grades are established and prior to planting of lawns and meadows, unless otherwise acceptable to Landscape Architect. If planting occurs after lawn and meadow Work, protect lawn and meadow areas and promptly repair damage to lawns and meadows resulting from planting operations.
  4. Apply anti-desiccant to trees and shrubs using power spray to provide an adequate film over trunks, branches, stems, twigs and foliage to protect during digging, handling, and transportation.
    - a. One week before evergreen trees and deciduous trees and shrubs in full leaf are to be dug, spray with anti-desiccant at nursery before moving and again two weeks after planting.
    - b. Apply anti-desiccant to evergreens, again, immediately after the first frost.

## 1.8 WARRANTY

- A. General Warranty: The special warranties specified in this Section shall not deprive Owner of other rights or remedies that Owner may otherwise have under the Contract Documents and shall be in addition to, and run concurrent with, other warranties required by Contractor under the Contract Documents.
- B. Contractor shall guarantee the following exterior plants, for the warranty period indicated, against defects including death and unsatisfactory growth, except for defects resulting from lack of adequate maintenance, neglect, or abuse by Owner, or incidents that are beyond Contractor's control.
  1. Warranty Period for Trees and Shrubs: One year from date of Substantial Completion.
    - a. For acceptance of the system (one year from date of Substantial Completion), the following conditions shall be met:
      - 1) 95% of the planted tree and shrub species should be alive and present.
  2. Warranty Period for Ground Cover and Plants: One year from date of Substantial Completion.

- a. For acceptance of the system (one year following installation), the following conditions shall be met:
  - 1) Coverage – 75% of each seeded community shall be covered with vegetation.
  - 2) Presence – 50% of the seeded species planted should be alive and present.
  - 3) Abundance – 25% of the seeded vegetation should be native species of the permanent matrix.
- C. Warranty Period:
  - 1. The Contractor is advised that he/she is required to establish and maintain for one year the specified stand of trees, shrubs, grasses and leguminous plant. If during the warranty period, it becomes evident that any particular species is absent or weak, the Contractor shall take all steps necessary to meet the specifications, at no additional cost to the Owner. The Contractor shall utilize all measures he/she deems necessary to establish this vegetation, including the use of appropriate nurse or cover crops on the project areas.

## 1.9 EXTENDED SERVICE

- A. Extended Landscape Service:
  - 1. Begin extended service immediately after each planted area is acceptably completed. Provide extended service for not less than the following periods:
    - a. Herbaceous and Woody Perennials: 90 days after perennial plantings are acceptably completed.
  - 2. Prune, cultivate, water, weed, tighten and repair stakes and guy supports, webbing, netting, twine, etc. and reset plantings to proper grades or vertical position, as required to establish healthy, viable plantings.
    - a. Do not allow plantings to wilt or show other signs of environmental stress. Visit the Site twice a week during the extended service periods, to inspect the condition of the plantings and immediately provide required care.
    - b. Contractor shall provide landscape installer who shall be available on-call if notified between regular visits that plants require critical care or maintenance, throughout the time of extended service periods.
  - 3. Remove dead plants immediately. Replace immediately, unless required to plant in the succeeding planting season.
- B. Any decline in the condition of plants shall require Contractor to take immediate action to identify potential problems and undertake corrective measures. If required, engage professional Restoration Contractor to inspect plants, identify problems and recommend correctives procedures. Advise Landscape Architect of all such actions and submit inspection and recommendation reports.

## PART 2 PRODUCTS

### 2.1 GENERAL – PLANTING

- A. General Landscape Design Criteria:
  - 1. Provide plant materials true to name and variety, established in Hortus III.
  - 2. Provide nursery-grown plants complying with ANSI Z60.1, typical of their species or variety and with a normal habit of growth for type of plant required, with healthy root

systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous plants free of disease, insects, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

3. Label at least one tree and one shrub and one bundle or flat of plants of each variety and caliper with a securely attached, waterproof tag bearing legible designation of botanical and common name.
  4. Label all seed bags of each mix with a securely attached, waterproof tag bearing legible designation of seed mix, bag number ("X of X"), supplier, and seeding rate.
- B. Provide topsoil that is of good, rich, uniform quality, free from any material such as hard clods, stiff clay, hardpan, partially disintegrated stone, cement, bricks, ashes, cinders, slag, concrete, bitumen or its residue, boards, sticks, chips, or other undesirable material harmful or unnecessary to plant growth. Topsoil shall be reasonably free from perennial weeds and perennial wood seeds, and shall not contain objectionable plant material. Topsoil shall conform to the specifications listed in Section 32 92 00, Lawns and Grasses.
- C. Seed that has been stored at temperatures, or under conditions not recommended by the seed supplier, or has become wet, moldy, or otherwise damaged, shall not be acceptable.
- D. Site shall have a firm seedbed. If walking compacts soil over ½ inch, the site shall be culti-packed.
- E. All native seed shall be refrigerated for at least 90 days prior to installation. All native seed must be of wild ecotype. No hybrids or cultivars may be included.
- F. Local genotype seed shall be used due to its adaptation to local soil and climate. These specifications do not apply to the temporary matrix.
- G. Do not stabilize site with winter rye, grain rye, or winter wheat. These plants produce toxins that inhibit prairie seed germination.

## 2.2 MATERIALS

- A. Seed Species
1. Seed Mixes shall be provided as specified in Section 32 92 00 – Lawns and Grasses and Section 32 93 00 – Exterior Plants without substitutions or changes, unless otherwise approved by the Landscape Architect.
- B. Trees and Shrubs – 3 to 5 Gallon:
1. All trees and shrubs must be obtained within 200-miles of site.
  2. Planting shall be performed in the fall during the months of September through November, or in the spring before leaves are present. It is preferred to plant trees in the spring before the leaves are present.
  3. The above ground portions of each plant shall be healthy and vigorous, and free of disease, discoloration, infestation or deformity.
  4. Containers or burlap shall be free of any plant species not specified below; specifically weedy, noxious, invasive, and/or non-native species.
  5. Provided tree and shrub types and quantities as specified on the plans.
- C. Live Stakes:

1. Provided live stakes as specified in Section 32 93 00 – Exterior Plants.
- D. Live Brush Mattressing
1. Provide live brush mattressing as specified in Section 32 93 00 – Exterior Plants.
- E. Topsoil:
1. Refer to Section 32 92 00, Lawns and Grasses for topsoil requirements.

### PART 3 EXECUTION

#### 3.1 GENERAL

- A. The Contractor shall be fully responsible for the installation of the vegetation as specified on in the Contract Documents.

#### 3.2 INSPECTION

- A. Contractor shall examine the subgrade, verify the elevations, observe the conditions under which planting Work is to be performed, and notify Landscape Architect, in writing, of unsatisfactory conditions. Do not proceed with the Work until unsatisfactory conditions have been corrected in a manner acceptable to Landscape Architect.
- B. Inspect plants for injury, insect infestation, and improper pruning.
- C. Do not begin planting or wrapping of trees until deficiencies are corrected, or plants, replaced.
- D. Verify that seedbed is sufficiently firm.
- E. Verify that the site is clean and free of debris.

#### 3.3 SEED PRODUCT PREPARATION AND INSTALLATION

- A. Seeded Areas:
1. Remove any existing erosion control matting and mow to height of 3-inches.
  2. If vegetation exists on site, apply a glyphosate herbicide at least 2-weeks prior to installation on all actively growing vegetation.
  3. Do not herbicide in existing tree plantings.
  4. Never apply fertilizer to seeded areas.
  5. Install seed when soil is sufficiently dry so that soil does not stick to the packer wheels on the drill.
  6. Ensure the drill is properly calibrated to sow the specified amount of seed over the specified area. Ensure complete coverage of the specified area.
  7. On slopes too steep to operate drill equipment, seed may be broadcast on the slopes; however, performance of the seed will need to meet this specification.

#### 3.4 SEED PRODUCT ACCEPTANCE

- A. Seed product Work will be considered acceptable when:

1. Seeded Areas: When a healthy, uniform, close stand of vegetation of the desired species has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 square feet and bare spots not exceeding 5 inches by 5 inches.

### 3.5 INSTALLATION

- A. Live Stakes:
  1. Execute planting of live stakes according to the Drawings.
- B. Brush Mattressing:
  1. Execute planting of brush mattressing according to the Drawings.

### 3.6 MAINTENANCE

- A. Maintain and establish seed and shrub areas by pruning, cultivating, watering, weeding, trimming, replanting, tightening and repairing stakes and guy supports, resetting to proper grades or vertical position, and other operations as required to establish healthy, viable plantings. Roll, regrade, and replant bare or eroded areas and re-mulch until a uniformly smooth seed, tree and shrub area. Spray as required to keep trees and shrubs free of insects and disease.
  1. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch. Anchor as required to prevent displacement.
- B. Staking may be necessary especially in high wind conditions. Never support the tree higher than half way up the trunk. Use large belt-like straps attached to stakes positioned two feet away from the tree. Allow the tree to have flexibility and move with the wind.
- C. Watering: When necessary, provide and maintain temporary piping, hoses, and lawn-watering equipment to convey water from sources and to keep seed, tree and shrub area uniformly moist to a depth of 4 inches.
  1. Schedule watering to prevent wilting, puddles, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
  2. Water lawn at a minimum rate of 1-inch per week or as required to establish vegetation per the specifications.

### 3.7 CLEANUP AND PROTECTION

- A. Protect plants from damage due to landscape operations, operations by other contractors and trades, and others. Maintain protection during installation and extended service periods. Treat, repair, or replace damaged planting.
- B. Protection includes all temporary fences, barriers and signs and other Work incidental to proper maintenance.

### 3.8 INSPECTION AND ACCEPTANCE

- A. Where plants do not comply with specified acceptance criteria, replace plants and continue extended service period until plants comply with criteria for acceptance.

++END OF SECTION++

SECTION 32 92 00  
LAWNS AND GRASSES

PART 1 GENERAL

1.1 DESCRIPTION

- A. Scope:
1. Contractor shall provide all labor, materials, tools, equipment and incidentals as shown, specified and required to furnish and install all lawns and grasses.
  2. Extent of lawns and grasses is shown.
  3. Types of products required include the following:
    - a. Topsoil.
    - b. Lawn grass seed.
    - c. Fertilizers.
    - d. Mulches.
    - e. Erosion-control materials.
    - f. Accessories.
- B. Coordination:
1. Review installation procedures under other sections and coordinate the installation of items that must be installed with, or before, lawns and grasses.
  2. If applicable, notify other contractors in advance of the planting of lawns and grasses to provide them with sufficient time for the installation of items that must be installed with, or before, lawns and grasses.
- C. Related Sections:
1. Section 32 92 00, Planting.
  2. Section 32 93 00, Exterior Plants.

1.2 MEASUREMENT AND PAYMENT

- A. Lawns and Grasses:
1. Work Item Number and Title  
**32 92 00-A TF1 Turfgrass Seed Mix**
  2. Payment for lawns and grasses shall be on a square yard basis.
  3. Measure of surfaces seeded shall be made of the areas designated by the Landscape Architect for restoration.
- B. Topsoil
1. Work Item Number and Title  
**32 92 00-B Topsoil**
  2. This item shall include all costs to furnish all labor, materials, equipment, tools, and seed bed preparation required for completion of topsoil installation.
  3. Payment for topsoil shall be on a cubic yard basis.

### 1.3 REFERENCES

1. ASTM International.
  - a. ASTM D5268, Specification for Topsoil Used for Landscaping Purposes.
  - b. ASTM D977, Specification for Emulsified Asphalt.
2. Indiana Department of Transportation Standard Specifications
  - a. 621 Seeding and Sodding.

### 1.4 DEFINITIONS

- A. The term “finish grade” shall be used to describe the finished surface elevation of planting soil.
- B. The term “subgrade” shall be used to describe the surface of subsoil remaining after completing excavation; or the top surface of a fill or backfill immediately beneath topsoil and which has not been tested for acceptable use as topsoil.
- C. The term “topsoil” is defined as friable, clay loam, surface soil present in depth of at least 4 inches. Topsoil shall be free of subsoil, clay lumps, stones, and other objects over 1-inch diameter and other objectionable material and is defined in Section 32 92 00.
- D. Weeds include but are not limited to: Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nible Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.

### 1.5 QUALITY ASSURANCE

- A. Source Quality Control:
  1. Provide topsoil that is of good, rich, uniform quality, free from any material such as hard clods, stiff clay, hardpan, partially disintegrated stone, cement, bricks, ashes, cinders, slag, concrete, bitumen or its residue, boards, sticks, chips, or other undesirable material harmful or unnecessary to plant growth. Topsoil shall be reasonably free from perennial weeds and perennial wood seeds, and shall not contain objectionable plant material.
  2. Seed that has been stored at temperatures, or under conditions not recommended by the seed Supplier, or has become wet, moldy, or otherwise damaged, shall not be acceptable.

### 1.6 SUBMITTALS

- A. Action Submittals: Submit the following:
  1. Product Data:
    - a. Composition and analysis of commercial fertilizers.
    - b. Proportions of each component contained in hydroseed mixture. Identify number of pounds of each component required for each 100 gallons of water. Include the number of square feet of turfgrass seed mixture that can be installed with each full tank of hydroseed mixture.
    - c. Seed mixture for each type of seed and each seed lot. Include bulk weight of seed required to equal one pound of 100 percent pure, live seed (PLS pounds).

B. Informational Submittals: Submit the following:

1. Source Quality Control Submittals

- a. Certification of Grass and Wildflower Seed: For each grass-seed monostand and seed mixture, furnish seed supplier's certification stating the botanical and common name, and percentage by weight of each species and variety, and percentage of purity, germination and weed seed. Include the year of production and date of packaging. Certify that seed has been stored in compliance with all recommendations of the seed supplier.

1.7 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Material delivery, storage and handling must conform to requirements in Contract Documents. Refer to Section 01 65 00 Product Delivery Requirements and Section 01 66 00 Product Storage and Handling Requirements.

1.8 PROJECT CONDITIONS

A. Environmental Requirements:

1. Proceed with and complete lawn and grass planting as rapidly as portions of the Site become available, working within the seasonal limitations for each type of lawn and grass planting required.
2. Proceed with planting only when current and forecasted weather conditions are favorable to successful planting and establishment of lawns and grasses.
  - a. Do not spread seed when wind velocity exceeds five miles per hour.
  - b. Do not plant when drought, or excessive moisture, or other unsatisfactory conditions prevail.
3. Begin maintenance immediately after each area is planted and continue until acceptable growth is established.
4. Herbicides, chemicals and insecticides shall not be used on areas bordering wetlands.

B. Scheduling:

1. Plant during one of the following periods:
  - a. Spring Planting: April 1 to June 15.
  - b. Fall Planting: September 1 to October 30.
  - c. During other periods, the time of planting shall be determined by the Landscape

Architect.

1.9 WARRANTY

- A. General Warranty: The special warranties specified in this Section shall not deprive Owner of other rights or remedies that Owner may otherwise have under the Contract Documents and shall be in addition to, and run concurrent with, other warranties required by Contractor under the Contract Documents.
- B. Special Warranties: The Contractor shall guarantee a good stand of grass in seeded areas by watering, regrading and reseeding eroded areas and otherwise maintaining all seeded areas until final acceptance. Any areas which do not show a uniform stand or have bare spots shall be reseeded and re-mulched at the Contractor's expense with the same seed mixture and

mulch as originally used thereon and such reseeded and re-mulching shall be repeated until all affected areas are covered with grass. Final acceptance of all lawn areas may be required by the Contractor after 60 days from the date of installation. The above does not release the Contractor from the standard provisions included in the Guaranty or Maintenance Bond agreement.

## PART 2 PRODUCTS

### 2.1 MATERIALS

#### A. Topsoil:

1. All soil accepted as topsoil, whether obtained from on-site or off-site sources, shall comply with specified topsoil requirements.
2. Provide fertile, friable, natural topsoil, surface soil, capable of sustaining vigorous plant growth; free of any admixture of subsoil, clods of hard earth, plants or roots, sticks, stones larger than 1/2 inch in diameter, or other extraneous material harmful to plant growth, in compliance with ASTM D5268.
3. Topsoil Source: Reuse surface soil stockpiled on-site, where possible. Verify suitability of stockpiled surface soil to produce topsoil, as specified. If not suitable, amend topsoil to meet requirements approved by the Landscape Architect. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth.
  - a. Supplement acceptable on-site soil with manufactured topsoil from off-site sources, when quantities available on-site are insufficient to complete the Work.

#### B. Lawn Grass Seed:

1. Lawn Grass Seed Mixture: Provide fresh, clean, new-crop seed complying with the tolerance for purity and germination established by INDOT 621. Provide seed of the grass species, proportions and minimum percentages of purity, germination, and maximum percentage of weed seed, specified.
2. Seed Species:
  - a. Apply "Lawn Grass Seed" at proportioned by weight as listed in the Drawings.

#### C. Fertilizers:

1. Provide commercial grade complete fertilizer of neutral character, consisting of fast and slow release nitrogen with an analysis of 12-12-12.

#### D. Mulches:

1. Provide air-dry, clean, mildew-free and certified seed-free and weed-free, mulch. Mulch may consist of straw or wood cellulose fiber mulch for hydroseeding.
2. Fiber Mulch- Biodegradable, dyed-wood, cellulose-fiber mulch; non-toxic; free of plant growth or germination inhibitors; with maximum moisture content of fifteen percent and a pH range of 4.5 to 6.5.
3. Nonasphaltic Tackifier: Colloidal tackifier recommended by fiber-mulch manufacturer for slurry application; nontoxic and free of plant-growth or germination inhibitors.

#### E. Erosion-Control Materials (for slopes greater than 1:5)

1. Erosion-Control Blankets shall meet the requirements of Section 01 57 13, Erosion and Sedimentation Control.
- F. Water:
1. Provide water acceptable for lawn and grass application, containing no material harmful to plant growth and establishment, and be free from oil, acids, alkalis, and salts.

## PART 3 EXECUTION

### 3.1 INSPECTION

- A. Contractor shall examine the areas and conditions under which lawn and grass Work is to be performed, and notify Landscape Architect, in writing, of conditions detrimental to the proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions have been corrected in a manner acceptable to Landscape Architect.

### 3.2 PREPARATION

- A. Incorporate fertilizers, after spreading Topsoil, as specified, and at a rate of:
  1. Fertilizer: 18 pounds per 1,000 square feet.
- B. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.
  1. Protect adjacent and adjoining areas from hydroseeding overspray if that is the seeding method selected.
- C. Provide erosion-control measures, in accordance with Section 01 57 13 Erosion and Sedimentation Control, to prevent erosion or displacement of seeded soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
- D. Excavate or fill subgrade, as required, to bring subgrade to elevations shown. Maintain all angles of repose. Confirm that subgrade is at proper elevations and that no further earthwork is required to bring the subgrade to proper elevations. Provide subgrade elevations that slope parallel to finished grade and towards subsurface drains shown. Refer to Section 31 00 05, Trenching and Earthwork.
- E. Remove all construction debris, trash, rubble and all extraneous materials from subgrade. In the event that fuels, oils, concrete washout or other material harmful to plant growth or germination have been spilled into the subgrade, excavate the subgrade sufficiently to remove all such harmful materials and fill with approved fill, compacted to the required subgrade compaction level.

### 3.3 FINE GRADING

- A. Immediately prior to dumping and spreading topsoil, clean subgrade of all stones greater than 1 inch and all other extraneous matter. Remove all such material from Site. Notify Landscape Architect that subgrade has been cleaned, and obtain approval prior to spreading topsoil.

- B. Do not attempt to spread excessively wet, muddy or frozen topsoil. Do not spread topsoil more than five days before seeding or planting.
- C. Spread topsoil to a finished depth of 4" but not less than required to meet finish grades after light rolling and natural settlement.
  - 1. The area to be seeded shall be made smooth and uniform and shall conform to the finished grade and cross section shown on the Drawings or as directed by the Landscape Architect.

#### 3.4 CONVENTIONAL SEEDING

- A. General: Maintain grade stakes until removal is mutually agreed upon by all parties concerned.
- B. Rake or harrow all seedbeds immediately prior to seeding to produce a rough, grooved surface, no deeper than 1 inch. Seed only when seedbed is in a friable condition and not muddy or hard.
- C. Sow seed using a spreader or seeding machine.
- D. Distribute seed evenly over entire area by sowing equal quantity in two directions at right angles to each other.
- E. Sow lawn grass seed mixture at the rate of not less than 5 pounds for every 1,000 square feet.
- F. All seeded areas shall be thoroughly mulched by a method approved by the Landscape Architect. Mulching material shall be applied uniformly in a continuous blanket at a rate of 92 pounds per 1,000 square feet. Mulch shall be punched into the soil so that it is partially covered. The punching operation shall be performed longitudinally with a mulch tiller. Care shall be exercised to obtain a reasonably even distribution of mulch incorporated into the soil.
- G. Using a uniform fine spray, irrigate lawn and grass plantings as required to obtain adequate establishment of lawns and grasses.
- H. Reseed areas that remain without mulch for longer than 3 days.
- I. Take precautions to prevent damage or staining of construction or other plantings adjacent to mulched areas. Immediately clean damaged or stained areas.
- J. Prevent foot or vehicular traffic, or the movement of equipment, over the mulched areas. Reseed areas damaged as a result of such activity.

#### 3.5 HYDROSEEDING

- A. Hydroseeding: Mix specified seed, fertilizer, and fiber mulch in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogeneous slurry suitable for hydraulic application.
- B. Mix slurry with asphalt-emulsion tackifier.

- C. Apply slurry uniformly to all areas to be seeded in a one-step process. Apply slurry application at a rate of 7 pounds per 1,000 square feet, but not less than the rate required to obtain specified seed-sowing rate so that the seed comes into direct contact with topsoil.
- D. Fertilizer shall be applied as specified at a rate of 2 1/2 to 4 pounds per square foot.

### 3.6 RECONDITIONING EXISTING LAWNS AND GRASS AREAS

- A. Recondition existing lawn damaged by Contractor's operations, including areas used for storage of materials or equipment and areas damaged by movement of vehicles. Recondition existing lawn and grass areas where minor regrading is required.
- B. Provide fertilizer, seed, and soil amendments, as specified for new lawns and grass areas, and as required to provide satisfactorily reconditioned lawns and grass areas. Provide new topsoil as required to fill low spots and meet new finish grades.
- C. Till stripped, bare, and compacted areas thoroughly to a depth of 12 inches.
- D. Remove diseased or unsatisfactory lawn and grass areas; do not bury into soil. Remove topsoil containing extraneous materials resulting from Contractor's operations including oil drippings, stone, gravel and other construction materials.
- E. Water newly planted areas and keep moist until new lawns are established, as specified.

### 3.7 ACCEPTANCE CRITERIA FOR LAWNS AND GRASS AREAS

- A. Lawn and grass Work will be considered acceptable when:
  - 1. Areas Seeded with "Turfgrass Seed" Mixture: When a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 square feet and bare spots not exceeding 5 inches by 5 inches.

### 3.8 CLEANUP AND PROTECTION

- A. Promptly remove soil and debris, created by lawn and grass Work, from paved areas. Clean wheels of vehicles before leaving Site to avoid tracking soil and topsoil onto roads, walks, or other paved areas.
- B. Erect barricades and warning signs as required protecting newly planted areas from traffic. Maintain barricades throughout extended service period and remove when service period ends. Treat, repair or replace damaged lawns and meadows.
- C. Take all precautions to ensure that hydroseed slurry is only placed on the areas designated. Completely clean any overspray, on areas not designated to receive slurry.

### 3.9 INSPECTION AND ACCEPTANCE

- A. Where lawns and grass areas do not comply with specified acceptance criteria, reestablish lawns and grasses and continue extended service period until lawns and grasses comply with criteria for acceptance.

++ END OF SECTION ++

SECTION 32 93 00

EXTERIOR PLANTS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:

1. Contractor shall provide all labor, materials, tools, equipment and incidentals as shown, specified and required to furnish and install all exterior plants.
2. Extent of exterior plants is shown.
3. Types of products required include, but are not limited to the following:
  - a. Live Stakes
  - b. Live Brush Mattressing
  - c. Plant Seed
  - d. Herbaceous perennials
  - e. Accessories

B. Coordination:

1. Review installation procedures under other sections and coordinate the installation of items that must be installed with, or before, exterior plants.
2. If applicable, notify other contractors in advance of the planting operations to provide them with sufficient time for the installation of items that must be installed with, or before, lawns and grasses.

C. Related Sections:

1. Section 32 90 00, Planting
2. Section 32 92 00, Lawns and Grasses

1.2 MEASUREMENT AND PAYMENT

A. Seeding:

1. Work Item Number and Title  
**32 90 00-A Midwestern Prairie Grass Erosion Control Seed Mix (DP2)**
2. Payment for seeding shall be on a square yard basis per type.
3. The unit price shall constitute full compensation for providing all labor, materials, and equipment, plant, as required, both temporary and permanent, and all other cost associated with the vegetative establishment and maintenance for all seeding installations.

B. Planting:

1. Work Item Number and Title  
**32 90 00-B Live Stakes – *Cornus sericea***  
**32 90 00-C Live Brush Layers – *Cornus amomum***  
**32 90 00-D Live Brush Layers – *Sambucus canadensis***  
**32 90 00-E Live Brush Layers – *Salix sericea***
2. Payment for plantings shall be on a unit price basis per plant.

3. The unit price shall constitute full compensation for providing all labor, materials, and equipment, plant, fertilizer, as required, both temporary and permanent, and all other cost associated with the establishment and maintenance for all plantings.

#### DEFINITIONS

- A. Backfill: The earth used to replace or the act of replacing earth in an excavation.
- B. Balled and Burlapped Stock: Plants dug with firm, natural balls of earth in which they were grown, with ball size not less than diameter and depth recommended by ANSI Z60.1 for type and size of plant required; wrapped with burlap, tied, rigidly supported, and drum laced with twine with the root flare visible at the surface of the ball as recommended by ANSI Z60.1.
- C. Balled and Potted Stock: Plants dug with firm, natural balls of earth in which they are grown and placed, unbroken, in a container. Ball size is not less than diameter and depth recommended by ANSI Z60.1 for type and size of plant required.
- D. Bare-Root Stock: Plants with a well-branched, fibrous-root system developed by transplanting or root pruning, with soil or growing medium removed, and with not less than minimum root spread according to ANSI Z60.1 for type and size of plant required.
- E. Container-Grown Stock: Healthy, vigorous, well-rooted plants grown in a container, with a well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for type and size of plant required.
- F. Duff Layer: The surface layer of native topsoil that is composed of mostly decayed leaves, twigs, and detritus.
- G. Fabric Bag-Grown Stock: Healthy, vigorous, well-rooted plants established and grown in-ground in a porous fabric bag with well-established root system reaching sides of fabric bag. Fabric bag size is not less than diameter, depth, and volume required by ANSI Z60.1 for type and size of plant.
- H. Finish Grade: Elevation of finished surface of planting soil.
- I. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
- J. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
- K. Pests: Living organisms that occur where they are not desired, or that cause damage to plants, animals, or people. These include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- L. Planting Area: Areas to be planted.

- M. Planting Soil: Standardized topsoil; existing, native surface topsoil; existing, in-place surface soil; imported topsoil; or manufactured topsoil that is modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- N. Plant; Plants; Plant Material: These terms refer to vegetation in general, including trees, shrubs, vines, ground covers, ornamental grasses, bulbs, corms, tubers, or herbaceous vegetation.
- O. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.
- P. Stem Girdling Roots: Roots that encircle the stems (trunks) of trees below the soil surface.
- Q. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.
- R. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.
- S. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil; but in disturbed areas such as urban environments, the surface soil can be subsoil.

## 1.2 SUBMITTALS

- A. Product Data: For each type of product indicated, including soils.
  - 1. Plant Materials: Include quantities, sizes, quality, and sources for plant materials.
  - 2. Pesticides and Herbicides: Include product label and manufacturer's application instructions specific to the Project.
- B. Qualification Data: For qualified landscape Installer. Include list of similar projects completed by Installer demonstrating Installer's capabilities and experience. Include project names, addresses, and year completed, and include names and addresses of owners' contact persons.
- C. Product Certificates: For each type of manufactured product, from manufacturer, and complying with the following:
  - 1. Manufacturer's certified analysis of standard products.
  - 2. Analysis of other materials by a recognized laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable.
- D. Material Test Reports: For existing in-place surface soil and imported or manufactured topsoil.
- E. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of plants during a calendar year. Submit before start of required maintenance periods.
- F. Warranty: Sample of special warranty.

### 1.3 QUALITY ASSURANCE

- A. **Installer Qualifications:** A qualified landscape Installer whose work has resulted in successful establishment of plants.
  - 1. **Experience:** Three years' experience in landscape installation in addition to requirements in Division 1 Section "Quality Requirements."
  - 2. **Installer's Field Supervision:** Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
  - 3. **Pesticide Applicator:** State licensed, commercial.
- B. **Soil-Testing Laboratory Qualifications:** An independent or university laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.
- C. **Soil Analysis:** For each unamended soil type, furnish soil analysis and a written report by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; sodium absorption ratio; deleterious material; pH; and mineral and plant-nutrient content of the soil.
  - 1. Testing methods and written recommendations shall comply with USDA's Handbook No. 60.
  - 2. Report suitability of tested soil for plant growth.
    - a. Based upon the test results, state recommendations for soil treatments and soil amendments to be incorporated. State recommendations in weight per 1000 sq. ft. (92.9 sq. m) or volume per cu. yd. (0.76 cu. m) for nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory planting soil suitable for healthy, viable plants.
    - b. Report presence of problem salts, minerals, or heavy metals, including aluminum, arsenic, barium, cadmium, chromium, cobalt, lead, lithium, and vanadium. If such problem materials are present, provide additional recommendations for corrective action.
- D. Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.1.
- E. **Measurements:** Measure according to ANSI Z60.1. Do not prune to obtain required sizes.
  - 1. **Trees:** Measure with branches and trunks or canes in their normal position. Take height measurements from or near the top of the root flare for field-grown stock and container grown stock. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip to tip. Take caliper measurements 6 inches (150 mm) above the root flare for trees up to 4-inch (100-mm) caliper size, and 12 inches (300 mm) above the root flare for larger sizes.
  - 2. **Other Plants:** Measure with stems, petioles, and foliage in their normal position.
- F. **Plant Material Observation:** Landscape Architect may observe plant material either at place of growth or at site before planting for compliance with requirements for genus, species, variety, cultivar, size, and quality. Landscape Architect retains right to observe trees and shrubs further for size and condition of balls and root systems, pests, disease symptoms, injuries, and latent

defects and to reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site.

1. Notify Landscape Architect of sources of planting materials seven days in advance of delivery to site.
- G. Preinstallation Conference: Conduct conference at Project site.

#### 1.4 DELIVERY, STORAGE, AND HANDLING

- A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws if applicable.
- B. Bulk Materials:
1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
  2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
  3. Accompany each delivery of bulk fertilizers, lime, and soil amendments with appropriate certificates.
- C. Deliver bare-root/live stakes/brush layer stock freshly dug or cut. Immediately after harvest, pack root system in wet straw, hay, or other suitable material to keep root system moist until planting.
- D. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie vegetation in such a manner as to destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.
- E. Store dormant, live stakes and live brush layers in a cool, dry place at 40 to 45 deg F and maintain proper moisture until planting.
- F. Deliver plants after preparations for planting have been completed, and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in their appropriate aspect (sun, filtered sun, or shade), protect from weather and mechanical damage, and keep roots moist.
1. Do not remove container-grown stock from containers before time of planting.
  2. Water root systems of plants stored on-site deeply and thoroughly with a fine-mist spray. Water as often as necessary to maintain root systems in a moist, but not overly-wet condition.

#### 1.5 PROJECT CONDITIONS

- A. Field Measurements: Verify actual grade elevations, service and utility locations, irrigation system components, and dimensions of plantings and construction contiguous with new plantings by field measurements before proceeding with planting work.

- B. Interruption of Existing Services or Utilities: Do not interrupt services or utilities to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary services or utilities according to requirements indicated:
  - 1. Notify Construction Manager no fewer than two days in advance of proposed interruption of each service or utility.
  - 2. Do not proceed with interruption of services or utilities without Construction Manager's written permission.
- C. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.
  - 1. Spring Planting: March 15<sup>th</sup> – June 30<sup>th</sup>.
  - 2. Fall Planting: August 15<sup>th</sup> – Freeze up.
- D. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions and warranty requirements.
- E. Coordination with Turf Areas (Lawns): Plant trees, shrubs, and other plants after finish grades are established and before planting turf areas unless otherwise indicated.
  - 1. When planting trees, shrubs, and other plants after planting turf areas, protect turf areas, and promptly repair damage caused by planting operations.

## 1.6 WARRANTY

- A. Special Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner, or incidents that are beyond Contractor's control.
    - b. Structural failures including plantings falling or blowing over.
    - c. Faulty performance of tree stabilization and/or tree grates.
    - d. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
  - 2. Warranty Periods from Date of Substantial Completion:
    - a. Trees and shrubs: 12 months
  - 3. Include the following remedial actions as a minimum:
    - a. Immediately remove dead plants and replace unless required to plant in the succeeding planting season.

- b. Replace plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
- c. A limit of one replacement of each plant will be required except for losses or replacements due to failure to comply with requirements.
- d. Provide extended warranty for period equal to original warranty period, for replaced plant material.

## 1.7 MAINTENANCE SERVICE

- A. Initial Maintenance Service for Trees and Shrubs: Provide maintenance by skilled employees of landscape Installer. Maintain as required in Part 3 and per Earth Source, Inc. maintenance guide (available upon request). Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established but for not less than maintenance period below.
  - 1. Maintenance Period: 12 months from date of Substantial Completion.
- B. Initial Maintenance Service for Ground Cover and Other Plants: Provide maintenance by skilled employees of landscape Installer. Maintain as required in Part 3 and per Earth Source, Inc. maintenance guide (available upon request). Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established but for not less than maintenance period below.
  - 1. Maintenance Period: 12 months from date of Substantial Completion.
- C. Continuing Maintenance Proposal: From Installer to Owner, in the form of a standard yearly (or other period) maintenance agreement, starting on date initial maintenance service is concluded. State services, obligations, conditions, and terms for agreement period and for future renewal options. Maintain per standard horticultural practices and per Earth Source, Inc. maintenance guide.

## PART 2 - PRODUCTS

### 2.1 PLANT MATERIAL

- A. General: Furnish nursery-grown plants true to genus, species, variety, cultivar, stem form, shearing, and other features indicated in Plant Schedule or Plant Legend shown on Drawings and complying with ANSI Z60.1; and with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock, densely foliated when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.
  - 1. Trees with damaged, crooked, or multiple leaders; tight vertical branches where bark is squeezed between two branches or between branch and trunk ("included bark"); crossing trunks; cut-off limbs more than 3/4 inch (19 mm) in diameter; or with stem girdling roots will be rejected.
  - 2. Collected Stock: Do not use plants harvested from the wild, from native stands, from an established landscape planting, or not grown in a nursery unless otherwise indicated.

## 2.2 INORGANIC SOIL AMENDMENTS

- A. Lime: ASTM C 602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent and as follows:
  - 1. Class: O, with a minimum of 95 percent passing through No. 8 (2.36-mm) sieve and a minimum of 55 percent passing through No. 60 (0.25-mm) sieve.
- B. Sulfur: Granular, biodegradable, and containing a minimum of 90 percent sulfur, with a minimum of 99 percent passing through No. 6 (3.35-mm) sieve and a maximum of 10 percent passing through No. 40 (0.425-mm) sieve.
- C. Iron Sulfate: Granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.
- D. Aluminum Sulfate: Commercial grade, unadulterated.
- E. Agricultural Gypsum: Minimum 90 percent calcium sulfate, finely ground with 90 percent passing through No. 50 (0.30-mm) sieve.
- F. Diatomaceous Earth: Calcined, 90 percent silica, with approximately 140 percent water absorption capacity by weight.
- G. Zeolites: Mineral clinoptilolite with at least 60 percent water absorption by weight.

## 2.3 ORGANIC SOIL AMENDMENTS

- A. Imported Topsoil: Fertile, friable soil containing less than 5% total volume of the combination of subsoil, refuse, roots larger than 1 inch diameter, heavy, sticky or stiff clay, stones larger than 2 inches in diameter, noxious seeds, sticks, brush, litter, or any substances deleterious to plant growth. The percent (%) of the above objects shall be controlled by source selection not by screening the soil. Topsoil shall be suitable for the germination of seeds and the support of vegetative growth. Imported Topsoil shall not contain weed seeds in quantities that cause noticeable weed infestations in the final planting beds.
  - 1. Imported Topsoil shall meet the following physical and chemical criteria:
    - a. Soil texture: USDA loam, sandy clay loam or sandy loam with clay content between 15 and 25% and a combined clay/silt content of no more than 55%.
    - b. pH value shall be between 5.5 and 7.0.
    - c. Percent organic matter (OM): 2.0 – 5.0% by dry weight.
    - d. Soluble salt level: Less than 2mmho/cm.
    - e. Soil chemistry suitable for growing the plants specified.
  - 2. Imported Topsoil shall be harvested soil from fields of development sites. The organic content and particle size distribution shall be the result of natural soil formation. Manufactured soils where Coarse Sand, Composted organic material or chemical additives has been added to the soil to meet the requirements of this specification shall not be acceptable.
  - 3. Imported Topsoil for Planting Soil shall NOT have been screened and shall retain soil peds or clods larger than 2 inches in diameter throughout the stockpile after harvesting.
  - 4. Stockpiled Existing Topsoil at the site meeting the above criteria may be acceptable.

5. Provide a two gallon sample from each Imported Topsoil source with required soil testing results. The sample shall be a mixture of the random samples taken around the source stockpile or field.
- B. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 3/4-inch (19-mm) sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:
1. Organic Matter Content: 50 to 60 percent of dry weight.
  2. Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source-separated or compostable mixed solid waste.
- C. Coarse Sand: Clean, washed, sand, free of toxic materials.
1. Coarse concrete sand, ASTM C-33 Fine Aggregate, with a Fines Modulus Index of 2.8 and 3.2.
  2. Coarse Sands shall be clean, sharp, natural Coarse Sands free of limestone, shale and slate particles. Manufactured Coarse Sand shall not be permitted.
  3. pH shall be lower than 7.0.
  4. Provide Coarse Sand with the following particle size distribution:
 

Sieve	Percent passing
3/8 inch (9.5 mm)	100
No 4 (4.75 mm)	95-100
No 8 (2.36 mm)	80-100
No 16 (1.18 mm)	50-85
No 30 (.60 mm)	25-60
No 50 (.30 mm)	10-30
No 100 (.15 mm)	2-10
No 200 (0.75 mm)	2-5
  5. Provide a two gallon sample with manufacturer's literature and material certification that the product meets the requirements.
- D. Existing Soil (Acceptable for planting with minimum modifications): Surface soil that is not altered, compacted to root limiting density, graded or contaminated before or during the construction process and considered acceptable for planting and long term health of the plants specified either as it exists or with only minor modification.
1. The Contractor shall verify via soil testing and analysis by a certified soil testing laboratory that the soil in the designated areas is suitable at the beginning of planting bed preparation work in that area. In the event that the work of this project construction has damaged the existing soil in areas designated for use as Planting Soil to the point where the soil is no longer suitable to support the plants specified, the Owner's Representative may require modification of the damaged soil up to and including removal and replacement with soil of equal quality to the soil that existed prior to construction. Examples of damage include further compaction, contamination, grading, creation of hard pan or drainage problems, and loss of the O, and or A horizon.
    - a. Do not begin work on additional modifications until changes to the contract price are approved by Owner's Representative.
  2. Protect existing soil from compaction, contamination, and degradation during the construction process.

3. Unless otherwise instructed, remove all existing plants, root thatch, and non-soil debris from the surface of the soil using equipment that does not increase compaction of soil to root limiting levels.
4. Modifications:
  - a. When results of soil tests recommend chemical adjustments, till surface soil to six inches or greater after chemical adjustments have been applied.
  - b. Remove existing turf thatch, ground cover plants and weeds.
  - c. Provide pre-emergent weed control if indicated.
  - d. Make chemical adjustment as recommended by the soil test.
5. Soil shall meet the specified requirements for Topsoil in Section 32 92 00, Lawns and Grasses.

#### 2.4 FERTILIZERS

- A. Fertilizers shall not be used on this project.

#### 2.5 PLANTING SOIL

- A. Planting soil shall meet the specifications for Topsoil listed in Section 32 92 00, Lawns and Grasses.
  - a. Provide a two gallon sample with testing data that includes recommendations for chemical additives for the types of plants to be grown. Samples and testing data shall be submitted at the same time.

#### 2.6 PESTICIDES

- A. General: Pesticide registered and approved by EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
- B. Post-Emergent Herbicide (Selective and Non-Selective): Effective for controlling weed growth that has already germinated.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine areas to receive plants for compliance with requirements and conditions affecting installation and performance.
  1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
  2. Do not mix or place soils and soil amendments in frozen, wet, or muddy conditions.

3. Suspend soil spreading, grading, and tilling operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
  4. Uniformly moisten excessively dry soil that is not workable and which is too dusty.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Landscape Architect and replace with new planting soil.

### 3.2 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities and turf areas and existing plants from damage caused by planting operations.
- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
- C. Lay out individual shrub locations and areas for multiple plantings. Stake locations, outline areas, adjust locations when requested, and obtain Landscape Architect's acceptance of layout before excavating or planting. Make minor adjustments as required.

### 3.3 COMPACTION REQUIREMENTS FOR PLANTING SOIL

- A. Compact installed Planting Soil to the compaction rates indicated and using the methods approved for the soil mockup. Compact each soil lift as the soil is installed.
- B. Existing soil that is modified by tilling, ripping or fracturing shall have a density to the depth of the modification, after completion of the loosening, such that the penetrometer reads approximately 75 to 250 psi at soil moisture approximately the mid-point between wilting point and field capacity. This will be approximately between 75 and 82% of maximum dry density standard proctor.
- C. Installed Planting Soil Mix and re-spread existing soil shall have a soil density through the required depth of the installed layers of soil, such that the penetrometer reads approximately 75 to 250 psi at soil moisture approximately the mid-point between wilt point and field capacity. This will be approximately between 75 and 82% of maximum dry density standard proctor.
- D. Planting Soil compaction shall be tested at each lift using a penetrometer calibrated to the mockup soil and its moisture level. The same penetrometer and moisture meter used for the testing of the mockup shall be used to test installed soil throughout the work.
- E. Maintain moisture conditions within the Planting Soil during installation or modification to allow for satisfactory compaction. Suspend operations if the Planting Soil becomes wet. Apply water if the soil is overly dry.
- F. Provide adequate equipment to achieve consistent and uniform compaction of the Planting Soils. Use the smallest equipment that can reasonably perform the task of spreading and compaction. Use the same equipment and methods of compaction used to construct the Planting Soil mockup.

- G. Do not pass motorized equipment over previously installed and compacted soil except as authorized below.
  - 1. Light weight equipment such as trenching machines or motorized wheel barrows is permitted to pass over finished soil work.
  - 2. If work after the installation and compaction of soil compacts the soil to levels greater than the above requirements, follow the requirements of the paragraph "Over Compaction Reduction" below.

#### 3.4 OVER COMPACTION REDUCTION

- A. Any soil that becomes compacted to a density greater than the specified density and/or the density in the approved mockup shall be dug up and reinstalled. This requirement includes compaction caused by other sub-contractors after the Planting Soil is installed and approved.
- B. Surface roto tilling shall not be considered adequate to reduce over compaction at levels 6 inches or greater below finished grade.

#### 3.5 INSTALLATION OF CHEMICAL ADDITIVES

- A. Following the installation of each soil and prior to fine grading and installation of the Compost till layer, apply soil amendments/additives as recommended by the soil test, and appropriate to the soil and specific plants to be installed.
- B. Types, application rates and methods of application shall be approved by the Landscape Architect prior to any applications.

#### 3.6 PLANTING SOIL PROTECTION

- A. The Contractor shall protect installed and/or modified Planting Soil from damage including contamination and over compaction due to other soil installation, planting operations, and operations by other Contractors or trespassers. Maintain protection during installation until acceptance. Utilize fencing and matting as required or directed to protect the finished soil work. Treat, repair or replace damaged Planting Soil immediately.
- B. Loosen compacted Planting Soil and replace Planting Soil that has become contaminated as determined by the Owner's Representative. Planting Soil shall be loosened or replaced at no expense to the Owner.
  - 1. Till and restore grades to all soil that has been driven over or compacted during the installation of plants.
  - 2. Where modified existing soil has become contaminated and needs to be replaced, provide imported soil that is of similar composition, depth and density as the soil that was removed.
- C. The Contractor shall protect planting and related work and other site work from damage due to planting operations, operations by other Contractors or trespassers.
- D. Maintain protection during installation until the date of plant acceptance (see specifications section – Planting). Treat, repair or replace damaged work immediately.

- E. Provide temporary erosion control as needed to stop soil erosion until the site is stabilized with mulch, plantings or turf.

### 3.7 PLANTING

- A. Install plants, live stakes, and brush matting as specified on the Drawings.
- B. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.

### 3.8 PLANT MAINTENANCE

- A. Maintain plantings by pruning, cultivating, watering, weeding, adjusting and repairing stabilization devices, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings. Spray or treat as required to keep trees and shrubs free of insects and disease.
- B. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.
- C. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.

### 3.9 PESTICIDE APPLICATION

- A. Post-Emergent Herbicides (Selective and Non-Selective): Apply only as necessary to treat already-germinated weeds and in accordance with manufacturer's written recommendations.

### 3.10 CLEANUP AND PROTECTION

- A. During planting, keep adjacent paving and construction clean and work area in an orderly condition.
- B. Protect plants from damage due to landscape operations and operations of other contractors and trades. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.
- C. After installation and before Substantial Completion, remove nursery tags, nursery stakes, tie tape, labels, wire, burlap, and other debris from plant material, planting areas, and Project site.

### 3.11 FINAL ACCEPTANCE / SOIL SETTLEMENT

- A. At the end of the plant warranty and maintenance period, (see Specification section - Planting) the Owner's Representative shall observe the soil installation work and establish that all provisions of the contract are complete and the work is satisfactory.

1. Restore any soil settlement and or erosion areas to the grades shown on the drawings. When restoring soil grades remove plants and mulch and add soil before restoring the planting. Do not add soil over the root balls of plants or on top of mulch.
2. Failure to pass acceptance: If the work fails to pass final acceptance, any subsequent observations must be rescheduled as per above. The cost to the Owner for additional observations will be charged to the Contractor at the prevailing hourly rate of the Owner's Representative.

3.12 DISPOSAL

- A. Remove surplus soil and waste material including excess subsoil, unsuitable soil, trash, and debris and legally dispose of them off Owner's property.

++ END OF SECTION 32 93 00 ++

## SECTION 33 05 34.13

### CONCRETE NON-PRESSURE UTILITY PIPING

#### PART 1 GENERAL

##### 1.1 DESCRIPTION

###### A. Scope:

1. Contractor shall provide all labor, materials, equipment, and incidentals shown, specified, and required to furnish and install Concrete Non-Pressure Utility Piping.
2. Extent of concrete pipe to be provided is shown on the Drawings.

###### B. Coordination:

1. Review installation procedures under this and other applicable sections and coordinate installation of items before concrete pipe Work.
2. Contractor is required, to notify other contractors in advance of installing concrete pipe Work to provide other contractors with sufficient time for installing items included in their contracts that are to be installed with or before concrete pipe Work.

###### C. Related Sections:

1. Section 31 00 05, Trenching and Earthwork.
2. Section 33 41 00, Storm Utility Piping Installation.

##### 1.2 MEASUREMENT AND PAYMENT

###### A. Concrete Pipe:

1. Work Item Number and Title  
**33 05 34.13-A 18" Concrete Non-Pressure Utility Piping**
2. The quantity of pipe installed shall be the number of lineal feet actually installed, backfilled, and tested, as measured from outside wall of structure to outside wall of structure, as measured along the centerline of the pipe.
3. These Work items shall include all costs to furnish all labor, materials, tools, and equipment, both permanent and temporary, to install the concrete non-pressure pipe as shown and specified. The Work includes, but is not limited to, trench excavation, dewatering, furnishing and placement of bedding, pipe, placement of required backfill, disposing of excess excavated material, required fittings, testing of materials, compaction of bedding and backfill, temporary sheeting, shoring and bracing, restoration/replacement of all disturbed items not included under other Work items, protection of existing utilities and structures, testing and incidentals for performing all Work as specified unless otherwise outlined as a separate Work item.

##### 1.3 REFERENCES

- ###### A. Standards referenced in this Section are listed below:

1. American Association of State Highway and Transportation Officials.
  - a. AASHTO M198, Standard Specifications for Joints for Concrete Pipe, Manholes and Precast Sections Using Preformed Flexible Joint Sealants.
2. ASTM International.
  - a. ASTM A82, Specification for Steel Wire, Plain for Concrete Reinforcement.
  - b. ASTM A185, Specification for Steel Welded Wire Reinforcement, Plain for Concrete.
  - c. ASTM A496, Specification for Steel Wire, Deformed, for Concrete Reinforcement.
  - d. ASTM A497/A497M, Specification for Steel Welded Wire Reinforcement, Deformed, for Concrete.
  - e. ASTM C33, Specification for Concrete Aggregates.
  - f. ASTM C76, Specification for Reinforced Concrete Culvert, Storm Drain and Sewer Pipe.
  - g. ASTM C150, Standard Specification for Portland Cement.
  - h. ASTM C443, Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
  - i. ASTM C497, Standard Test Methods for Concrete Pipe, Manhole Sections, or Tile.
  - j. ASTM C595, Standard Specification for Blended Hydraulic Cements.
  - k. ASTM C655, Standard Specification for Reinforced Concrete D-load Culvert, Storm Drain and Sewer Pipe.

#### 1.4 QUALITY ASSURANCE

- A. Qualifications:
  1. Manufacturer:
    - a. Manufacturer shall have a minimum of 5 years of experience producing concrete pipe and fittings, and shall be able to document satisfactory service in at least 5 installations.
    - b. Concrete pipe and associated fittings shall be from a source listed in the INDOT List of Certified Precast Concrete Producers, in accordance with ITM 813.
- B. Component Supply and Compatibility:
  1. Each type of concrete pipe and associated fittings shall be products of one manufacturer.
  2. Concrete pipe Supplier shall review, approve, and prepare Shop Drawings and submittals for all components furnished under this Section.
  3. Components shall be suitable for specified service conditions.
- C. Quality of materials, process of manufacture and finished pipe shall be subject to inspection by Landscape Architect.

#### 1.5 SUBMITTALS

- A. Action Submittals: Submit the following:
  1. Product Data:
    - a. Detailed product data on pipe, fittings, gaskets, fastening hardware where applicable, and appurtenances.
    - b. Required Calculations (i.e. structural)
    - c. Detailed descriptions for future repair, maintenance, connections, etc.

- d. Results from required quality control test.
- B. Informational Submittals: Submit the following:
- 1. Certifications:
    - a. Submit certificate signed by manufacturer of each product certifying that products conform to applicable referenced standards.
    - b. Submit proof of manufacturer's INDOT Precast Concrete Producer Certification.
  - 2. Supplier Instructions:
    - a. Pipe manufacturer instructions for handling, storing, and installing products.

## PART 2 PRODUCTS

### 2.1 MATERIALS, REINFORCED CONCRETE PIPE FOR CULVERTS, STORM DRAINS, AND STORM SEWERS

- A. General
- 1. Pipe and fittings shall conform to the appropriate requirements of ASTM C76 or ASTM C655. Pipe shall be free of fractures and surface roughness. Planes of ends of pipe shall be perpendicular to longitudinal axis. Joints shall be designed so that, when sections are laid together, they make a continuous line of pipe with smooth interior free of irregularities in flow line. Fittings shall be constructed of the same pipe material and material class as the storm sewer pipe.
- B. Pipe Materials:
- 1. Cement for concrete Work shall be in accordance with, ASTM C150 or ASTM C595.
  - 2. Aggregates shall conform to ASTM C33.
  - 3. Steel bar reinforcement shall be in accordance with ASTM A82 or ASTM A496.
  - 4. Steel wire fabric reinforcement shall be in accordance with ASTM A185.
- C. Concrete pipe shall be Class III. Quality of materials, process of manufacturer, and finished pipe shall be subject to inspection and approval by Owner.
- D. Joints:
- 1. Joints shall have a groove on the spigot for placement of a flexible, rubber gasket in conformance with ASTM C443.
  - 2. Gasket shall be a continuous ring that fits snugly to form a flexible soil-tight seal.
  - 3. For round pipes with a diameter greater than 24 inch, Petroleum Based Mastic material may be used in lieu of rubber gaskets.
- E. Fittings:
- 1. Fittings shall be constructed of Type I or Type II Portland Cement in accordance with ASTM C150.

## PART 3 EXECUTION

### 3.1 INSPECTION

- A. Inspect pipe materials for defects in material and workmanship. Verify compatibility of pipe and fittings.

### 3.2 INSTALLATION

- A. Buried Piping Installation
  - 1. Refer to the applicable Division 33 piping installation section.
- B. Bedding and Backfill
  - 1. Refer to Section 31 00 05 Trenching and Earthwork.
- C. Contractor shall be responsible for verification of pipe loading during construction. Pipe design is based on final installation depth and required cover. Special consideration should be given to areas where compaction of the proposed berm is to be installed over RCP and where minimal pipe cover is provided.

+ + END OF SECTION + +

## SECTION 33 05 38.13

### HDPE NON-PRESSURE UTILITY PIPING

#### PART 1 GENERAL

##### 1.1 DESCRIPTION

###### A. Scope:

1. Contractor shall provide all labor, materials, equipment and incidentals as shown, specified, and required to furnish and install the High Density Polyethylene (HDPE) utility pipe and fittings as shown and specified.

###### B. Coordination:

1. Review installation procedures under other Sections and coordinate the installation of items that must be installed with, or before, the HDPE utility pipe Work.

###### C. Related Sections:

1. Section 31 00 05, Trenching and Earthwork.
2. Section 31 05 19, Geosynthetics for Earthwork.
3. Section 33 41 00, Storm Utility Piping Installation.

##### 1.2 MEASUREMENT AND PAYMENT

###### A. HDPE Pipe

1. Work Item Number and Title  
**33 05 38.13-A 6" N-12 HDPE Non-Pressure Utility Piping by ADS**
2. The quantity of pipe installed shall be the number of linear feet actually installed, backfilled and tested, as measured from outside wall of structure to structure, along the centerline of the pipe.
3. The payment of pipe shall be based on the unit price per linear foot as listed on the submitted Bid schedule for each pipe size successfully installed. Payment for any associated restoration shall be paid for under its respective Work item.
4. This item shall include all costs to furnish all labor, materials, tools, and equipment, both permanent and temporary, to install the HDPE pipe as shown and specified. The Work includes, but is not limited to, trench excavation, dewatering, furnishing and placement of bedding, pipe, filter sock when applicable, placement of required backfill, disposing of excess excavated material, required fittings, compaction of bedding and backfill, temporary sheeting, shoring and bracing, restoration/replacement of all disturbed items not included under other Work items, protection of existing utilities and structures, and incidentals for performing all Work as specified unless otherwise provided for as a separate Work item.

##### 1.3 REFERENCES

- A. Standards referenced in this Section are listed below:

1. American Association of State Highway and Transportation Officials.
  - a. AASHTO M252.
  - b. AASHTO M294
2. ASTM International.
  - a. ASTM D1056 Standard Specification for Flexible Cellular Materials—Sponge or Expanded Rubber
  - b. ASTM D3212 Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
  - c. ASTM D3350 Specification for Polyethylene Plastics Pipe and Fittings Materials.
  - d. ASTM D6707 Standard Specification for Circular-Knit Geotextile for Use in Subsurface Drainage Applications
  - e. ASTM F405 Standard Specification for Corrugated Polyethylene (PE) Pipe and Fittings
  - f. ASTM F477 Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
  - g. ASTM F667 Standard Specification for Large Diameter Corrugated Polyethylene Pipe and Fittings
  - h. ASTM F714 Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter
  - i. ASTM F2306, Standard Specification for 12 to 60 in. [300 to 1500 mm] Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Gravity-Flow Storm Sewer and Subsurface Drainage Applications.
  - j. ASTM F2648 / F2648M Standard Specification for 2 to 60 inch [50 to 1500 mm] Annular Corrugated Profile Wall Polyethylene (PE) Pipe and Fittings for Land Drainage Applications

#### 1.4 QUALITY ASSURANCE

- A. Manufacturer's Qualifications:
  1. Manufacturer shall have a minimum of 5 years' experience producing substantial similar type materials and shall be able to show evidence of at least 5 installations in satisfactory operation for at least 5 years.
- B. Component Supply and Compatibility:
  1. All pipe and fittings of each material type shall be furnished by the same manufacturer.
  2. The HDPE utility pipe and fittings manufacturer shall review and approve or prepare all Shop Drawings and other submittals for all components furnished under this Section.

#### 1.5 SUBMITTALS

- A. Action Submittals: Submit the following:
  1. Product Data:
    - a. Submit product data on pipe, fittings, gaskets, hardware, pipe gasket lubricant and appurtenances sufficient to demonstrate compliance with the Contract Documents.
- B. Informational Submittals: Submit the following:
  1. Certificates:

- a. Submit manufacturer's certificate of compliance with standards referenced in this Section.
2. Source Quality Control Submittals:
  - a. When requested by Landscape Architect, submit results of source quality control tests. Ensure the quality control tests were completed on the same batch of material, as installed.
3. Qualifications Statements:
  - a. Submit qualifications of manufacturer when requested by Landscape Architect.
  - b. Submit qualifications of installer when requested by Landscape Architect.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Ship and store in accordance with manufacture's recommendations.
- B. Inspect all materials during unloading process.
- C. Notify Owner of any cracked, flawed or otherwise defective material.
- D. Remove all materials from the Site that are found to be unsatisfactory.
- E. Handle pipe in a manner that does not over stress the pipe. Vertical and horizontal curves shall be limited so that wall stresses do not exceed 50% of yield stress for flexural bending of the pipe. If the pipe is buckled or otherwise damaged, the damaged section shall be removed and replaced by the Contractor at his expense.
- F. Inspect delivered pipe for cracked, gouged, chipped, dented or other damaged material and immediately remove from site. Sections of pipe with cuts and gouges exceeding 10 percent of the pipe wall thickness or kinked sections shall be removed and the ends rejoined.
- G. Comply with Section 01 65 00 Product Delivery Requirements and Section 01 66 00 Product Storage and Handling Requirements.

## PART 2 PRODUCTS

### 2.1 MATERIALS

- A. General
  1. HDPE piping system shall be specifically designed, constructed, and installed for the service intended.
  2. The HDPE pipe and fittings shall be homogeneous throughout and free from visible cracks, holes, foreign inclusions or other injurious defects. The pipe shall be as uniform as commercially practical in color, opacity, density and other physical properties.
  3. Clean rework or recycled material generated by the manufacturer's own production may be used as long as the pipe or fittings produced meet all the requirements of this Section.
  4. Material Properties
    - a. Material for pipe production shall be an Landscape Architected compound of virgin and recycled high density polyethylene conforming with the minimum requirements

of cell classification 424420C (ESCR Test Condition B) for 6 through 10 inch diameters, and 435420C (ESCR Test Condition B) for 12 through 36 inch diameters, as defined and described in the latest version of ASTM D3350, except that carbon black content should not exceed 4 percent.

**B. DUAL-WALLED HDPE NON-PERFORATED PIPE**

1. Manufacturers: The following manufacturers and products will be accepted.
  - a. ADS – N12 Non-Perforated
  - b. Or approved equal
2. Pipe shall be flexible, non-perforated dual wall HDPE piping with smooth interior walls unless otherwise noted on the plans.
3. Pipe shall have smooth interior and annular exterior corrugations.
4. Pipe Material
  - a. 12- through 36-inch shall meet ASTM F2306 or AASHTO M294 Type S.
5. Joints
  - a. Pipe shall be joined using a bell and spigot joint meeting AASHTO M252 and AASHTO M294.
  - b. Joint shall be water-tight in accordance with ASTM D3212.
  - c. Gaskets shall meet the requirements of ASTM F477.
  - d. Gaskets shall be installed by the pipe manufacturer and covered with a removable wrap to ensure the gasket is free from debris.
  - e. A joint lubricant supplied by the manufacturer shall be used on the gasket and bell during assembly.
6. Fittings
  - a. Pipe fittings shall be standardized for the type of pipe and joint specified.
  - b. In general, all fittings shall be constructed of the same pipe material and material class as the sewer pipe.
  - c. Fittings shall meet the requirements of ASTM F 2306, AASHTO M252, or AASHTO M294.

**2.2 SOURCE QUALITY CONTROL**

**A. Shop Tests:**

1. Pipe manufacturer shall maintain continuous quality control program.
2. Where applicable and when requested by Landscape Architect, submit results of source quality control tests specified in reference standards.

**B. Pipe may be rejected for failure to conform to these Specifications or following:**

1. Fractures or cracks passing through pipe wall, except single crack not exceeding 2 inches in length at either end of pipe which could be cut off and discarded. Pipes within one shipment shall be rejected if defects exist in more than five percent of shipment or delivery.
2. Cracks sufficient to impair strength, durability or serviceability of pipe.
3. Defects indicating improper proportioning, mixing, and molding.
4. Damaged ends, where such damage prevents making satisfactory joint.
5. Gouges or scrapes exceeding ten percent of the specified wall thickness.

- C. Acceptance of fittings, stubs or other specifically fabricated pipe sections shall be based on visual inspection at Site and documentation of conformance to these Specifications.

## PART 3 EXECUTION

### 3.1 INSPECTION

- A. Inspect pipe materials for defects in material and workmanship. Verify compatibility of pipe and fittings.

### 3.2 INSTALLATION

- A. Buried Piping Installation
  - 1. Refer to piping installation Section 33 41 00 Storm Utility Piping Installation.
- B. Bedding and Backfill
  - 1. Refer to Section 31 00 05 Trenching and Earthwork.
- C. Contractor shall be responsible for verification of pipe loading during construction. Pipe design is based on final installation depth and required cover.

### 3.3 FIELD QUALITY CONTROL

- A. Complete pipe-testing requirements in accordance with Section 33 41 00 Storm Utility Piping Installation.

++ END OF SECTION ++

## SECTION 33 41 00

### STORM UTILITY PIPING INSTALLATION

#### PART 1 GENERAL

##### 1.1 DESCRIPTION

###### A. Scope:

1. Contractor shall provide all labor, materials, equipment, and incidentals as shown, specified, and required to install and test all buried piping, and specials. The Work includes the following:
  - a. Installation of all types and sizes of buried storm utility piping, except where buried piping installations are specified under other sections.
  - b. Unless otherwise shown or specified, this section includes all buried piping Work required, beginning at the inside face of structures or structure foundations, including piping beneath structures, and extending away from structures.
  - c. Work on or affecting existing buried piping.
  - d. Installation of all jointing and gasket materials, specials, flexible couplings, mechanical couplings, and other Work required.
  - e. Supports and restraints.
  - f. Pipe encasements.
  - g. Field quality control, including testing.
  - h. Cleaning.
  - i. Incorporation of special items shown or specified into piping systems in accordance with the Contract Documents and as required.

###### B. Coordination:

1. Review installation procedures under this and other sections, and coordinate installation of items to be installed with or before buried piping Work.
2. Coordinate with appropriate piping material sections of Division 33, Utilities.

###### C. Related Sections:

1. Section 31 00 05, Trenching and Earthwork.
2. Section 33 05 34, Concrete Non-Pressure Utility Piping
3. Section 33 05 38, HDPE Non-Pressure Utility Piping

##### 1.2 MEASUREMENT AND PAYMENT

###### A. Pipe Installation

1. Pipe installation shall be included in the measurement and payment of each pipe material and associated appurtenances installed.

##### 1.3 REFERENCES

###### A. Standards referenced in this section are listed below:

1. INDOT

- a. Indiana Department of Transportation Standard Specifications, latest edition.
- 2. American Society for Non-Destructive Testing
  - a. ASNT-TC-1A, Recommended Practice, Personnel Qualification, and Certification in Non-destructive Testing.
- 3. American Association of State Highway and Transportation Officials.
  - a. AASHTO M198, Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants
- 4. ASTM International
  - a. ASTM C443, Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets
  - b. ASTM C924, Practice for Testing Concrete Pipe Sewer Lines by Low-Pressure Test Method.
  - c. ASTM D2321, Practice for Underground Installation of Thermoplastic Pipe for Sewers and other Gravity-Flow Applications.
  - d. ASTM F1417, Test Method for Installation Acceptance of Plastic Gravity Sewer Lines using Low-Pressure Air.
- 5. American Water Works Association.
  - a. AWWA M23, PVC Pipe - Design and Installation.
  - b. AWWA M41, Ductile-Iron Pipe and Fittings.
  - c. AWWA M55, PE Pipe - Design and Installation.
- 6. American Society of Civil Landscape Architects/Structural Landscape Architecting Institute
  - a. ASCE 37, Design and Construction of Sanitary and Storm Sewers.
- 7. American Concrete Pipe Association
  - a. Concrete Pipe Design Manual.

#### 1.4 QUALITY ASSURANCE

- A. Regulatory Requirements:
  - 1. Comply with requirements and recommendations of authorities having jurisdiction over the Work, including:
    - a. Indiana Department of Environmental Management
    - b. United States Army Corps of Landscape Architects
  - 2. Obtain required permits for Work in roads, rights-of-way, railroads, and other areas of the Work, as required by Authorities Having Jurisdiction listed above.

#### 1.5 SUBMITTALS

- A. Informational Submittals: Submit the following:
  - 1. Field Quality Control Submittals:
    - a. Results of each specified field quality control test.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Material delivery, storage and handling must conform to requirements in Contract Documents. Refer to Section 01 65 00 Product Delivery Requirements and Section 01 66 00 Product Storage and Handling Requirements.

## PART 2 PRODUCTS

### 2.1 MATERIALS

- A. Piping materials are located on the Drawings and in their respective specifications (Sections 33 05 34 and 33 05 38).
- B. Piping materials shall conform to Specifications for each type of pipe and piping appurtenances in applicable sections of Division 33, Utilities.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. General:
  - 1. Install piping as shown, specified, and as recommended by pipe and fittings manufacturer.
  - 2. In the event of conflict between manufacturer's recommendations and the Contract Documents, request interpretation from Landscape Architect before proceeding.
  - 3. Landscape Architect will observe excavations and bedding prior to laying pipe by Contractor. Notify Landscape Architect in advance of excavating, bedding, pipe laying, and backfilling operations.
  - 4. Minimum cover over buried storm piping shall be 3 feet, unless otherwise shown on Drawings or approved by Landscape Architect.
  - 5. Excavation in excess of that required or shown on Drawings, and that is not authorized by Landscape Architect shall be backfilled at Contractor's expense with granular material furnished, placed, and compacted in accordance with Section 31 00 05, Trenching and Earthwork.
  - 6. The width of trenches shall be such as to provide a clearance of not less than 6 inches or not more than 15 inches on each side of the pipe. All pavements shall be cut with an abrasive saw. Concrete driveways, walks, alleys, etc., shall be cut to the nearest joint unless approved by Landscape Architect.
  - 7. Excavation in excess of that required or shown, and that is not authorized by Landscape Architect shall be filled at Contractor's expense with granular material furnished, placed, and compacted in accordance with Section 31 00 05, Trenching and Earthwork.
- B. Bedding Pipe: Bed pipe as specified and in accordance with details on the Drawings.
  - 1. Trench excavation and backfill, and bedding materials shall conform to the Contract Documents. Reference Section 31 00 05, Trenching and Earthwork.
  - 2. Where over excavation is required by Landscape Architect due to unsuitable soil in trench or excavation subgrade, remove and replace unsuitable material with approved granular material furnished, placed, and compacted in accordance with the Contract Documents. Payment for removal and replacement of unsuitable soils will be made under the unit price payment items in the Contract Documents.
  - 3. Excavate trenches below bottom of pipe by amount shown and indicated in the Contract Documents. Remove loose and unsuitable material from bottom of trench.
  - 4. Carefully and thoroughly compact pipe bedding with hand held pneumatic compactors.

5. Do not lay pipe until Landscape Architect approves bedding condition.
6. Do not bring pipe into position until preceding length of pipe has been bedded and secured in its final position.

C. Alignment:

1. Install pipe accurately to line and grade shown and indicated in the Contract Documents, unless otherwise approved by Landscape Architect.
2. Slope piping uniformly between elevations shown.
3. Maintain reference line and grade with laser equipment daily for adjustment and accuracy. Correct deficiencies in equipment, reference line and reference grade. Take precautions to prevent deflections in reference line and grade.
4. Contractor shall install sewer pipe in compliance with slope requirements shown on the Drawings. All sewer pipes shall have a maximum slope deviation no greater than the indicated percents for the following pipe sizes:

<u>Pipe Diameter</u>	<u>Pipe Slope Deviation</u>
6 inch	±12%

5. Contractor shall test every other section of installed pipe for compliance with design slope. In the event that the as-built slope exceeds the indicated deviation notify Landscape Architect in writing. Removal and replacement of pipe as directed by the Landscape Architect shall be at no additional cost to the Owner.

D. Laying Pipe:

1. Conform to manufacturer's instructions and requirements of standards and manuals listed below, as applicable:
  - a. Concrete Pipe: ASHTO M198.
  - b. Sanitary and Storm Sewers: ASCE 37.
2. Do not lay pipe in water. Maintain dry trench conditions until jointing and backfilling are complete. Keep clean and protect interiors of pipe, fittings, valves, and appurtenances.
3. Start laying pipe at lowest point and proceed towards higher elevations, unless otherwise approved by Landscape Architect.
4. Place bell and spigot-type pipe so that bells face the direction of laying, unless otherwise approved by Landscape Architect.
5. Excavate around joints in bedding and lay pipe so that pipe barrel bears uniformly on trench bottom.
6. For push-on jointed pipe, do not push past the manufacturer's specified home position.
7. Carefully examine pipe, fittings, and specials for cracks, damage, and other defects while suspended above trench before installation. Immediately remove defective materials from the Site and replace with acceptable products.
8. Inspect interior of all pipe, fittings, and specials and completely remove all dirt, gravel, sand, debris, and other foreign material from pipe interior and joint recesses before pipe and appurtenances are moved into excavation. Bell and spigot-type mating surfaces shall be clean and dry immediately before pipe is laid.
9. Field cut pipe, where required, with a machine specially designed for cutting the type of pipe being installed. Make cuts carefully, without damage to pipe, coating or lining, and

with smooth end at right angles to axis of pipe. Cut ends on push-on joint type pipe shall be tapered and sharp edges filed off smooth. Do not flame-cut pipe.

10. Do not place blocking in trench under pipe, unless specifically approved by Landscape Architect for special conditions.
11. Touch up protective coatings in manner satisfactory to Landscape Architect prior to backfilling.
12. Notify Landscape Architect in advance of backfilling operations.
13. On steep slopes, take measures acceptable to Landscape Architect to prevent movement of pipe during installation.
14. Exercise care to avoid flotation when installing pipe in cast-in-place concrete and in locations with high groundwater.

#### E. Jointing Pipe

1. HDPE and PP Pipe Joints:
  - a. Bell and Spigot Joints:
    - 1) Remove all burrs and provide reference mark at correct distance from pipe end. Place mark such that no more than 1/2-inch of machined spigot surface will be visible outside of bell after pipe has been joined.
    - 2) Clean spigot end and bell thoroughly with soap and water before positioning gasket.
    - 3) Lubricate spigot groove with manufacturer's recommended lubricant. Thoroughly clean gasket and place in spigot groove starting at bottom, ensuring that gasket fins face backwards toward pipe.
    - 4) Thoroughly lubricate gasket with pipe manufacturer's recommended lubricant and equalize stretch in gasket by mean of manufacturer's recommended procedure. Reposition gasket in groove after stretching.
    - 5) Thoroughly clean and lubricate receiving bell. Align pipe as straight as possible and insert spigot end of pipe carefully into bell until reference mark on spigot is flush with bell.
    - 6) If mechanical means are used to insert spigot end, protect with wood the end of pipe being pushed, to ensure even distribution of pressure.
  - b. Ductile Iron Push-On Joint Pipe:
    - a. Prior to assembling joints, thoroughly clean with wire brush the last eight inches of exterior surface of spigot and interior surface of bell, except where joints are lined or coated with a protective lining or coating.
    - b. Wipe clean rubber gaskets and flex gaskets until resilient. Conform to manufacturer's instructions for procedures to ensure gasket resiliency when assembling joints in cold weather.
    - c. Insert gasket into joint recess and smooth out entire circumference of gasket to remove bulges and to prevent interference with proper entry of spigot of entering pipe.
    - d. Immediately prior to joint assembly, apply thin film of pipe manufacturer's recommended lubricant to surface of gasket that will come in contact with entering spigot end of pipe, or apply a thin film of lubricant to outside of spigot of entering pipe.
    - e. For assembly, center spigot in pipe bell and push pipe forward until spigot just makes contact with rubber gasket. After gasket is compressed and before pipe is pushed or pulled in the rest of the way, carefully check gasket for proper position

around the full circumference of joint. Final assembly shall be made by forcing spigot end of entering pipe past gasket until spigot makes contact with base of the bell. When more than a reasonable amount of force is required to assemble the joint, remove spigot end of pipe to verify proper positioning of gasket. Do not use gaskets that have been scored or otherwise damaged.

- f. Maintain an adequate supply of gaskets and manufactures recommended joint lubricant at the Site when pipe jointing operations are in progress.

3. Reinforced Concrete Pipe Joints:

- a. Immediately before making the joint, completely clean bell and spigot surfaces to be jointed.
- b. All joints shall have a groove on the spigot for placement of a flexible, rubber gasket in conformance with AASHTO M198 or ASTM C443. The gasket shall be a continuous ring that fits snugly into the annular space between the overlapping surfaces of the assembled pipe joint to form a flexible soil-tight seal.
- c. After pipe is lowered into place, align spigot and bell so that spigot will squarely enter the bell.
- d. Before joint is fully assembled, check position of gasket in bell using methods recommended by pipe manufacturer and accepted by Landscape Architect.
- e. Butyl rubber based material may be used in lieu of rubber gaskets when round pipes with diameters larger than 24 inch, elliptical pipes larger than 19 inch x 30 inch, arch pipes larger than 18 inch x 28 1/2 inch, or box culverts are used.

F. Backfilling:

- 1. Conform to applicable requirements of the Contract Documents. Refer to Section 31 00 05, Trenching and Earthwork.
- 2. Place backfill as Work progresses. Backfill by hand and use power tampers until pipe is covered by at least one foot of backfill.

G. Transitions:

- 1. Provide necessary adapters, specials, and connection pieces required when connecting different types and sizes of pipe or connecting pipe made by different manufacturers.

H. Closures:

- 1. Provide closure pieces shown or required to complete the Work.

3.2 WORK AFFECTING EXISTING PIPING

A. Location of Existing Underground Facilities:

- 1. Locations of existing underground facilities shown on the Drawings should be considered approximate.
- 2. Prior to beginning excavation, determine the true location of existing underground facilities to which connections are to be made, crossed, and that could be disturbed, and determine location of underground facilities that could be disturbed during excavation and backfilling operations, or that may be affected by the Work.

B. Taking Existing Pipelines and Underground Facilities Out of Service:

- 1. Do not take pipelines or underground facilities out of service unless specifically listed in Contract Documents, or approved by Landscape Architect.

2. Notify Landscape Architect in writing prior to taking pipeline or underground facilities out of service. Shutdown notification shall be provided in advance of the shutdown in accordance with the Contract Documents.
- C. Work on Existing Pipelines or Underground Facilities:
1. Cut or tap piping or underground facilities as shown or required with machines specifically designed for cutting or tapping pipelines or underground facilities, as applicable.
  2. Install temporary plugs to prevent entry of mud, dirt, water, and debris into pipe.
  3. Provide necessary adapters, sleeves, fittings, pipe, and appurtenances required to complete the Work.

### 3.3 FIELD QUALITY CONTROL

A. General:

1. Test all piping, except as exempted by the Landscape Architect or Owner's representative in writing.
2. When authorities having jurisdiction are to witness tests, notify Landscape Architect and authorities having jurisdiction in writing at least 48 hours in advance of testing.
3. Conduct all tests in presence of Landscape Architect or Owner's representative.
4. Remove or protect pipeline-mounted devices that could be damaged by testing.
5. Provide all apparatus and services required for testing, including:
  - a. Test pumps, compressors, hoses, calibrated gages, meters, test containers, valves, fittings, and temporary pumping systems required to maintain Owner's operations.
  - b. Temporary bulkheads, bracing, and blocking.
6. Provide air if an air test is required
7. Repair observed leaks and repair pipe that fails to meet acceptance criteria. Retest after repair.
8. Unless otherwise specified, testing shall include existing piping systems that connect with new piping system. Test existing pipe to nearest valve. Piping not installed by Contractor and that fails the test shall be repaired upon authorization of Owner. Unless otherwise included in the Work, repair of existing piping or Underground Facilities will be paid as extra Work.

B. Low Pressure Air Test for Pipe Joints:

1. Plug and bulkhead ends of pipe segment to be tested.
  - a. One plug shall have an orifice through which to pass air and a second orifice shall be continuously connected to a pressure gauge having a range from 0 to 10 psi, minimum divisions of 0.10 psi, and accuracy of plus or minus 0.04 psi.
2. The air supply line shall have a positive on-off valve and suitable means for readily disconnecting from the control panel.
3. The section of pipe shall be pressurized to approximately 4 psi.
4. The air shall be shut off and allowed to stabilize for a minimum of 2 min. If during this time the pressure drops below 3.5 psi, more air shall be added to raise pressure to a minimum of 3.5 psi.
5. After the air has stabilized, the air line shall be disconnected and timing will begin.
6. The time of test in minutes will be equivalent to one-half of the nominal diameter of the pipe being tested.

7. The maximum allowable pressure drop during the specified time period will be 1.0 psi.
- C. Vertical Deflection Test for Flexible Pipe:
1. Conduct vertical deflection test at least thirty days after backfill has been placed.
  2. Use rigid ball or mandrel for deflection test, which shall have diameter of at least 95 percent of base inside diameter or average inside diameter of piping, depending on which is specified in applicable ASTM standard, including appendix, to which pipe is manufactured. Perform test without mechanical pulling devices. Re-install and retest pipe segments that exceed deflection of 5 percent.

### 3.4 CLEANING

- A. Cleaning, General: Clean pipe systems as follows:
1. Thoroughly clean all piping, in manner approved by Landscape Architect, prior to placing in service.
- B. All manholes, inlets, catchbasins, and other installed structures shall be thoroughly cleaned, in a manner approved by Landscape Architect, prior to placing in service.
- C. All installed stormwater BMPs shall be thoroughly cleaned, per manufacturers' recommendations and in a manner approved by Landscape Architect, prior to placing in service.
1. Swirl separators shall be cleaned by use of a vac truck, prior to placing in service.

++ END OF SECTION ++

## SECTION 33 44 13

### DRAINAGE STRUCTURES

#### PART 1 GENERAL

##### 1.1 DESCRIPTION

###### A. Scope:

1. Contractor shall provide all labor, materials, equipment and incidentals as shown, specified and required to furnish and install all precast, including precast concrete drain inlets, plastic drainage structures, catch basins, headwalls and similar structures.

###### B. General:

1. Structures shall conform in shape, size, dimensions, materials, and other respects to the details shown on the Drawings or as directed by the Landscape Architect.
2. Cast iron frames, grates and covers shall be the standard frame and grate or cover, unless otherwise shown or specified in specification 05 56 00, Metal Castings.
3. All concrete shall be Class "A" and shall conform to the requirements specified under Section 03 00 05, Concrete.
4. Inverts shall be as shown and shall conform accurately to the size and elevation of the adjoining pipes.

###### C. Related Sections:

1. Section 03 00 05, Concrete.
2. Section 05 56 00, Metal Castings.
3. Section 31 00 05, Trenching and Earthwork.
4. Section 33 05 34, Concrete Non-Pressure Utility Piping.
5. Section 33 05 38, HDPE Non-Pressure Utility Piping.

##### 1.2 MEASUREMENT AND PAYMENT

###### A. Drainage Structures Various Sizes and Types

1. Work Item Number and Title
  - 33 44 13-A 48" x 4'- 0" Precast Catch Basin by Oldcastle**
  - 33 44 13-B 48" Precast Catch Basin Flat Top w/ 30" Opening by Oldcastle**
  - 33 44 13-C 48" Precast Catch Basin Bottom by Oldcastle**
  - 33 44 13-D Catch Basin Trap #R-3713 by Neenah Foundries**
  - 33 44 13-E 60" Round Top Mount Trash Rack by Southeastern Pipe**
  - 33 44 13-F Round Top Mount Grate #LDR-36 by J.R.Hoe**
  - 33 44 13-G 12" Drain Grate for 6" HDPE Pipe by S.E. Pipe**
2. Payment for drainage structures shall be on a unit price basis for each size classification furnished and installed in place as shown and specified on the Drawings.
3. The pay quantity shall be the number of units in each size classification actually furnished and installed.

4. This Work will be at the unit price as listed on the submitted Bid schedule each for catch basin, inlet or special structure and shall include the following Work: excavation, disposal of excess excavated material, base stabilization, dewatering, sheeting, riser rings, precast sections, metal castings, trash racks, traps, channels, inverts, granular backfill material, connecting pipes, placing and compacting backfill, testing, utility adjustments, temporary pavement replacement, if necessary, and any other requirements to complete the construction in accordance with these Contract Documents, unless otherwise detailed by the Landscape Architect as a separate Work item.
  5. This Work item includes connections to new structures where noted in the Drawings, including core drilling, junction gaskets, related hardware, and grouting.
- B. Drainage Structure Modifications
1. Work Item Number and Title  
**33 44 13-H Drainage Structure Modifications**
  2. This item is measured on a lump sum basis for work shown on the Drawings, otherwise specified, or necessary to complete work shown on the Drawings.
  3. Payment for modifications to existing manholes shall be paid based on the number of structures successfully completed per the Contract Documents or as shown on the drawings.
  4. This item shall include all costs to furnish all labor, materials, tools, and equipment, both permanent and temporary, for structure modifications associated with Work shown on the drawings including, but not limited to: cleaning existing structure as required to perform the Work, excavation, riser rings, furnishing and installing concrete for patching abandoned inlets/outlets, and core drilling existing structures to facilitate construction. The Work includes protection of existing utilities, installation of concrete plugs, site restoration, and incidentals for performing all Work as specified unless otherwise classified as a separate Work Item.
- C. Remove Existing Structure
1. Work Item Number and Title  
**33 44 13-I Remove Existing Pipe**
  2. Payment shall be made on the contract unit price in accordance with the bid schedule.
  3. The removal of existing structures and pipes shall be done in accordance with the drawings or as determined by the Landscape Architect.
  4. Contractor shall dispose all removed pipes and structures away from the project Site.
  5. This item shall include costs to furnish labor, materials, tools, and equipment, both permanent and temporary, for removal of existing structure including surface patching and backfill.
- D. Pipe End Treatments
1. Work Item Number and Title  
**33 44 13-J Pipe End Treatments**
  2. Payment for End Treatments shall be made on the contract unit price in accordance with the Drawings.
  3. The pay quantity shall be the number of end treatments actually furnished and installed.
  4. This item shall include costs to furnish labor, materials, tools, and equipment, both permanent and temporary, to install pipe end treatments.

### 1.3 REFERENCES

- A. Standards referenced in this Section are listed below:
  - 1. ASTM International.
    - a. ASTM C443, Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
    - b. ASTM C478, Specification for Precast Reinforced Concrete Manhole Sections.
    - c. ASTM C923, Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes, and Laterals.
    - d. ASTM C990, Standard Specification for Joints for Concrete Pipe, Manholes and Precast Box Sections Using Preformed Flexible Joint Sealant.
    - e. ASTM F949, Standard Specification for PVC Corrugated Sewer Pipe With a Smooth Interior and Fittings
    - f. ASTM F2648, Standard Specification for 2 to 60 inch Annular Corrugated Profile Wall Polyethylene Pipe and Fittings for Land Drainage Applications.
  - 2. American Association of State Highway and Transportation Officials
    - a. AASHTO-M198, Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants.
    - b. AASHTO-M252, Standard Specification for Corrugated Polyethylene Drainage Pipe

### 1.4 SUBMITTALS

- A. Action Submittals: Submit the following:
  - 1. Shop Drawings:
    - a. Submit manufacturer's Shop Drawings showing design and construction of all precast concrete.

### 1.5 QUALITY ASSURANCE

- A. Qualifications
  - 1. Manufacturer
    - a. Storm Drainage Manholes shall be from a source listed in the INDOT List of Certified Precast Concrete Producers, in accordance with ITM 813.
- B. Component Supply
  - 1. The quality of all materials, the process of manufacture, and the finished sections shall be subject to inspection and approval by the Landscape Architect. Such inspection may be made at the place of manufacture, or on the Project Site, or at both places and the materials shall be subject to rejection at any time on account of failure to meet any of the requirements specified herein. Material rejected after delivery to the Project Site shall be marked for identification and shall be removed from the Site immediately. All materials, which have been damaged after delivery will be rejected, and if already installed, shall be acceptably repaired, if permitted, or removed and replaced, entirely at the Contractor's expense.
  - 2. At the time of inspection, the materials will be carefully examined for compliance with the ASTM standards specified in this Specification Section and with the approved manufacturer's Drawings. All precast manhole sections shall be inspected for general

appearance, dimension, "scratch-strength," blisters, cracks, roughness, soundness, etc. The surface shall be dense and close textured.

- C. Imperfections in precast manhole sections may be repaired, subject to the approval of the Landscape Architect, after demonstration by the manufacturer that a strong and permanent repair will result. Repairs shall be carefully inspected before final approval.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Any manhole section damaged in the process of transportation or handling, shall be rejected and immediately removed from the Site, and the damaged manhole sections shall be replaced at no increase in Contract Amount.
- B. Material delivery, storage and handling must conform to requirements in Contract Documents and per Manufacturer's recommendations. All materials are to be kept in a dry, secure location prior to being transported to the job site for installation. Any materials not installed at end of day shall either be removed from the site or secured in a location approved by Owner.

### PART 2 PRODUCTS

#### 2.1 PRECAST CONCRETE PRODUCTS

- A. Where shown or otherwise approved by Landscape Architect, precast concrete shall be used for items such as area drains, catch basins, inlets, splash pads, etc. Layout and details shall be as shown and specified in Drawings. Design shall be adequate to withstand all loads imposed, including earth pressure, vehicle loads and construction loading.
- B. Precast concrete manhole sections shall conform to ASTM C 478, where applicable.
- C. Where precast structures are manufactured of various precast concrete components such as base sections, riser sections and top sections, the joint between sections shall be the tongue and groove type.
- D. Contractor shall be solely responsible for the proper height of all structures necessary to reach the final grade at all locations. Contractor is cautioned that Landscape Architect's review of Shop Drawings for components will be general in nature and Contractor shall have at its disposal an adequate supply of random length precast riser sections to adjust any structure to meet field conditions for final grading.

#### 2.2 MISCELLANEOUS METALS

- A. Metal frames, covers, grates, troughs and similar required items shall be provided as shown and in accordance with Section 05 56 00, Metal Castings, and applicable sections on metals.

#### 2.3 PIPE END TREATMENTS

- A. Metal End Treatments

1. Metal end treatments shall be in accordance with AASHTO M 36. The galvanized steel sheet material used in the fabrication of the metal end treatments shall conform to the applicable material requirements of AASHTO M 218 and ASTM A 929.
2. Metal end treatments shall be manufactured to show careful finished workmanship and have no loosely formed seams and no ragged shear edges,
3. The markings on the sheets as received from the steel supplier shall be legible.
4. The metal end sections shall have the standard toe plate.

## PART 3 EXECUTION

### 3.1 RISER RINGS

- A. Riser rings must conform to the requirements in the Contract Documents. Refer to Section 05 56 00 Metal Castings.

### 3.2 PRECAST CONCRETE ITEMS

- A. Precast concrete products shall be placed on a crushed stone bed or as shown and detailed, set at the proper grade, and carefully leveled and aligned.
- B. Backfill shall be carried up evenly on all sides of the structures to prevent overturning forces.

### 3.3 PIPE JOINT IN STRUCTURE BASE

- A. An approved joint shall be provided between each pipe entering and exiting the structure. Pipe to structure connection shall conform to the details shown in the Drawings.
- B. Pipes shall not protrude inside the structure, but shall be cut in an approved manner to be flush with the inside wall of the structure.

### 3.4 BEDDING AND BACKFILLING AT STRUCTURES

- A. Conform to applicable requirements of the Contract Documents. Refer to Section 31 00 05, Trenching and Earthwork.

### 3.5 PIPE END TREATMENTS

- A. The metal end treatments shall attach to the pipe by means of a strap unless shown otherwise on the plans or recommended installation specifications provided by the Manufacturer.
  1. The strap or rod shall be securely tightened around the pipe.
  2. The toe wall shall be placed in narrow trench. The invert of the metal end treatment shall be supported evenly by the bedding.
  3. The alignment of the end treatment shall match that of the pipe.
  4. The installation shall be completed by proper compaction of the backfill around the pipe end treatment
- B. Provide anchoring for all non-concrete pipes to protect against floatation.

C. Provide energy dissipation to protect against erosion.

++ END OF SECTION ++

# FRANKE PARK DRAINAGE IMPROVEMENTS


Fort Wayne, IN • September 17, 2019

## CONSTRUCTION DRAWINGS

### SHEET INDEX

Sheet 1	COVER SHEET
Sheet 2	DEMOLITION & ENDANGERED SPECIES PROTECTION PLAN
Sheet 3	DEMOLITION & ENDANGERED SPECIES PROTECTION PLAN
Sheet 4	LAYOUT & EARTHWORK PLAN
Sheet 5	LAYOUT & EARTHWORK PLAN
Sheet 6	PLANTING, SEEDING & EROSION CONTROL PLAN
Sheet 7	PLANTING, SEEDING & EROSION CONTROL PLAN
Sheet 8	PLANT, SEED & MATERIAL LISTS
Sheet 9	SECTIONS / CONSTRUCTION DETAILS
Sheet 10	SECTIONS / CONSTRUCTION DETAILS
Sheet 11	CONSTRUCTION DETAILS
Sheet 12	CONSTRUCTION DETAILS

### Plans Prepared For:

 Fort Wayne Parks and Recreation  
705 East State Boulevard  
Fort Wayne, IN 46805

### Plan Prepared By:



**Earth-Source Inc**  
100 West Main, Fort Wayne, IN 46811 (317) 881-8111



Regional Location Map

Scale: 1" = 10 Miles



Vicinity Location Map

Scale: 1" = 2000'



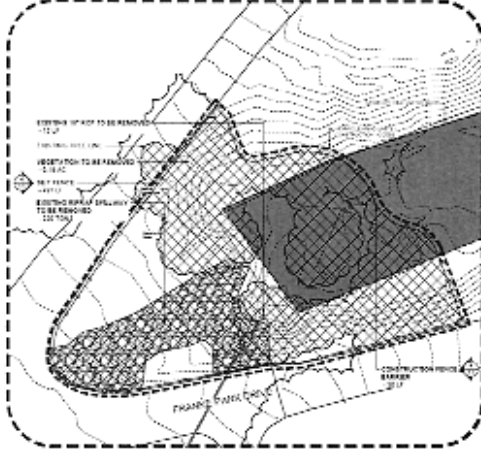
### DEMOLITION NOTES

1. ALL STRUCTURE DEMOLITION SHALL BE ACCORDING TO THE ILLINOIS CONSTRUCTION CODE AND ALL APPLICABLE LOCAL, STATE AND FEDERAL LAWS. ALL DEMOLITION SHALL BE ACCORDING TO THE ILLINOIS CONSTRUCTION CODE AND ALL APPLICABLE LOCAL, STATE AND FEDERAL LAWS.
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### DEMOLITION OVERVIEW

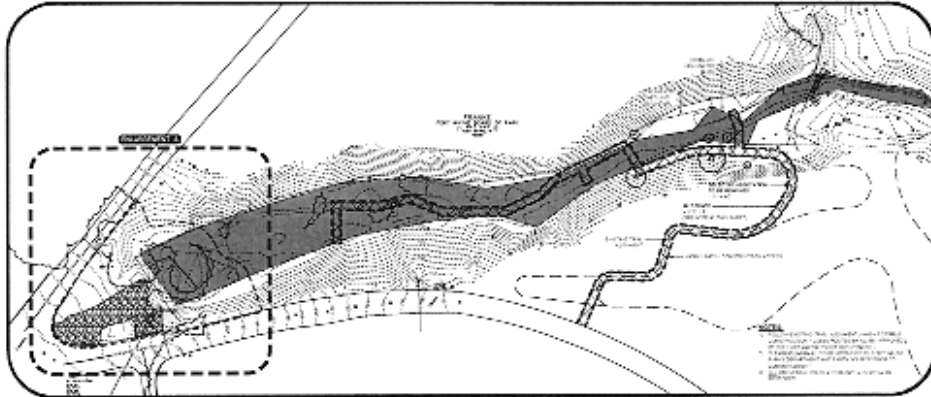


### ENLARGEMENT A



### ENDANGERED SPECIES NOTES

1. ILLINOIS DEPARTMENT OF NATURAL RESOURCES (IDNR) HAS DETERMINED THE PRESENCE OF ENDANGERED SPECIES IN THE PROJECT AREA. THE ILLINOIS DEPARTMENT OF NATURAL RESOURCES (IDNR) HAS DETERMINED THE PRESENCE OF ENDANGERED SPECIES IN THE PROJECT AREA.
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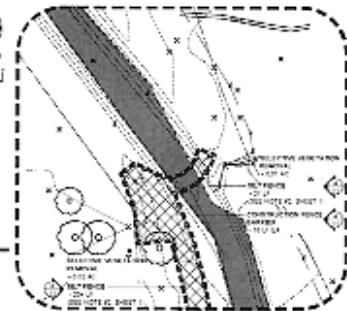
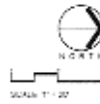
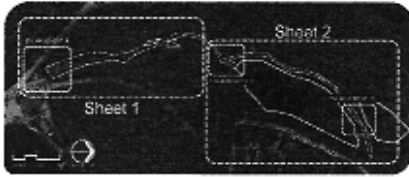


### LEGEND

EXISTING CONTOUR	---
DRAINAGE EASEMENT	---
EXISTING UTILITY	---
EXISTING DRIVEWAY	---
EXISTING DRIVEWAY	---
EXISTING DRIVEWAY	---
EXISTING DRIVEWAY	---
EXISTING DRIVEWAY	---

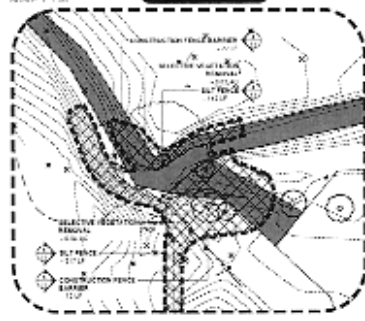
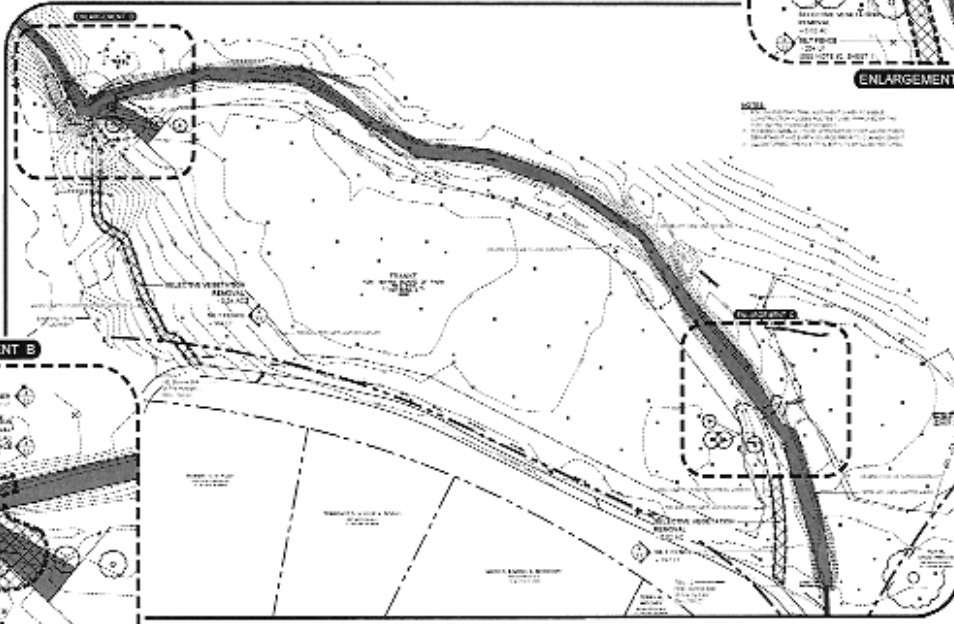


**DEMOLITION OVERVIEW**



**LEGEND**

PROPERTY LIMITS	---
DEGRADED AREAS/ADJACENT	---
LIMITS OF WORK	---
225' BUFFER W/SHORELINE	---
WATER	---
EXISTING CONTOUR	---
NEW FINISH GRADE	---
EXISTING VEGETATION TO BE REMOVED	---
SURVEILED UNDERSTAKE	---



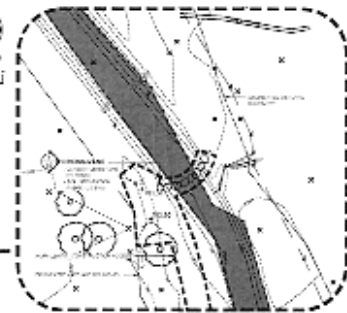
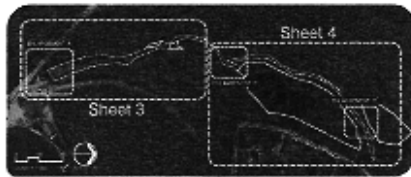
**FRANKIE PARK**  
**DRAINAGE IMPROVEMENTS**  
 Fort Wayne, Indiana  
 DEMOLITION & ENDANGERED SPECIES PROTECTION PLAN



Drawn by	DATE
DESIGNED BY	DATE
CHECKED BY	DATE
IN CHARGE	DATE
BY	DATE
DATE	DATE



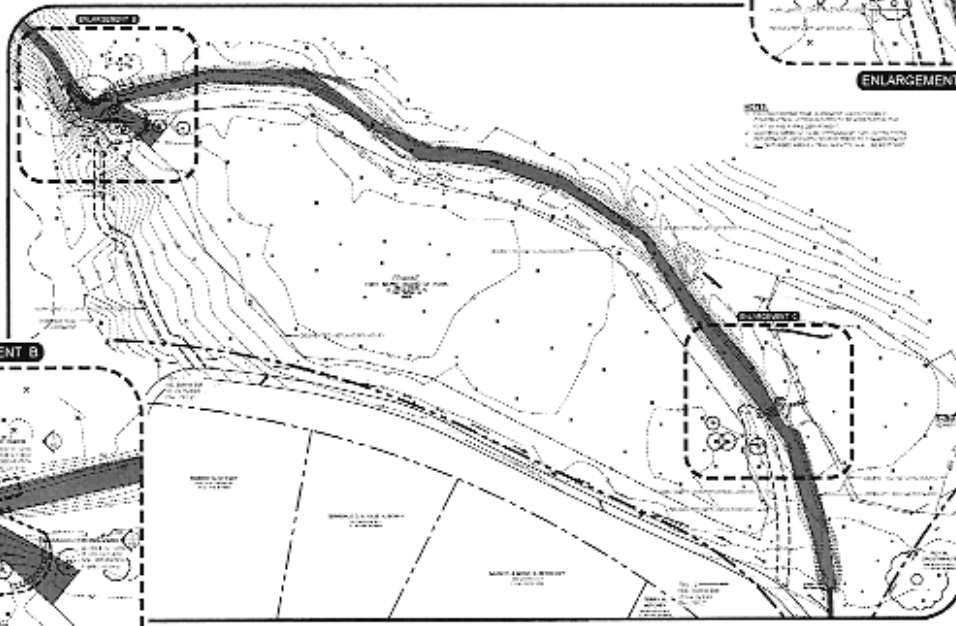
**LAYOUT & EARTHWORK OVERVIEW**



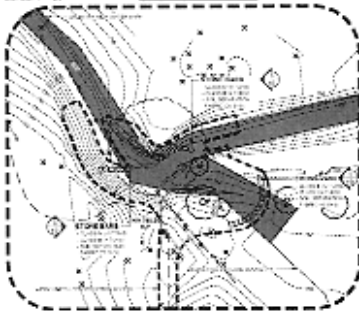
**ENLARGEMENT C**

**LEGEND**

PROPOSED ROAD	---
EXISTING WETLAND BOUNDARY	---
LIMIT OF WORK	---
EXISTING ROADWAY	---
EXISTING	---
STONE BARS	○
WELL STRUCTURE	○
EXISTING UTILITY CONDUIT	---
EXISTING EXISTING TIE	○



**ENLARGEMENT B**



**FRANKE PARK**  
**DRAINAGE IMPROVEMENTS**  
 Fort Wayne, Indiana

LAYOUT & EARTHWORK PLAN



Project No.	12345
Sheet No.	04 of 11
Date	12/31/2024
Scale	AS SHOWN
Author	J. Smith
Checked	A. Jones
Drawn	M. Lee
Reviewed	P. King
Approved	J. Smith

SHEET 4 OF 11







DATE	ISSUE
08/12/10	001/10
REVISION	DESCRIPTION
08/12/10	002/10
08/12/10	003/10
08/12/10	004/10
08/12/10	005/10
08/12/10	006/10
08/12/10	007/10
08/12/10	008/10
08/12/10	009/10
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08/12/10	046/10
08/12/10	047/10
08/12/10	048/10
08/12/10	049/10
08/12/10	050/10

**Materials List**

Qty	Description
14 tons	#1 Crushed Limestone (Crusher Run)
102 tons	#2 Crushed Limestone (Subgrade)
264 tons	Class 1 Limestone (Subgrade)
12 tons	Class 1 Limestone (Subgrade)
4 tons	Class 1 Limestone (Subgrade)
51 tons	Class 1 Limestone (Subgrade)
48 tons	Class 1 Limestone (Subgrade)
38 tons	Class 1 Limestone (Subgrade)
25 tons	Class 1 Limestone (Subgrade)
27 tons	Class 1 Limestone (Subgrade)
2 tons	Class 1 Limestone (Subgrade)
4 tons	Class 1 Limestone (Subgrade)
6 tons	Class 1 Limestone (Subgrade)
8 tons	Class 1 Limestone (Subgrade)
10 tons	Class 1 Limestone (Subgrade)
12 tons	Class 1 Limestone (Subgrade)
14 tons	Class 1 Limestone (Subgrade)
16 tons	Class 1 Limestone (Subgrade)
18 tons	Class 1 Limestone (Subgrade)
20 tons	Class 1 Limestone (Subgrade)
22 tons	Class 1 Limestone (Subgrade)
24 tons	Class 1 Limestone (Subgrade)
26 tons	Class 1 Limestone (Subgrade)
28 tons	Class 1 Limestone (Subgrade)
30 tons	Class 1 Limestone (Subgrade)
32 tons	Class 1 Limestone (Subgrade)
34 tons	Class 1 Limestone (Subgrade)
36 tons	Class 1 Limestone (Subgrade)
38 tons	Class 1 Limestone (Subgrade)
40 tons	Class 1 Limestone (Subgrade)
42 tons	Class 1 Limestone (Subgrade)
44 tons	Class 1 Limestone (Subgrade)
46 tons	Class 1 Limestone (Subgrade)
48 tons	Class 1 Limestone (Subgrade)
50 tons	Class 1 Limestone (Subgrade)
52 tons	Class 1 Limestone (Subgrade)
54 tons	Class 1 Limestone (Subgrade)
56 tons	Class 1 Limestone (Subgrade)
58 tons	Class 1 Limestone (Subgrade)
60 tons	Class 1 Limestone (Subgrade)
62 tons	Class 1 Limestone (Subgrade)
64 tons	Class 1 Limestone (Subgrade)
66 tons	Class 1 Limestone (Subgrade)
68 tons	Class 1 Limestone (Subgrade)
70 tons	Class 1 Limestone (Subgrade)
72 tons	Class 1 Limestone (Subgrade)
74 tons	Class 1 Limestone (Subgrade)
76 tons	Class 1 Limestone (Subgrade)
78 tons	Class 1 Limestone (Subgrade)
80 tons	Class 1 Limestone (Subgrade)
82 tons	Class 1 Limestone (Subgrade)
84 tons	Class 1 Limestone (Subgrade)
86 tons	Class 1 Limestone (Subgrade)
88 tons	Class 1 Limestone (Subgrade)
90 tons	Class 1 Limestone (Subgrade)
92 tons	Class 1 Limestone (Subgrade)
94 tons	Class 1 Limestone (Subgrade)
96 tons	Class 1 Limestone (Subgrade)
98 tons	Class 1 Limestone (Subgrade)
100 tons	Class 1 Limestone (Subgrade)

**Turf Grass Seed Mix (TF1)**  
 Approximate mix weight 217.8 LBS  
 100% Grass

Scientific Name	Common Name	Seed
<i>Poa annua</i>	Annual Meadow Grass	22.00%
<i>Poa pratensis</i>	Kentucky Bluegrass	30.00%
<i>Lolium perenne</i>	Perennial Ryegrass	30.00%
<b>Total</b>		<b>100.00%</b>

**Midwestern Prairie Grass Erosion Control Mix (DP2)**  
 Approximate mix weight 34,800 LBS, 94 native seedling fl.  
 100% Grass

Scientific Name	Common Name	Seed
<i>Andropogon gerardii</i>	Big Bluestem	15.00%
<i>Sorghastrum nutans</i>	Chicory Grass	15.00%
<i>Lolium perenne</i>	Perennial Ryegrass	15.00%
<i>Lolium arundinaceum</i>	Hard Fescue	15.00%
<i>Lolium pratense</i>	Red Fescue	15.00%
<i>Lolium reuteri</i>	Sheep Fescue	15.00%
<i>Lolium rigidum</i>	Stout Fescue	15.00%
<i>Lolium temulentum</i>	Drinking Water Fescue	15.00%
<i>Lolium wrightii</i>	Wright Fescue	15.00%
<i>Lolium sp.</i>	Other Fescue	15.00%
<b>Total</b>		<b>100.00%</b>

**Seed**

Qty	Description
400 lbs	DP2 Midwestern Prairie Grass Erosion Control Seed Mix
400 lbs	TF1 Turf Grass Seed Mix

**Dormant Vegetation**

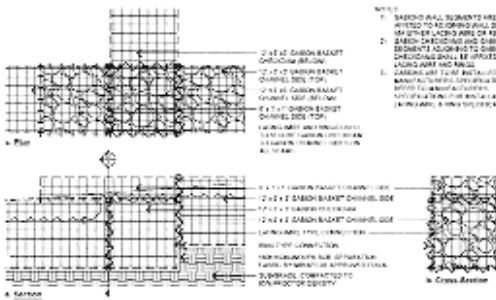
Qty	Description
20 cu yd	Grass Sod - 12" x 12" x 12" (12" x 12" x 12")
10 cu yd	Grass Sod - 12" x 12" x 12" (12" x 12" x 12")
10 cu yd	Grass Sod - 12" x 12" x 12" (12" x 12" x 12")
10 cu yd	Grass Sod - 12" x 12" x 12" (12" x 12" x 12")

**Pre-vegetated Curbs**

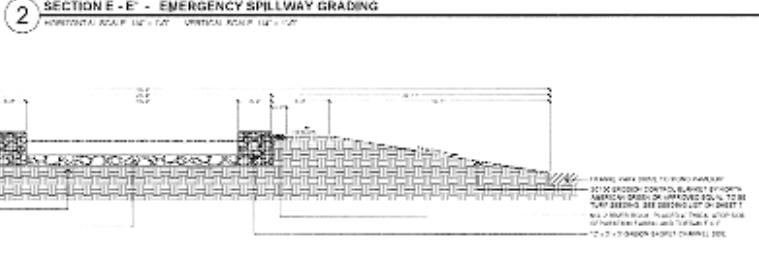
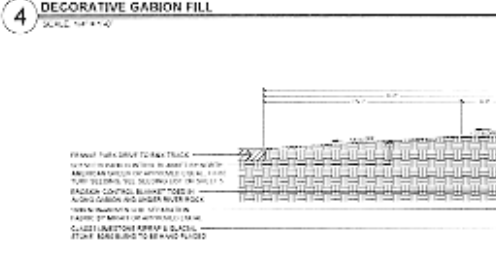
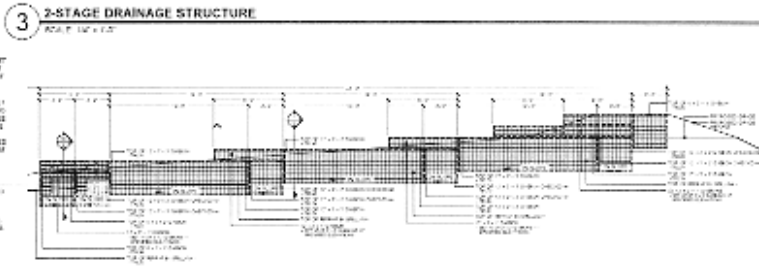
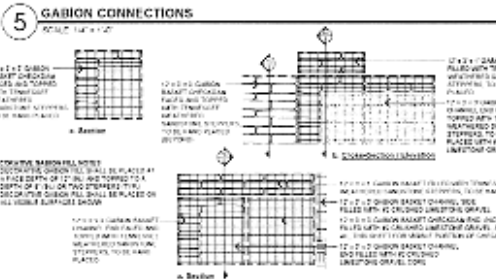
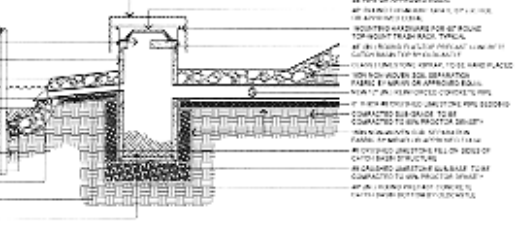
Qty	Scientific Name	Common Name	Description
1	<i>Poa annua</i>	Annual Meadow Grass	Curb Plug, 12" x 12" x 12"
1	<i>Poa pratensis</i>	Kentucky Bluegrass	Curb Plug, 12" x 12" x 12"
1	<i>Lolium perenne</i>	Perennial Ryegrass	Curb Plug, 12" x 12" x 12"
1	<i>Lolium arundinaceum</i>	Hard Fescue	Curb Plug, 12" x 12" x 12"
1	<i>Lolium pratense</i>	Red Fescue	Curb Plug, 12" x 12" x 12"
1	<i>Lolium reuteri</i>	Sheep Fescue	Curb Plug, 12" x 12" x 12"
1	<i>Lolium rigidum</i>	Stout Fescue	Curb Plug, 12" x 12" x 12"
1	<i>Lolium temulentum</i>	Drinking Water Fescue	Curb Plug, 12" x 12" x 12"
1	<i>Lolium wrightii</i>	Wright Fescue	Curb Plug, 12" x 12" x 12"
1	<i>Lolium sp.</i>	Other Fescue	Curb Plug, 12" x 12" x 12"

Note: Quantities are provided for contractor convenience. Contractor responsible for verification of quantities prior to ordering.





- NOTES:**
1. GABION WALL ELEMENTS ARE TO BE ATTACHED TO ADJACENT WALL ELEMENTS IN EITHER LATCHING OR BRIDGE GABION CONNECTIONS AND GABION WALL ELEMENTS ATTACHED TO CURBS OR FOUNDATIONS BY SPICES OR ANCHORS ARE TO BE BRIDGED TO CURBS OR FOUNDATIONS BY SPICES OR ANCHORS.
  2. GABION WALL ELEMENTS ARE TO BE ATTACHED TO ADJACENT WALL ELEMENTS IN EITHER LATCHING OR BRIDGE GABION CONNECTIONS AND GABION WALL ELEMENTS ATTACHED TO CURBS OR FOUNDATIONS BY SPICES OR ANCHORS ARE TO BE BRIDGED TO CURBS OR FOUNDATIONS BY SPICES OR ANCHORS.
  3. GABION WALL ELEMENTS ARE TO BE ATTACHED TO ADJACENT WALL ELEMENTS IN EITHER LATCHING OR BRIDGE GABION CONNECTIONS AND GABION WALL ELEMENTS ATTACHED TO CURBS OR FOUNDATIONS BY SPICES OR ANCHORS ARE TO BE BRIDGED TO CURBS OR FOUNDATIONS BY SPICES OR ANCHORS.



**Earth Source Inc.**  
CONSTRUCTION DETAILS

**FRANKE PARK DRAINAGE IMPROVEMENTS**  
Fort Wayne, Indiana

**CONSTRUCTION DETAILS**

**SCALE: 1/4" = 1'-0"**

**DATE: 10/11/11**

**PROJECT NO: 11-001**

**DESIGNED BY: [Signature]**

**CHECKED BY: [Signature]**

**DATE: 10/11/11**

**SCALE: 1/4" = 1'-0"**

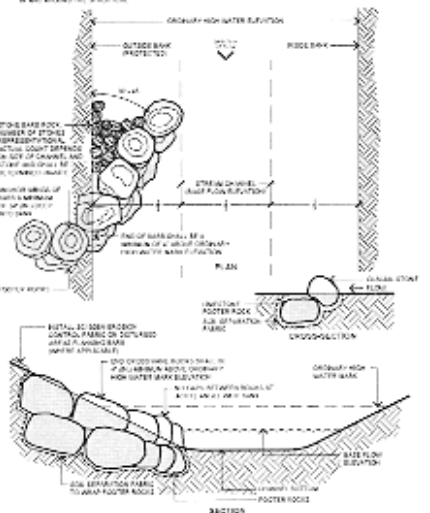
**PROJECT NO: 11-001**

**DATE: 10/11/11**

**SHEET 6 OF 11**

**INSTALLATION NOTES**

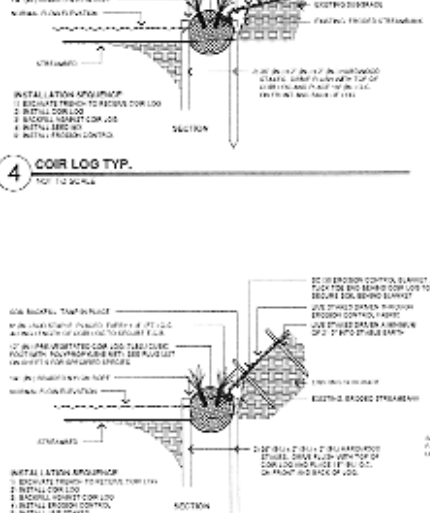
1. FACE SHALL BE ON PLACED EMBANKMENT CONTRACTOR.
2. THE STONE BANK STRUCTURE SHALL BE A COMBINATION OF APPROXIMATELY EQUAL LIMESTONE POSTERS WITH BLACK STONE.
3. STONE SIZE
4. STONE PLACEMENT SHALL BE BLIND TO THE UNDERLIES AT 2" DEPTH BELOW THE CHANNEL BOTTOM (APPROXIMATE) AND SHOULD BE CONTINUED.
5. USE 100% NATURAL SAND FILL WITHIN ALL TO BE PLACED AT OR BELOW THE CHANNEL BOTTOM TO PREVENT EROSION.
6. NOT TO SCALE.



**5 STONE BARB**  
NOT TO SCALE

**INSTALLATION NOTES**

1. FACE SHALL BE ON PLACED EMBANKMENT CONTRACTOR.
2. THE STONE BANK STRUCTURE SHALL BE A COMBINATION OF APPROXIMATELY EQUAL LIMESTONE POSTERS WITH BLACK STONE.
3. STONE SIZE
4. STONE PLACEMENT SHALL BE BLIND TO THE UNDERLIES AT 2" DEPTH BELOW THE CHANNEL BOTTOM (APPROXIMATE) AND SHOULD BE CONTINUED.
5. USE 100% NATURAL SAND FILL WITHIN ALL TO BE PLACED AT OR BELOW THE CHANNEL BOTTOM TO PREVENT EROSION.
6. NOT TO SCALE.



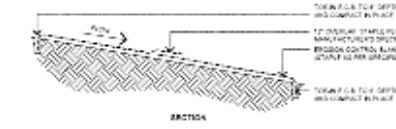
**3 COIR LOG & LIVE-STAKED BANK**  
NOT TO SCALE

**INSTALLATION**

1. FACE SHALL BE ON PLACED EMBANKMENT CONTRACTOR.
2. THE STONE BANK STRUCTURE SHALL BE A COMBINATION OF APPROXIMATELY EQUAL LIMESTONE POSTERS WITH BLACK STONE.
3. STONE SIZE
4. STONE PLACEMENT SHALL BE BLIND TO THE UNDERLIES AT 2" DEPTH BELOW THE CHANNEL BOTTOM (APPROXIMATE) AND SHOULD BE CONTINUED.
5. USE 100% NATURAL SAND FILL WITHIN ALL TO BE PLACED AT OR BELOW THE CHANNEL BOTTOM TO PREVENT EROSION.
6. NOT TO SCALE.

**MATERIALS**

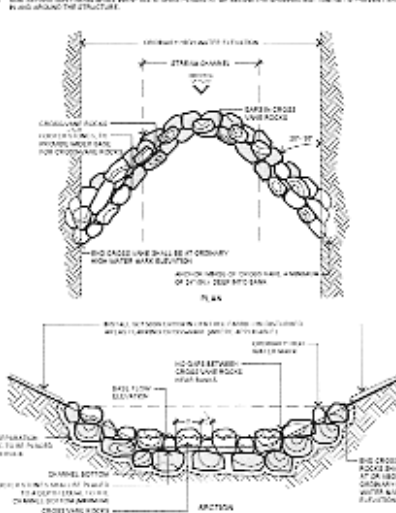
1. EROSION CONTROL FABRIC SHALL BE 100% POLYPROPYLENE NON-WOVEN EROSION CONTROL FABRIC.
2. AFTER VERIFYING EQUIPMENT CHECK THE TREATED AREA PERIODICALLY.



**2 EROSION CONTROL BLANKET**  
NOT TO SCALE

**INSTALLATION NOTES**

1. STONE SHALL BE PLACED ON TOP OF EROSION CONTROL FABRIC.
2. APPROXIMATELY EQUAL LIMESTONE POSTERS WITH BLACK STONE.
3. STONE SIZE
4. STONE PLACEMENT SHALL BE BLIND TO THE UNDERLIES AT 2" DEPTH BELOW THE CHANNEL BOTTOM (APPROXIMATE) AND SHOULD BE CONTINUED.
5. USE 100% NATURAL SAND FILL WITHIN ALL TO BE PLACED AT OR BELOW THE CHANNEL BOTTOM TO PREVENT EROSION.
6. NOT TO SCALE.



**1 CROSS-VANE**  
NOT TO SCALE



**FRANKE PARK**  
DRAINAGE IMPROVEMENTS  
Fort Wayne, Indiana  
CONSTRUCTION DETAILS



DATE	01/15/2024
BY	JRS
CHECKED BY	JRS
DATE	01/15/2024
PROJECT	FRANKE PARK
NO. 10	10 OF 11



**DRYWALL FENCE NOTES**

- USE DOMINANT DIRECTION OF FLOW ON THE GLACE AT MINIMUM 1.5% OF ALL BRUSH MATRESS STAKE AND LIVE STAKE CONSTRUCTION. ALL FENCES SHALL BE CONSTRUCTED WITH ONLY 100% NATURAL MATERIALS.
- USE DOMINANT DIRECTION OF FLOW AS A MINIMUM 1.5% IN ALL CASES OF THE DRAINAGE AND FLOW DIRECTION SHALL BE INDICATED BY THE DRAWING.
- MINIMUM SPACING OF STAKES FOR BRUSH MATRESS SHALL BE 24" TO 36" ON CENTER AND SHALL BE SPACED ONLY BRUSHED AND BRANCHED MATERIALS. ALL STAKES SHALL BE SPACED TO MAINTAIN A MINIMUM 12" CLEARANCE FROM THE BOTTOM OF THE CHANNEL.
- STAKE SHOULD BE MADE FROM BRANCHED OR LIVE STAKES WITH A MINIMUM 1" DIAMETER.
- WOOD STAKES SHALL BE STAINLESS STEEL OR GALVANIZED STEEL CUT TO LENGTH AND SPACED TO MAINTAIN A MINIMUM 12" CLEARANCE FROM THE BOTTOM OF THE CHANNEL.
- WOOD STAKES SHALL BE STAINLESS STEEL OR GALVANIZED STEEL CUT TO LENGTH AND SPACED TO MAINTAIN A MINIMUM 12" CLEARANCE FROM THE BOTTOM OF THE CHANNEL.

**DRYWALL FENCE INSTALLATION SEQUENCE:**

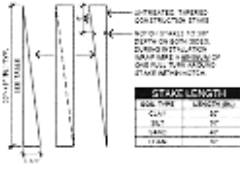
- COLLECT AND SORT LIVE BRANCHED MATERIALS OF 1" TO 2" DIAMETER.
- BRUSHED MATERIALS SHALL BE SORTED BY SIZE AND LENGTH.
- BRUSHED MATERIALS SHALL BE SORTED BY SIZE AND LENGTH.
- BRUSHED MATERIALS SHALL BE SORTED BY SIZE AND LENGTH.
- BRUSHED MATERIALS SHALL BE SORTED BY SIZE AND LENGTH.
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- BRUSHED MATERIALS SHALL BE SORTED BY SIZE AND LENGTH.
- BRUSHED MATERIALS SHALL BE SORTED BY SIZE AND LENGTH.

**SINGLE SHOT ROCK INSTALLATION NOTES**

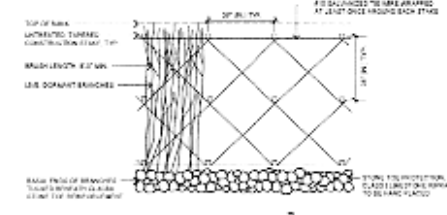
- ROCK SHALL BE HARD STONE OR QUARTZITE CONTRACTOR.
- ROCK SHALL BE 1.5 TIMES THE SIZE OF THE CHANNEL AND SHALL BE BURIED A MINIMUM OF 12" BELOW THE CHANNEL BOTTOM.
- SIZE OF SINGLE SHOT ROCK SHALL BE DETERMINED BY THE ACTUAL SIZE OF STONES AVAILABLE AT THE SITE. DEPTH OF CHANNEL AT DRAINAGE HIGH WATER BANK AND SIZE OF STONE SHALL BE DETERMINED BY THE ACTUAL SIZE OF STONES AVAILABLE AT THE SITE.



**2 SINGLE SHOT ROCK**  
 NOT TO SCALE

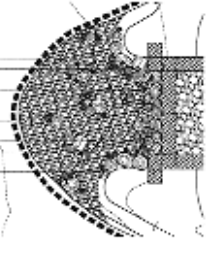


**6 BRUSH MATRESS STAKE**  
 NOT TO SCALE



GLACIAL STONE BANK	
CLASS	SIZE
CLASS A	12\"/>

GLACIAL STONE BANK	
CLASS	SIZE
CLASS B	12\"/>

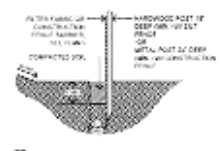


**1 GLACIAL STONE LANDSCAPE AT SPILLWAY**  
 NOT TO SCALE

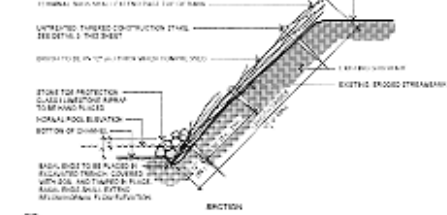


**5 LIVE STAKES**  
 NOT TO SCALE

SILT FENCE LAYOUT	
STAKE TYPE	LENGTH (ft)
CLASS A	12
CLASS B	12
CLASS C	12
CLASS D	12



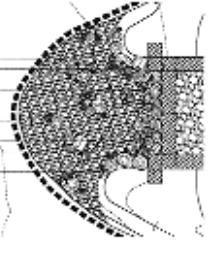
**4 SILT FENCE / BARRIER**  
 NOT TO SCALE



**3 BRUSH MATRESS**  
 NOT TO SCALE

GLACIAL STONE BANK	
CLASS	SIZE
CLASS A	12\"/>

GLACIAL STONE BANK	
CLASS	SIZE
CLASS B	12\"/>



**1 GLACIAL STONE LANDSCAPE AT SPILLWAY**  
 NOT TO SCALE

**REPORT OF COMMITTEE ON CITY UTILITIES**

**June 15, 2021**

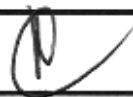



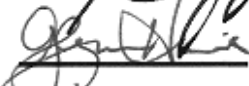
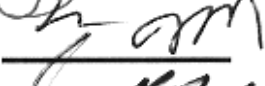


***Thomas Didier Chair***

***Michelle Chambers Co-Chair***


***All Council Members***

An Ordinance approving Construct Drainage Improvements within Franke Park - between Exterior Services, LLC and the City of Fort Wayne, Indiana, in connection with the Parks Department - *Involving a total cost of \$121,715.00*

COMMITTEE ON REGULATIONS HAVE HAD SAID Ordinance under consideration and beg leave to report back to the Common Council that said Ordinance

<u>COUNCIL MEMBER</u>	<u>DO PASS</u>	<u>DO NOT PASS</u>	<u>ABSTAIN</u>
ARP			
CHAMBERS			
DIDIER			
ENSLEY			
FREISTROFFER			
HINES			
JEHL			
PADDOCK			
TUCKER			

**LANA R. KEESLING  
CITY CLERK**



Public Hearing Date: N/A

Read the first time in full and on motion by Councilperson Didier.

Read the second time by title and referred to the City Utilities Committee.

Read the third time in full and on motion by Councilperson Didier, placed on passage by the following vote:

<u>TOTAL VOTES</u>	<u>AYES</u>	<u>NAYS</u>	<u>ABSTAINED</u>	<u>ABSENT</u>
ARP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CHAMBERS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DIDIER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ENSLEY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FREISTROFFER	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HINES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
JEHL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PADDOCK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TUCKER	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DATED: June 22, 2021

  
 \_\_\_\_\_  
 LANA R. KEESLING, CITY CLERK

Passed and adopted by the Common Council of the City of Fort Wayne, Indiana, as  
 Special Ordinance No. S-21-06-14 on the 22nd day of June, 2021

ATTEST:

  
 \_\_\_\_\_  
 LANA R. KEESLING  
 CITY CLERK

  
 \_\_\_\_\_  
 PRESIDING OFFICER

Presented by me to the Mayor of the City of Fort Wayne, Indiana, on the 23rd  
 of June 2021, at the hour of 10:55 o'clock A.M. E.S.T.

  
 \_\_\_\_\_  
 LANA R. KEESLING, CITY CLERK

Approved and signed by me this 23<sup>RD</sup> day of JUNE 2021, at the  
 hour of 1:30 o'clock PM E.S.T.

  
 \_\_\_\_\_  
 THOMAS C. HENRY, MAYOR

