Contract Documents and Specifications for the Paulding County Board of Commissioners

The Wentworth Road Waterline Improvements Project

Location

Wentworth Road, Village of Antwerp, OH

Funded By

25CI-1CF-25CDBG-16, Critical Infrastructure

Owner

The Paulding County Board of Commissioners and Village of Antwerp

Engineering Firm

Verdantas

Work Must Be Completed By

6/30/2027

Contract Documents Prepared By



Maumee Valley Planning Organization

Maumee Valley Planning Organization
1300 E Second St, Suite 200, Defiance, OH 43512
mvpo@mvpo.org | 419-784-3882

Table of Contents

Section 1: Advertisement to Bidders .....Error! Bookmark not defined.

Section 2: Addenda to the Contract Documents. Error! Bookmark not defined.

Section 3: Instructions to Bidders .....Error! Bookmark not defined.

Section 4: Bid Proposal Forms.....Error! Bookmark not defined.

Section 5: General Conditions to the Construction Contract .... Error! Bookmark not defined.

Section 6: Other Conditions to the Construction Contract..... Error! Bookmark not defined.

Section 7: Design Plans & Specifications Error! Bookmark not defined.

Section 8: Contract Signatory Documents ..... Error! Bookmark not defined.

Section 9: Appendix.....Error! Bookmark not defined.

Maumee Valley Planning Organization

Section 1: Advertisement to Bidders



Maumee Valley Planning Organization

Advertisement to Bidders

The **Village of Antwerp** and the **Paulding County Board of Commissioners** invites bidders to submit **sealed bids** for the **Wentworth Road Waterline Improvements** project**.**

Bids will be received in the **Paulding County Commissioners Office** located at **451 McDonald Pike, Suite E, Paulding, OH 45879** until **9:45:00 AM** (local time), **on November 16th, 2026**, at which time and place bids will be opened publicly and read aloud. Bids received after **9:45:00 AM** will be returned unopened.

The engineer's estimate for this project is $**595,020.00** This project is subject to all applicable Federal Labor Standards. This project is funded through the Federal Community Development Block Grant Program.

To start filling out your bid, go to Section 3: Instructions to Bidders in the Contract Documents. The contract documents may be obtained in the following ways:

1. Online at https://www.mvpo.org/bids;
2. Via email, per request to mvpo@mvpo.org; OR
3. In-person at the Maumee Valley Planning Organization's Office located at 1300 East Second Street, Suite 200, Defiance, OH 43512. Open Monday – Friday, 8:00 am – 4:30 pm.

To submit your bid, sign it, submit it on the separate bidding forms included in **Section 4: Bid Proposal Form**, seal it in an envelope with **"Wentworth Road Waterline Improvements"** on the front, and accompany it with a Bid Guaranty Bond in the amount of 100% of the Bid amount, subject to conditions provided in the Instructions to Bidders. The Bid Guaranty Bond shall be issued by a Surety Company or Corporation licensed in the State of Ohio to provide said surety.

The **Paulding County Board of Commissioners** and the **Village of Antwerp** reserve the right to reject every bid and to waive informalities, irregularities, and errors in the bidding to the extent permitted by law. The County reserves the right to purchase material from the most economical source. Location of material and job site, as well as any other pertinent factors, will be taken into consideration. No bidder may withdraw their bid within 60 days after the actual date of the opening of the bids.

To be published on: 11/27/2026

End of Advertisement to Bidders

Section 2: Addenda to the Contract Documents

ADDENDUM #1: The bid opening date and time has been moved to 10:00AM on Wednesday, November 25th, 2026. The bid opening location remains unchanged.

Maumee Valley Planning Organization

Section 3: Instructions to Bidders



Maumee Valley
Planning Organization

Item 3.1 - Receipt & Opening of Bids

The **Paulding County Commissioners** (the "responsible entity") and the **Village of Antwerp,** (the project "Owner") hereby invite bids for the Wentworth Road Waterline Improvements project**.** This project is funded in part by a CDBG Critical Infrastructure Grant 25CI-1CF-25CDBG-16. The owner will not consider incomplete bids.

Bids will be received by the Owner at the office of the **Paulding** County Commissioners until **9:45:00 AM, November 16th, 2026.** Submit your bid to **Paulding County Commissioners 451 McDonald Pike, Suite E, Paulding, OH 45879.** Submit your bid in a sealed envelope. On that sealed envelope, visually indicate that it is a bid for **Wentworth Road Waterline Improvements.** The Engineer's Estimate for this Project is $595,020.00. This estimate was calculated using Davis Bacon Wage Rates. The work performed will produce a final product with a useful life of 38 years.

The Owner may consider or reject all bids. Any bid received after the time and date specified shall not be considered. A bidder may withdraw their bid prior to the actual time of the opening of the bids. No bidder may withdraw a bid within 30 days after the actual date that bids are opened.

Item 3.2 – Preparation of Bid

Each bid must be submitted on the prescribed form and accompanied by all forms, affidavits and information requested in **Section 4: Bid Proposal Forms**. All blank spaces for bid prices must be filled in, both words and figures, and the foregoing Certifications must be fully completed and executed and submitted. In case of discrepancies of written words and figures, the prices written in words shall govern. **Note:** Filling out those forms incorrectly will result in an incomplete bid proposal. Incomplete proposals will not be considered for award after bids are opened.

Item 3.3 – Modification of Bid

Bidders may modify their bid in writing. Bid modifications must be signed and dated and submitted to the Owner at least two business days prior to bid opening. Bidder shall not disclose the total bid price or final bid terms in modification. Only tell Owner the modification to the line item.

Item 3.4 - Method of Bidding

The Owner invites unit price/lump sum price bids as indicated in the Bid Form. If the lowest total responsive bid received exceeds the amount of funds available to finance the contract, the Owner may:

- **a)** Reject all bids;
- **b)** Augment the funds available in an amount sufficient to enable award to the lowest responsive bidder or bidders;
- **c)** Take the base bid less a number of items as listed on the proposal form as to produce a net amount which is within available funds.

Item 3.5 - Qualifications of Bidder

The Owner may make such investigations as they deem necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request.

The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein. *Conditional bids will not be accepted*.

Item 3.6 - Bid Security

Each bid must be accompanied by a performance bond prepared on the form of the performance bond attached hereto, duly executed by the bidder as principal and having as surety thereon a surety company approved by the Owner, in the amount of 100% of the bid. Such performance bonds will be returned to all except the three lowest bidders within 3 days after the opening of the bids, and the remaining bid bonds will be returned promptly after the Owner and the accepted bidder have executed the contract, or, if no award has been made within thirty (30) days after the date of the opening of bids, upon demand of the bidder at any time thereafter, so long as he has not been notified of the acceptance of bid. Attorneys-in-fact who sign the bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

Item 3.7 - Liquidated Damages for Failure to Enter into Contract

The successful bidder, upon their failure or refusal to execute and deliver the contract and bonds required within ten (10) days after he has received notice of the acceptance of bid, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited within their bid.

Item 3.8 - Conditions of Work

Each bidder must inform themselves fully to the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his obligation to furnish all material and labor necessary to carry out the provisions of his contract. Insofar as possible, the contractor in carrying out the work must employ such methods or means as will not cause any interruption or interference with the work of any other contractor.

Item 3.9 - Obligation of Bidder

At the time of the opening of bids each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the plans and contract documents (including all addenda). The failure or omission of any bidder to examine any form, instrument or document shall in no way relieve any bidder from any obligation in respect of his bid.

Item 3.10 - Examination of Site

Each bidder shall and is hereby directed to inspect the entire site of the proposed work and judge for themselves as to all the circumstances affecting the cost and progress of the work and shall assume all patent and latent risks in connection therewith.

Item 3.11 - Soil Conditions

Subject to the convenience of the Owners, prospective bidders will be permitted to explore the site by making boring or digging test pits. In such event, the work shall be done at the sole expense and risk of the bidder, and he shall maintain and restore the site to original condition.

The Owner does not guarantee the accuracy of any information or samples which it may have obtained from test boring or otherwise as to the kind or condition of the soil that may be encountered in the prosecution of the proposed work, neither does the Owner represent that the

plans and specifications drawn are based upon any data so obtained.

The Owner does not make any representation as to the soil or water which underlies the work or is adjacent thereto, including any difficulties that may be due to quicksand, or other unfavorable conditions that may be encountered in the work, whether apparent upon surface inspection or disclosed in the process of carrying forward the work.

Item 3.12 - Working Facilities

The plans show, in the general manner, the existing structures and the land available for construction purposes. The bidders must satisfy themselves of the conditions and difficulties that may be encountered in the execution of the work at this site.

Item 3.13 - Addenda & Interpretations

No official interpretations of the meaning of the plans, specifications or other pre-bid documents will be made to the bidder orally.

Every request for such interpretation should be in writing addressed to **Maumee Valley Planning Organization, 1300 E. Second Street Suite 200, Defiance, Ohio 43512, or mvpo@mvpo.org**. To be given consideration, this request must be received at least three (3) days prior to the scheduled date for bid opening.

All such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, if issued, will be sent via email to all bidders on the plan holders list and posted to www.mvpo.org/bids, not later than **three (3) days prior** to the date fixed for the opening of bids.

Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the contract documents. Bidder must sign receipt of addenda and submit with their bid in the event addenda is issued.

Item 3.14 - Water and Electric Supply

All water and electric for construction purposes to be provided by the Owner from existing sources.

Item 3.15 - Signature of Bidders

The firm, corporation or individual name of the bidder must be signed in blue or black ink in the space provided for the signatures on the proposed blanks.

In the case of a **corporation**, the title of the officer signing must be stated, and such officer must be hereunto duly authorized and the seal of said corporation duly affixed. In the case of a **partnership**, the signature of at least one of the partners must follow the firm name, using the term "member of the firm". In the case of an **individual**, use the terms "doing business as", or "sole owner". The bidder shall further state in his proposal the name and the address of each person or corporation interested therein.

Item 3.16 - Notice of Special Conditions

Attention of the bidder is particularly called to those parts of the General Contract Conditions and other contract documents and specifications which deal with the following:

- **a)** Insurance Requirements
- **b)** Federal Labor Standards Provisions, including Davis-Bacon Wages
- **c)** Requirement for a payment bond and performance bond for 100% of the contract
- **d)** Requirement that all subcontractors be approved by the Owner
- **e)** Time-for-Completion and liquidated damages requirements
- **f)** Safety Standards
- **g)** Contractor's responsibility to obtain permits
- **h)** Affirmative Action and Equal Opportunity Provisions
- **i)** Certification(s) of Proposed Subcontractor(s) Regarding Section 3 and Segregated Facilities
- **j)** If over $100,000: Certification by Contractor and Subcontractors of Compliance with Air and Water Acts.
- **k)** Contractor's Certification Concerning Labor Standards and Prevailing Wage Requirements
- **l)** (All) Subcontractor's Certification(s) Concerning Labor Standards and Prevailing Wage Requirements

Item 3.17 - Additional Obligations Upon Contract Award

1) Upon award of the contract, but prior to the execution of the final agreement and Notice to Proceed, the **Contractor** shall submit all the following documents, completed as required:

- **a)** Acceptance of Notice of Award
- **b)** Agreement Between Owner and Contractor for Construction Contract (Stipulated Price)
- **c)** Insurance certificate(s) and/or policy/policies
- **d)** Performance & Payment Bond

2) Upon award of the contract, but prior to the execution of the final agreement and notice to proceed, the CONTRACTOR must obtain all the following documents from **each** Subcontractor**,** completed as required:

- **a)** Contract with prime contractor
- **b)** Subcontractor's Certification of Understanding of Labor Standards and Federal Davis-Bacon Wage Requirements
- **c)** If over $10,000.00: Certification of Subcontractor Regarding Equal Employment Opportunity
- **d)** If over $10,000.00: Certification of Non-Segregated Facilities
- **e)** Section 3 Plan for Subcontractor
- **f)** Certification of Subcontractor Regarding Section 3 and Segregated Facilities

Item 3.18 - Foreign Corporations and Contractors

Definition: "Foreign Corporation" means a corporation incorporated under the laws of another state.

No contract shall be entered into with a foreign corporation until the Secretary of State has certified that such corporation is authorized to do business in Ohio; and until, if the bidder so awarded the Contract is a person or partnership, it has filed with the Secretary of State a Power of Attorney designating the Secretary of State as its agent for the purpose of accepting service of summons in any action brought under Section 153.05 of the Ohio Revised Code or under Sections 4123.01 to 4123.94, inclusive of the Revised Code.

Section 4: Bid Proposal Forms



Maumee Valley
Planning Organization

4.1 Contractor's Contact Information

Business Name: _____ **Address:** _____

Primary Contact: _____ **PO Box:** _____

Employer ID: _____ **City:** _____

Phone Number: _____ **State:** _____

Email Address: _____ **Zip:** _____

Fax Number: _____

Is this company a Section 3 business? ☐ Yes ☐ No

Do you intend to use Subcontractors for this project? ☐ Yes ☐ No

If Yes, list them below:

4.2 Receipt of Addenda

Bidder acknowledges receipt of the following addenda (BIDDER MUST WRITE IN ADDENDA NUMBER AND TITLE IN SPACE BELOW)

ADDENDUM #1: The bid opening date and time has been moved to 10:00AM on Wednesday, November 25th, 2026. The bid opening location remains unchanged.

Name of Bidder: _____

Signature of Authorized Signee: _____

Date of Signing: _____**(MM/DD/YYYY)**

Time of Signing: _____



Maumee Valley Planning Organization

4.3: Prices to Include & Bid Proposal Sheet

PRICES TO INCLUDE

PART 1 - GENERAL

Any work shown on the plans or required in the specifications but not paid for separately as a bid item shall be included in the cost of other bid items. The amount bid for each Bid Item shall include the following:

1. All labor, materials, tools, equipment, and transportation necessary for the proper execution of the work in accordance with the Contract Documents.
2. All assistance required by the Engineer to verify compliance with the Contract Documents, including measuring for final pay quantities.
3. Project coordination and scheduling.
4. Detailed breakdown of lump sum bid items as requested by the Engineer.
5. All provisions necessary to protect workers, the general public, and property along the work in accordance with the Contract Documents.
6. Protection and/or replacement of existing property corner monuments.
7. Record drawings of the installed location of all underground electrical conduit, sewers, tees, wyes, laterals, etc.
8. Materials testing.
9. Reimbursement to Owner for costs of re-inspection or re-testing of any work not installed in compliance with the Contract Documents.
10. Construction staking of the improvements.
11. Clearing and Grubbing

PART 2 - ITEMS

All work proposed by this contract shall be quantified and paid for in accordance with the pertinent O.D.O.T. specification except as specifically altered by other provisions of this contract. ODOT 104.02 D., 611.04, 611.12, and 611.13 shall not apply to this project.

2.1 BONDS AND INSURANCES

Basis of Payment

A "Bonds and Insurances" item (including "Owner/Contractor Protective Policy," "All Risk Builder's Risk Insurance," and/or "Installation Floater Insurance", and/ endorsements to fully comply with all contract requirements) has been included in the bid proposal.

2.2 MAINTAINING TRAFFIC, AS PER PLAN

The work, method of construction and materials for maintaining traffic shall be in accordance with ODOT Item 614 and the Ohio Manual of Uniform Traffic Control Devices.

Basis of Payment

The lump sum price stipulated for maintaining traffic shall include all costs for labor, materials, tools and appurtenances necessary to complete the work as specified. Payment shall be made progressively throughout the contract period in proportion to the percentage of work complete or as otherwise approved by the Engineer.

2.3 TEMPORARY EROSION CONTROL, INCLUDING SWPPP, AS PER PLAN

Method of Measurement

The quantity to be paid shall be a Lump Sum for the preparation of SWPP Plan and each per implementation of the combined stormwater pollution prevention plan Best Management Practices (BMPs).

Basis of Payment

The lump sum price shall include contractor development of a Stormwater Pollution Prevent Plan (SWPPP) that complies with all County and State rules and regulations, along with all necessary permitting, fees, review, and approvals through the County and the Soil and Water Conservation District. The price per each shall include all labor, equipment, and materials including but not limited to straw bales, silt fence, check dams, silt ponds, and temporary seeding to provide sediment and erosion control commensurate with the Contractor's means, methods, work schedule, and in accordance with plan details and specifications, if any.

2.4 SEEDING AND MULCHING

Basis of Payment

The lump sum include furnishing and placement of topsoil, testing of topsoil, finish grading, seed, fertilizers, lime, water, maintenance, mowing, and all else necessary to establish a grass turf over all disturbed areas to be grassed.

2.5 PRECONSTRUCTION VIDEO DOCUMENTATION

Basis of Payment

The lump sum price shall include all costs associated with hiring a professional videotaping firm to document in detail the existing conditions of the entire work area and potential disturbed areas and submitting a high quality usb-flash drive with audio commentary and video log.

2.6 PAVEMENT REPLACEMENT TYPES A THRU F

Method of Measurement

The method of measurement shall be as per ODOT 253 or 255 as applicable with the exception that lengths used for calculation of each individual repair area shall not exceed the maximum pay length indicated on the drawings.

Basis of Payment

The basis of payment shall be as per ODOT 253 or 255 as applicable with the following additions:

The unit price shall also include saw cutting; integral or non-integral curb removal; integral curb replacement; furnishing, installation, maintenance, removal, and disposal of temporary road materials or temporary pavement courses; preparation for permanent pavement courses; and any additional expenses for cold weather protection.

2.7 8 INCH CONDUIT IN BORED-IN-PLACE STEEL CASING, AS PER PLAN

Method of Measurement

The quantity to be paid shall be the number of linear feet installed per the plans and specifications measured by the horizontal distance installed. Any increase in installed length due to change in length of pipe or location of structures not directed by the Engineer shall not be measured for payment.

Basis of Payment

The unit price shall be irrespective of the depth of pipe and if not called out as a separate pay item shall include the furnishing and installing the casing and carrier pipe; field location, exploratory excavation, and verification of existing utilities prior to laying conduit; earth and/or rock excavation of the entrance and exit pits; sheeting; shoring; all pumping required for adequate handling of underground water and/or surface water; disposal of undesirable and excess material; bedding; compacted backfill material; jack and bore operation; Owner's costs related to re-inspection or re-testing of failed or re-compacted backfill material; protection of existing trees or vegetation to be saved; protection of existing railroad corridors; protection and/or replacement of all existing utilities; connection to proposed pipes or structures; leakage testing; internal videotaping; Owner's costs related to re-inspection or re-testing of pipe failing leakage testing or internal videotaping; removal and replacement of poles, posts, signs, mailboxes, paper boxes, fences, landscape timbers, guardrails, sign wiring, fixtures, or other appurtenances; surface grading; temporary pavement; surface restoration including pavement restoration as required per plan; and the furnishing of all labor, materials, tools and appurtenances necessary to complete the work as specified or as shown.

2.8 CONNECT NEW WATER MAIN TO EXISTING WATER MAIN, AS PER PLAN

The new water main connections shall be made at two locations: the intersection of Wentworth Road and W. Daggett Street and the intersection of Wentworth Road and W. Canal Street, as shown on the plans.

Method of Measurement

The quantity to be paid shall be the number of locations the new pipe is connected to the existing pipe with the specified fittings as shown on the plans or as directed in the waterline connection details

Basis of Payment

The unit price shall be full compensation for each connection made including, but not limited to: earth and/or rock excavation, backfill, disposal of surplus material, furnishing and installing restrained joint materials, angle fittings (11 ¼, 22 ½, 45), reducers, long solid sleeve, saw cutting pipe, insertion valves, removal of existing caps or plugs and making connections as required, hypochlorite swabbing, joint restrains, thrust blocking, polyethylene encasement, removal, and furnishing all labor, tools, materials and appliances necessary to complete the work as specified or as shown.

2.9 ABANDON WATERLINE, AS PER PLAN

Basis of Payment

The lump sum price shall include trench excavation; sheeting and shoring; dewatering, including all pumping required for water in existing pipe, underground water, or surface water; support, protection and/or replacement of all existing utilities (conduit, wires, cables, poles, signs, etc.); exploratory excavation and field location of existing pipe and fittings; disposal of excess materials; cutting and removal of existing pipe; furnishing and installation of stone bedding, conduit, caps, plugs, specials, glands, megalugs, thrust blocking, bolts, jointing material, select or premium compacted backfill material; closing all valves, removal of valve boxes, cement grout filling and sealing of pipe, and the furnishing of all labor, materials, tools and appurtenances necessary to complete the work as specified or as shown.

2.10 8 INCH WATER MAIN LOWERING, AS PER PLAN

Method of Measurement

The method of measurement shall be for each lowering of the proposed water main done in place to provide proper clearances between the proposed water main and existing utility crossings as shown on the plans. This item is intended to compensate the contractor for the additional labor and materials for lowering the water main at a utility crossing when clearances cannot be met by vertical pipe deflection.

Basis of Payment

The unit price per each shall include all additional labor, materials, fittings, specials, excavation, sheeting and shoring, dewatering, bedding, backfill, utility coordination, disposal of excess materials, restoration, and all equipment, tools, and appurtenances necessary to lower the water main at utility crossings where the required clearances cannot be achieved by vertical pipe deflection, complete in place and as specified or shown on the plans.

2.11 6 INCH FIRE HYDRANT ASSEMBLY, INCLUDING 6 INCH VALVE AND VALVE BOX, AS PER PLAN

Method of Measurement

The method of measurement shall be as per ODOT 638.

Basis of Payment

The basis of payment shall be as per ODOT 638 with the following additions: The unit price shall also include the hydrant branch tee restrained fittings and nipples, restrained pipe between the tee and valve and/or valve and hydrant, nuts and bolts, zinc anode caps if specified, gate valve, and valve box.

2.12 8 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, PVCO, AS PER PLAN

Method of Measurement

The method of measurement shall be as per ODOT 638.

Basis of Payment

The basis of payment shall be as per ODOT 638 with the following additions: The unit price shall be irrespective of the depth of pipe or pipe material type and shall include rock excavation, all necessary pipe fittings, bends, tees, reducers, adapters or mechanical couplers, caps, specials, branches, plugs, bulkheads, backfilling as specified, blow off and sampling assemblies as needed or directed; chlorination, chlorination sampling and testing, bacteria sampling and testing, zinc anode caps for all bolts; joint restraint; blow off assemblies as needed or directed; furnishing, installing and operation necessary pumps, pipes and appurtenances necessary for trench dewatering; support protection, relocation and/or replacement of all existing utilities (sanitary force mains, storm and sanitary sewers, culverts, gas lines, curb drains, catch basins, underground conduit, wires, cables, utility poles, signs, etc.); exploratory digs to confirm subsurface conditions; installing and maintaining temporary traffic surface in paved areas; maintenance, removal and replacement of all signs, mailboxes, paper boxes, fences, guardrails, or other structures; regrading of ditches and/or swales; and the furnishing of all labor, materials, tools and appurtenances necessary to complete the work as specified or as shown.

2.13 8 INCH GATE VALVE AND VALVE BOX, AS PER PLAN

Method of Measurement

The quantity to be paid shall be the number each of valve and box installed per the plans and specifications.

Basis of Payment

The unit price shall include each valve and valve box set to finish grade, where shown on the plans and as specified, installed complete including excavation regardless of soil or rock type, backfill per typical trench details, testing, and furnishing all labor, materials, tools, and appurtenances necessary to complete the work as specified or shown.

2.14 SERVICE BRANCH (SHORT), AS PER PLAN

2.15 SERVICE BRANCH (LONG), AS PER PLAN

Method of Measurement

The method of measurement shall be as per ODOT 638 except that the water service connections shall be paid per each as short service connections or long service connections. Short service connections shall be those which the water main is on the same side of centerline of the pavement as the sublot serviced. Long service connections shall be those which the water main is on the opposite side of centerline of the pavement as the sublot serviced.

Basis of Payment

The basis of payment shall be as per ODOT 638 with the following exceptions: The unit price shall also include boring, jacking, or pushing connections under all road or alley pavements without disturbance or deterioration to the pavement; connection to the existing service at locations designated on the plans or connection to water meters; exploratory excavation and field location of existing service connections for connections indicated on the plans to be located; removal and replacement of existing water service laterals within the public right-of-way; removal, disposal, replacement, and reconnection of existing meter pits, meter yokes, and meters (Village of Antwerp to source the meter pits, yokes, and meter to the Contractor); excavation, backfill, restoration, and all labor, equipment, and incidentals necessary to complete the work shown on the plans.

2.16 TAPPING SLEEVE AND VALVE, AS PER PLAN

The tapping sleeve and valve assembly shall be installed on the existing water main on **W. River Street**, as shown on the plans.

Method of Measurement

The quantity to be paid shall be the number of each tapping sleeve and valve assembly installed as shown on the plans.

Basis of Payment

The unit price shall include field location of the existing main, coordination with the water department for tapping pipe, removal of all water, installation of the tapping sleeve and valve, testing and disinfection and compacted backfill.

2.17 CONTINGENCY/DISCRETIONARY ALLOWANCE

Basis of Payment

Contingency/Discretionary Allowance has been included in the Bid Proposal in each contract to be utilized as directed by the Engineer for unscheduled work items not included in the proposal forms or other changes in the work. The contingency allowance or portions thereof shall only be released

upon execution of approved Change Orders or as approved by the Engineer. Any portion of the allowance not utilized shall be credited to the Owner.

2.18 RAILROAD FORCE ACCOUNT ALLOWANCE, AS PER PLAN

Basis of Payment

Railroad Force Account Allowance has been included in the Bid Proposal to be utilized for railroad personnel required to be on-site during construction activities. The allowance or portions thereof shall only be released for actual railroad force account costs incurred and approved by the Engineer. Any portion of the allowance not utilized shall be credited to the Owner.

Proposal to Village of Antwerp
For West Wentworth Road Waterline Improvements

Project No. 232463

REF. NO.	DESCRIPTION	QTY.	MEASURE UNITS	UNIT PRICE LABOR	UNIT PRICE MATERIAL	TOTAL UNIT PRICE	ITEM TOTAL
1	(SPC) PRECONSTRUCTION VIDEO DOCUMENTATION	1.00	LS	$	$	$	$
2	(SPC) BONDS AND INSURANCES, AS PER PLAN	1.00	LS	$	$	$	$
3	(201) CLEARING AND GRUBBING	1.00	LS	$	$	$	$
4	(202) ABANDON WATERLINE, AS PER PLAN	1.00	LS	$	$	$	$
5	(SPC) TYPE "A" PAVEMENT REPLACEMENT (CONCRETE), DRIVEWAY, APRON, OR PARKING LOT, AS PER PLAN	48.00	SY	$	$	$	$
6	(SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), ROADWAY, AS PER PLAN	650.00	SY	$	$	$	$
7	(SPC) TYPE "F" PAVEMENT REPLACEMENT (STONE), DRIVEWAY, APRON, OR PARKING LOT, AS PER PLAN	40.00	SY	$	$	$	$
8	(611) 8 INCH CONDUIT IN BORED-IN-PLACE STEEL CASING, AS PER PLAN	185.00	FT	$	$	$	$
9	(614) MAINTAINING TRAFFIC	1.00	LS	$	$	$	$
10	(624) MOBILIZATION	1.00	LS	$	$	$	$
11	(638) CONNECT NEW WATER MAIN TO EXISTING WATER MAIN, AS PER PLAN	2.00	EACH	$	$	$	$
12	(638) 8 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909 PVCO, AS PER PLAN	1,230.00	FT	$	$	$	$
13	(638) SERVICE BRANCH (LONG), AS PER PLAN	5.00	EACH	$	$	$	$
14	(638) SERVICE BRANCH (SHORT), AS PER PLAN	5.00	EACH	$	$	$	$
15	(638) 8 INCH GATE VALVE AND VALVE BOX, AS PER PLAN	7.00	EACH	$	$	$	$
16	(638) 8 INCH X 6 INCH TAPPING SLEEVE, VALVE AND VALVE BOX	1.00	EACH	$	$	$	$
17	(638) 6 INCH FIRE HYDRANT ASSEMBLY, INCLUDING 6 INCH VALVE AND VALVE BOX, AS PER PLAN	2.00	EACH	$	$	$	$
18	(638) FIRE HYDRANT REMOVED, AS PER PLAN	1.00	EACH	$	$	$	$
19	(638) 8 INCH WATER MAIN LOWERING, AS PER PLAN	2.00	EACH	$	$	$	$
20	(SPC) LAWN RESTORATION (GRADING, SEEDING, & MULCHING)	1.00	LS	$	$	$	$
21	(SPC) TEMPORARY SEDIMENT AND EROSION CONTROL, AS PER PLAN	1.00	LS	$	$	$	$

Proposal to Village of Antwerp
For West Wentworth Road Waterline Improvements

Project No. 232463

REF. NO.	DESCRIPTION	QTY.	MEASURE UNITS	UNIT PRICE LABOR	UNIT PRICE MATERIAL	TOTAL UNIT PRICE	ITEM TOTAL
22	(SPC) RAILROAD FORCE ACCOUNT ALLOWANCE, AS PER PLAN	1.00	LS	$	$	$	$
23	(SPC) CONTINGENCY/DISCRETIONARY ALLOWANCE	1.00	LS	$	$	$	$

INFORMAL TOTAL BID $

4.4 Certification & Condition of Bid Proposal

a) _____ **(official business name)**, **hereinafter called "Bidder",** is a (Check one):

- ☐ corporation, organized and existing under the laws of the State of Ohio,
- ☐ a partnership, or
- ☐ an individual doing business as _____

b) The Bidder hereby submits this bid proposal to perform all the work associated with the following project: **- Wentworth Road Waterline Improvements.**

c) To: **Paulding Board of Commissioners** and the **Village of Antwerp**, hereinafter called "Owners", in response to the Advertisement to Bidders, the Bidder proposes to:

- Perform all work for the above referenced project in full accordance with the Contract Documents
- Complete the project within the specified contract period and
- Execute the work for the prices set forth in the accompanying Bid Schedule

d) By submitting this Bid, the Bidder, (or each party in the case of a joint bid) certifies independently and without collusion that this proposal has been prepared without consultation, communication or agreement with any other bidder or competitor concerning pricing or any other aspect of the bid

e) The undersigned affirms full knowledge of the project site, local conditions, and requirements.

f) The Bidder agrees to furnish all labor, materials, equipment, bailing, shoring, removal, overhead, profit, insurance and services necessary to complete the work as described in the Specifications and to accept full compensation as defined by the lump sum or unit prices stated in the Bid Schedule – including any increases or deductions in quantities

g) The Bidder agrees to commence work upon issuance of a written **Notice to Proceed** by the Owners and to fully complete the work by the project's required completion date. In the event of failure to complete the work by the specified date, the Bidder agrees to pay liquidated damages of $250.00 per calendar day, as provided in Article 12 of the General Conditions.

a) Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

b) The Bidder agrees that this bid shall be good and may not be withdrawn for a period of thirty (30) calendar days after the scheduled closing time for receiving bids.

c) Upon receipt of written notice of the acceptance of this bid, bidder will execute the formal contract attached within ten (10) days and deliver a Surety Bond or Bonds required.

d) The bid security attached in the sum of _____ **(insert your total bid proposal price***)* is to become the property of the Owner in the event the contract and bond are not executed within the time above set forth, as liquidated damages for the delay and additional expense to the Owner caused thereby.

Signed this _____ day of _____, _____, By _____,
Day **Month** **Year** **Name**

Signature: _____.

4.5 Bonding & Insurance Requirements for the Bid Proposal

For this project, it is ***required*** that bidders submit a bid bond form in the amount of 100% of their bid. *ORC Section 153.54, "Bid guaranty to be filed with bid."*

a) Each bid bond must be duly executed by the bidder as principal and having a surety thereon a surety company approved by the Owner.
b) Attorneys-in-fact who sign the bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

As stated in ITEM 3.6 of Section 3, Instructions to Bidders: Such bid bonds will be returned to all except the three lowest bidders within 3 days after the opening of the bids, and the remaining bid bonds will be returned promptly after the Owner and the accepted bidder have executed the contract, or, if no award has been made within **thirty (30) days** after the date of the opening of bids, upon demand of the bidder at any time thereafter, so long as he has not been notified of the acceptance of bid.

Instructions: In short, you need:

a) Completed Bid Bond Form (on next page)
b) Certificate of Compliance from the surety/bonding company you use.
c) Power of Attorney of the "Attorney-in-Fact" who signed your bid bond form.
d) Certificate of Liability Insurance

Bid Bond Form (Citation: O.R.C. § 153.571)

Know all persons by these presents, That we, the undersigned _____ as principal and _____ as sureties, are hereby held and firmly bound unto the **Paulding County, Ohio Commissioners and the Village of Antwerp** as obligee(s) in the penal sum of the dollar amount of the bid submitted by the principal to the obligee(s) on November 16th, 2026 to undertake the project known as **Wentworth Road Waterline Improvements.** The penal sum referred to herein shall be the dollar amount of the principal's bid to the obligee(s), incorporating any additive or deductive alternate bids made by the principal on the date referred to above to the obligee(s), which are accepted by the obligee(s). In no case shall **the penal sum exceed the amount of _____**. (If the foregoing blank is not filled in, the penal sum will be the full amount of the principal's bid, including alternates. Alternatively, if the blank is filled in, the amount stated must not be less than the full amount of the bid including alternates, in dollars and cents. A percentage is not acceptable.) For the payment of the penal sum well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

Signed this ____ day of _____, _____ the condition of the above obligations is such, that whereas the above-named principal has submitted a bid for _____.

Now, therefore, if the obligee(s) accepts the bid of the principal and the principal fails to enter into a proper contract in accordance with the bid, plans, details, specifications, and bills of material; and in the event the principal pays to the obligee(s) the difference not to exceed ten per cent of the penalty hereof between the amount specified in the bid and such larger amount for which the obligee(s) may in good faith contract with the next lowest bidder to perform the work covered by the bid; or in the event the obligee(s) does not award the contract to the next lowest bidder and resubmits the project for bidding, the principal pays to the obligee(s) the difference not to exceed ten per cent of the penalty hereof between the amount specified in the bid, or the costs, in connection with the resubmission, of printing new contract documents, required advertising, and printing and mailing notices to prospective bidders, whichever is less, then this obligation shall be null and void, otherwise to remain in full force and effect; if the obligee(s) accepts the bid of the principal and the principal within ten days after the awarding of the contract enters into a proper contract in accordance with the bid, plans, details, specifications, and bills of material, which said contract is made a part of this bond the same as though set forth herein;

Now also, if the said _____ shall well and faithfully do and perform the things agreed by _____ to be done and performed according to the terms of said contract; and shall pay all lawful claims of subcontractors, materials suppliers, and laborers, for labor performed and materials furnished in the carrying forward, performing, or completing of said contract; we agreeing and assenting that this undertaking shall be for the benefit of any materials supplier or laborer having a just claim, as well as for the obligee(s) herein; then this obligation shall be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

The said surety hereby stipulates and agrees that no modifications, omissions, or additions, in or to the terms of the said contract or in or to the plans or specifications therefore shall in any wise affect the obligations of said surety on its bond.

In witness whereof, the parties have affixed their signatures on the date set forth below to be effective on the date first written above.

Principal		**Surety**	
Printed Name:	_____	**Printed Name:**	_____
Title of Authorized Signee:	_____	**Title of Authorized Signee:**	_____
Signature:	_____	**Signature:**	_____
Date of Signing:	_____	**Date of Signing:**	_____

4.6 Delinquent Personal Property Tax Affidavit

State of Ohio
County of _____

According to Section 5719.042 of the Ohio Revised Code:
After the award by a taxing district of any contract let by competitive bid and prior to the time the contract is entered into, the person making a bid shall submit to the district's fiscal officer a statement affirmed under oath that the person with whom the contract is to be made was not charged at the time the bid was submitted with any delinquent personal property taxes on the general tax list of personal property of any county in which the taxing district has territory or that such person was charged with delinquent personal property taxes on any such tax list, in which case the statement shall also set forth the amount of such due and unpaid delinquent taxes and any due and unpaid penalties and interest thereon. If the statement indicates that the taxpayer was charged with any such taxes, a copy of the statement shall be transmitted by the fiscal officer to the county treasurer within thirty (30) days of the date it is submitted.

The undersigned, being first duly sworn, having been awarded a contract by you for the **Wentworth Road Waterline Improvements** hereby states that we are not charged at the time the bid was submitted with any delinquent personal property taxes on the general tax list of personal property of any county in which you as a taxing district have territory and that we were not charged with delinquent personal property taxes on any such tax list.

In consideration of the award of the above contract, the above statement is incorporated in said contract as a covenant of the undersigned.

Please sign the affidavit.

Bidder

Signed this _____ day of _____, _____, at _____.
Day Month Year Time

By _____, _____ for _____.
Name Title Name of Firm

Signature: _____.

Notary Public

Subscribed and sworn to before me this _____ day of _____, _____, at _____.
Day Month Year Time

My commission expires on _____ / _____ / _____.
Day Month Year

Please Place Your Seal Here (if you have one):

Signature: _____.

4.7 Non-Collusion Affidavit

State of Ohio
County of _____

BID Identification the **Wentworth Road Waterline Improvements.**

(1) _____ ***(contractor)*** being first duly sworn, deposes and says that he is _____ ***(sole owner, a partner, president, secretary, etc.)*** of _____, the party making the foregoing BID; that such BID is not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization or corporation; that such BID is genuine and not collusive or sham; **(2)** that said BIDDER has not directly or indirectly induced or solicited any other BIDDER to put in a false or sham BID, and has not directly or indirectly colluded, conspired, connived or agreed with any BIDDER or anyone else to put in a sham BID, or that any one shall refrain from bidding; **(3)** that said BIDDER has not in any manner, directly or indirectly, sought by agreement, communication or conference with anyone to fix the BID price of said BIDDER or of any other BIDDER, or to fix any overhead, profit, or cost element of such bid price, or of that of any other BIDDER, or to secure any advantage against the Owner awarding the contract or anyone interested in the proposed contract; that all statements contained in such BID are true; and, further, **(4)** That said BIDDER has not, directly or indirectly, submitted his BID price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid and will not pay any fee in connection therewith, to any corporation, partnership, company, association, organization, BID depository, or to any member or agent thereof, or to any other individual except such person or persons as have a partnership or other financial interest with said BIDDER in his general business.

Please sign this affidavit.

Bidder

Signed this _____ day of _____, _____, at _____.
Day **Month** **Year** **Time**

By _____, _____ for _____.
Name **Title** **Name of Firm**

Signature: _____.

Notary Public

Subscribed and sworn to before me this _____ day of _____, _____, at _____.
Day **Month** **Year** **Time**

My commission expires on _____ / _____ / _____.
Day **Month** **Year**

Signature: _____.

Please Place Your Seal Here (if you have one)

4.8 Campaign Contributions Affidavit

Citation: Section 3517.13 of the Ohio Revised Code
This affidavit *must* be signed for all contracts for goods or services costing more than $500.

State of Ohio
County of _____

I,_____ (print your name and title), as an individual or as a representative of _____**(name of company***)*, am submitting a bid proposal for the **Wentworth Road Waterline Improvements in the Village of Antwerp (25CI-1CF-25CDBG-16)** to be awarded by the **Paulding County Board of Commissioners.**

I hereby certify the following statements to be true with respect to the prohibited activities listed in Ohio Revise Code Section 3517.13. I further state that I have the authority to make the following representation on behalf of myself or of the business entity:

That none of the following individuals has made one or more campaign contributions totaling in excess of $1,000.00 to any members of the **Paulding County Board of Commissioners** or their individual campaign committee within the previous 24 months;

If awarded a contract for the purchase of goods or services costing more than $500.00, none of the following individuals shall, beginning on the date the contract is awarded and extending **until one year following the conclusion of the contract**, make one or more contributions totaling in excess of $1,000.00 to any member of the **Paulding County Board of Commissioners** or their individual campaign committee:

- An individual or sole proprietor;
- Any partner or owner of the partnership or unincorporated business;
- Any shareholder of an association;
- The administrator or executor of an estate;
- A trustee of a trust;
- The owner of more than 20% of a corporation or business trust;
- The spouse of any one of the above;
- Each child of any person identified above between the ages of 7 and 17

That no combination of the following has made one or more contributions totaling in excess of $2,000.00 to any member of the **Paulding County Board of Commissioners** or their individual campaign committee within the previous 24 months; and that if awarded a contract for the purchase of goods or services costing more than $500.00, **no combination of the following**, shall, beginning on the date the contract is awarded and extending until one year following the conclusion of the contract, make one or more contributions totaling in excess of $2,000.00 to any members of the **Paulding County Board of Commissioners** of their individual campaign committee:

- An individual or sole proprietor;
- Any partner or owner of the partnership or unincorporated business;
- Any shareholder of an association;
- The administrator or executor of an estate;

- A trustee of a trust;
- The owner of more than 20% of a corporation or business trust;
- The spouse of any one of the above;
- Each child of any person identified above between the ages of 7 and 17.
- Any political action committee affiliated with the partnership or other unincorporated business, association, estate, or trust.

1) I recognize that any contract awarded to me/my company in violation of ORC 3517.13 may be rescinded and that I/we be fined not more than $1,000.00 or an amount equal to three times the amount contributed more than the amount permitted by the applicable division, if I am found guilty.

2) I further recognize that, pursuant to ORC 3517.13 (R)(3), knowingly making a false statement on this certification is a fifth-degree felony.

Please sign this affidavit.

Bidder

Signed this _____ day of _____, _____, at _____.
Day Month Year Time

By _____, _____ for _____.
Name Title Name of Firm

Signature: _____.

Notary Public

Subscribed and sworn to before me this _____ day of _____, _____, at _____.
Day Month Year Time

My commission expires on _____ / _____ / _____.
Day Month Year

Please Place Your Seal Here (if you have one):

Signature: _____.

4.9 Non-Discrimination and Equal Employment Opportunity Affidavit

State of Ohio
County of _____

I, _____ (Name), being first duly sworn, deposes and says that they are **_____ (Title)** of **_____ (Company Name)**, the party that made the foregoing Proposal; that such party does not and shall not discriminate against any employee or applicant because of race, creed, sex, disability or marital status as defined in section 4112.01 of the Ohio Revised Code, or color as is described and prohibited by Section 153.59 and/or 125.111 of the Ohio Revised Code. Furthermore, if awarded the contract under this proposal, said party shall indemnify and hold harmless Paulding County Board of Commissioners for any violations of Section 153.59 or 125.111 of the Ohio Revised Code made by any contractor, subcontractor, or any person who works on behalf of the party relating to the ensuing contract.

If successful as the lowest and best Bidder under the foregoing Proposal this party shall post non-discrimination notices in conspicuous places available to employees and subcontractors.

Please sign this affidavit.

Bidder

Signed this _____ day of _____, _____, at _____.
Day Month Year Time

By _____, _____ for _____.
Name Title Name of Firm

Signature: _____.

Notary Public

Subscribed and sworn to before me this _____ day of _____, _____, at _____.
Day Month Year Time

My commission expires on _____ / _____ / _____.
Day Month Year

Please Place Your Seal Here (if you have one):

Signature: _____.

4.10 Contractor's Certification Regarding Equal Employment Opportunity

This certification is required pursuant to Executive Order 11246 (30 F.R. 12319-25). The implementing rules and regulations provide that any bidder or prospective contractor, or any of their proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicates that the bidder has not filed a compliance report due under applicable instructions, such bidder shall be required to submit a compliance report within seven calendar days after bid opening. No contract shall be awarded unless the report is submitted

Name of Contractor _____

Address of Contractor _____

1) Contractor has participated in a previous contract or subcontract subject to the Equal Opportunity Clause.
☐ **YES** ☐ **NO**

2) Compliance reports were required to be filed in connection with such contract or subcontract.
☐ **YES** ☐ **NO**

3) Contractor has filed all compliance reports due under applicable instructions, including SF-100.
☐ **YES** ☐ **NO**

4) Have you ever been or are you being considered for sanction due to violation of Executive Order 11246, as amended?
☐ **YES** ☐ **NO**

Signature: _____ **Printed Name and Title:** _____ **Date:** ___/___/___

4.11 W-9

Form **W-9**
(Rev. March 2024)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give form to the requester. Do not send to the IRS.

Before you begin. For guidance related to the purpose of Form W-9, see *Purpose of Form*, below.

Print or type. See Specific Instructions on page 3.

1 Name of entity/individual. An entry is required. (For a sole proprietor or disregarded entity, enter the owner's name on line 1, and enter the business/disregarded entity's name on line 2.)

2 Business name/disregarded entity name, if different from above.

3a Check the appropriate box for federal tax classification of the entity/individual whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor ☐ C corporation ☐ S corporation ☐ Partnership ☐ Trust/estate

☐ LLC. Enter the tax classification (C – C corporation, S – S corporation, P – Partnership) . . . . .

Note: Check the "LLC" box above and, in the entry space, enter the appropriate code (C, S, or P) for the tax classification of the LLC, unless it is a disregarded entity. A disregarded entity should instead check the appropriate box for the tax classification of its owner.

☐ Other (see instructions)

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any)

Exemption from Foreign Account Tax Compliance Act (FATCA) reporting code (if any)

(Applies to accounts maintained outside the United States.)

3b If on line 3a you checked "Partnership" or "Trust/estate," or checked "LLC" and entered "P" as its tax classification, and you are providing this form to a partnership, trust, or estate in which you have an ownership interest, check this box if you have any foreign partners, owners, or beneficiaries. See instructions . . . . . ☐

5 Address (number, street, and apt. or suite no.). See instructions.

Requester's name and address (optional)

6 City, state, and ZIP code

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. See also *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

___ – ___ – ____

or

Employer identification number

__ – _____

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and, generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here **Signature of U.S. person** **Date**

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

What's New

Line 3a has been modified to clarify how a disregarded entity completes this line. An LLC that is a disregarded entity should check the appropriate box for the tax classification of its owner. Otherwise, it should check the "LLC" box and enter its appropriate tax classification.

New line 3b has been added to this form. A flow-through entity is required to complete this line to indicate that it has direct or indirect foreign partners, owners, or beneficiaries when it provides the Form W-9 to another flow-through entity in which it has an ownership interest. This change is intended to provide a flow-through entity with information regarding the status of its indirect foreign partners, owners, or beneficiaries, so that it can satisfy any applicable reporting requirements. For example, a partnership that has any indirect foreign partners may be required to complete Schedules K-2 and K-3. See the Partnership Instructions for Schedules K-2 and K-3 (Form 1065).

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS is giving you this form because they

4.12 OPERS Independent Contractor Acknowledgement Form- Step 1 & Step 3 ONLY

NON-MEMBER ACKNOWLEDGMENT

OPERS

Ohio Public Employees Retirement System
277 East Town Street, Columbus, Ohio 43215-4642

Employer Services: 1-888-400-0965
www.opers.org

This form is to be completed if you are an individual who begins providing personal services to a public employer on or after Jan. 7, 2013 but are not considered by the public employer to be a public employee (e.g., you are an independent contractor) and will not have contributions made to OPERS.

Employer: Please complete Step 2. The form must be completed and returned to the retirement system no later than 30 days after the individual begins providing personal services to the public employer. You may fax the completed form to 614-857-1152 or email to employeroutreach@opers.org.

If the individual providing this service is receiving a benefit from OPERS, you must submit the Notice of Re-employment or Contract Services of an OPERS Benefit Recipient, form SR-6, in addition to the Non-Member Acknowledgement, form PEDACKN, for the service listed below. Failure to submit the SR-6 form timely may result in an overpayment of pension billed to the employer.

STEP 1: Personal Information

First Name | MI | Last Name

Date of Birth: Month / Day / Year

STEP 2: Public Employer Information (To be completed by the Public Employer)

Name of Public Employer for which individual is providing personal services

Employer Contact

First Name | MI | Last Name

Employer Code

Employer Contact Phone Number

Service Provided to Public Employer

Start Date of Service
Month / Day / Year

End Date of Service
Month / Day / Year

PEDACKN (Revised 5/2022) Page 1 *(continued on back)*

STEP 3: Acknowledgment

The public employer identified in Step 2 has classified you as an independent contractor or another classification other than a public employee. Ohio law requires that you acknowledge in writing that you have been informed that the public employer identified in Step 2 has classified you as an independent contractor or another classification other than a public employee for the services described in Step 2 and that you have been advised that contributions to OPERS will not be made on your behalf for these services.

If you disagree with the public employer's classification, you may contact OPERS to request a determination as to whether you are a public employee eligible for OPERS contributions for this service. Ohio law provides that a request for a determination must be made within five years after you begin providing personal services to the public employer, unless you are able to demonstrate through medical records to the Board's satisfaction that at the time the five-year period ended, you were physically or mentally incapacitated and unable to request a determination.

By signing this form, you are acknowledging that the public employer for whom you are providing personal services has informed you that you have been classified as an independent contractor or another classification other than a public employee and that no contributions will be remitted to OPERS for the personal services you provide to the public employer. This acknowledgment will remain valid as long as you continue to provide the same services to the same employer with no break in service regardless of whether the initial contract period is extended by any additional agreement of the parties. You also acknowledge that you understand you have the right to request a determination of your eligibility for OPERS membership if you disagree with the public employer's classification. **A copy of this form must be sent to OPERS.**

Signature_____ Today's Date____/____/____

Do not print or type name

4.13 Certificate of Ohio Worker's Compensation

Please turn in your Ohio Worker's Compensation Certificate here.

4.14 Contractor's Certification of Compliance with Federal Labor Standards Provisions

HUD-4010 & Certification of Understanding and Eligibility

I, the undersigned, _____, the duly authorized representative of _____, hereinafter referred to as the contractor, do hereby certify that I have examined the Federal Labor Standards Provisions (HUD-4010) with related certificates and documents, and all of the conditions surrounding these provisions including, but not limited to the following:

- **a)** The contractor is responsible for employing only eligible subcontractors who have certified eligibility in written contracts containing Federal Labor Standards Provisions.
- **b)** The contractor is responsible for the payment of federal prevailing wage rates by its subcontractors while performing work under this contract. If the subcontractor fails to pay the prevailing wages as specified in this contract, the prime contractor may be required to make appropriate restitution to the underpaid workers.
- **c)** The contractor is responsible for collecting weekly certified payrolls from its subcontractor, reviewing said payrolls for compliance with the federal wage rates, and forward same to the local government contract authority.
- **d)** The contractor also understands that only those classifications listed in the original bid documents are applicable to this job, and no special classifications may be incorporated after contract award.

The contractor further certifies that:

- **a)** The Labor Standards provisions are included in the aforesaid contract:
- **b)** Correction of any infractions of the aforesaid conditions, including infractions by any of his subcontractors and any lower tier subcontractors, in his responsibility;
- **C)** Neither they nor any firm, partnership or association in which he has substantial interest is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6 (b) of the Regulations of the Secretary of Labor, Part 5 (29 CFR Part 5) or pursuant to Section 3 (a) of the Davis-Bacon Act, as amended [40 U.S.C. 275a-2(a)].
- **d)** No part of the aforementioned contract has been or will be subcontracted to any subcontractor if such subcontractor or any firm, corporation, partnership or association in which subcontractor has a substantial interest is designated as an ineligible contractor pursuant to any of the aforementioned regulatory or statutory provisions.
- **e)** They agree to obtain and forward to the aforementioned recipient within ten days after the execution of any subcontract, including those executed by his subcontractors, a Subcontractor's Certification Concerning Labor Standards and Prevailing Wage Requirements executed by the subcontractors.

Organizational Disclosure:

The legal name and the business address of the undersigned is:

_____

The undersigned is:

_____ **A Single Proprietorship**

_____ **A corporation organized in the State of**

_____ **A Partnership**

_____ **Other Organization (Describe):** _____

The name, title and address of the owner, partners or officers of the undersigned are as follows.

Name	Title	Address

The names and addresses of all other persons, both natural and corporate, having a substantial interest in the undersigned, and the nature of the interest are as follows. *If none state so here.*

Name	Address	Nature of Interest

The names addresses and trade classifications of all other building construction contractors in which the undersigned has a substantial interest are as follows. If none state so here.

Name	Adress	Trade Classification

The Primary Contractor hereby agrees to perform all of its responsibilities in conformance with the Federal Labor Standards Provisions both diligently and affectively.

Signature: _____ **Printed Name and Title:** _____ **Date:** ___/___/___

WARNING

U.S. CRIMINAL CODE, Section 1010, Title 18, U.S.C., provides in part: "Whoever...makes, passes, utters or publishes any statement, knowing the same to be false...shall be fined not more than $5,000 or imprisoned not more than two years, or both."

4.15 Contractor's "Section 3" Plan

According to HUD, Section 3 applies when these thresholds are met:

The grant administering entity receives more than $200,000 in grant funds and invests any amount of these funds to carry out new construction or rehabilitation activity (including demolition and lead-based paint abatement). The administering entity includes the PJ/grantee, as well as any subrecipient (unit of local government) or subrecipient (nonprofit organization) that receives over $200,000.

A contractor of a project receives a contract for $100,000 or more in grant assistance.

If you do not already have a Section 3 Plan, you may use this as your Section 3 Plan for this contract:

_____ **(Name of Contractor**) agrees to implement the following specific affirmative action steps directed at increasing the utilization of lower income residents and businesses within **Paulding County**.

a) To ascertain from the locality's CDBG program official the exact boundaries of the Section 3 covered project area and where advantageous, seek the assistance of local officials in preparing and implementing the affirmative action plan.

b) To attempt to recruit from within the county the necessary number of lower income residents through: local advertising, media, signs placed at the proposed site for the project, and community organizations and public or private institutions operating within or serving the project area such as Service Employment and Redevelopment (SER), Opportunities Industrialization Center (OIC), Urban League, Concentrated Employment Program, Hometown Plan, or the U.S. Employment Service.

c) To maintain a list of all lower income area residents who have applied either on their own or on referral from any source, and to employ such persons, if otherwise eligible and if vacancy exists.

d) To insert this Section 3 Plan in all bid documents, and to require all bidders on subcontracts to submit a Section 3 Affirmative Action Plan including utilization goals and the specific steps planned to accomplish these goals.

e) To ensure that subcontracts which are typically let on a negotiated rather than a bid basis in areas other than Section 3 covered project areas, are also let on a negotiated basis, whenever feasible, when let in Section 3 covered project area.

f) To formally contact unions, subcontractors, and trade associations to secure their cooperation for this program.

g) To ensure that all appropriate project area business concerns are notified of pending sub contractual opportunities.

h) To maintain records, including copies of correspondence, memoranda, etc., which document

that all of the above affirmative action steps have been taken.

i) To appoint or recruit an executive official of the company or agency as Equal Opportunity Officer to coordinate the implementation of this Section 3 Plan.

j) To list on Table A, information related to proposed subcontracts.

k) To list on Table B, all projected workforce needs for all phases of this project by occupation, trade, skill level and number of positions.

As officers and representatives of _____

Name of Contractor

We the undersigned have read and fully agree to this Affirmative Action Plan and become party to the full implementation of this program.

Signature: _____ **Printed Name and Title:** _____ **Date:** ___/___/___

Loans, grants, contracts, and subsidies for less than $10,000 will be exempt.

Table A: Proposed Subcontracts Breakdown

For the period covering the duration of the CDBG Assisted Project.

Type of Contract (Business of Profession)	Total Number of Contracts	Total Approximate Dollar Amount	Estimated Number of Contracts to Project Area Businesses*	Estimated Dollar Amount to Project Area Businesses*

*** The Project Area is coextensive with the Paulding County boundaries.**

Company Name: _____

Signature of EEO Officer: _____

Table B: Estimated Project Workforce Breakdown

Type of Contract (Business of Profession)	Total Number of Contracts	Total Approximate Dollar Amount	Estimated Number of Contracts to Project Area Businesses*	Estimated Dollar Amount to Project Area Businesses*
Officers/Supervisors				
Professionals				
Technicians				
Housing Sales/Rental Mgmt.				
Office Clerical				
Service Workers				
Others				

Trade				
Journeymen				
Helpers				
Apprentices				
Max # of Trainees				
Others				

*****Lower income project area residents (L.I.P.A.R.) Are individuals residing within Paulding County of whose family income does not exceed 51% of the median income of the SMSA.

4.16 Contractor's Certification Regarding Section 3 and Segregated Facilities

Name of Primary Contractor: _____

Project Name: _____

The undersigned hereby certifies that:

a) Action 3 provisions are included in the Contract;

b) A written Section 3 Plan was prepared and submitted as part of the bid proceedings (if bid equals or exceeds $10,000);

c) No segregated facilities will be maintained.

Signature: _____ **Printed Name/Title:** _____ **Date:** ___/___/___

4.17 Build America, Buy America (BABA) Compliance Certification

Under the **Infrastructure Investment and Jobs Act (IIJA, Pub. L. 117-58)**, most federally funded infrastructure projects (including CDBG, unless exempted) must comply with BABA requirements. This generally means:

- **Iron, steel, manufactured products, and construction materials** used in the project must be produced in the U.S.
- Waivers (if applicable) must be formally approved by HUD.
- Contractors are required to certify compliance and provide documentation as needed.

As a condition of bidding on and performing work funded in whole or in part with **U.S. Department of Housing and Urban Development (HUD) CDBG funds**, the undersigned certifies that:

☐ All **iron and steel** used in the performance of this contract will be **produced in the United States**.

☐ All **manufactured products** used in the performance of this contract will be **produced in the United States**.

☐ All **construction materials** (including but not limited to non-ferrous metals, lumber, drywall, glass, plastics, fiber optic cable) will be **produced in the United States**.

☐ If compliance with the above requirements is not possible, the Contractor will promptly notify the Grantee in writing and request a waiver through the U.S. Department of Housing and Urban Development (HUD).

☐ The Contractor will maintain and provide upon request all documentation necessary to demonstrate compliance with the Build America, Buy America Act (Pub. L. 117-58, §§ 70901-70927).

Acknowledgment

I acknowledge that failure to comply with the **Build America, Buy America Act** may render my bid non-responsive and/or subject my company to penalties, termination, or repayment obligations.

Authorized Signatory (Print Name): _____

Title: _____

Signature: _____

Date: _____

Checklist for Section 4: Bid Proposal Forms for Primary Contractor

***Only complete bid submissions will be opened and considered by the* OWNER.** Please utilize this checklist to ensure your bid is complete at the time of submission, and that you have filled out, read, or acknowledged the appropriate sections.

- ☐ 4.1 – Contractor's Contact Information
- ☐ 4.2 – Receipt of Addenda (if applicable)
- ☐ 4.3 – Unit Price Schedule
- ☐ 4.4 – Certification & Condition of Bid Proposal
- ☐ 4.5 – Bid Bond
- ☐ 4.6 – Delinquent Personal Property Tax Affidavit
- ☐ 4.7 – Non-Collusion Affidavit
- ☐ 4.8 – Campaign Contributions Affidavit
- ☐ 4.9 - Non Discrimination and Equal Employment Opportunity Affidavit
- ☐ 4.10 – Contractor's Certification Regarding Equal Employment Opportunity
- ☐ 4.11 – W-9
- ☐ 4.12 – OPERS Independent Contractor Acknowledgement Form
- ☐ 4.13 – Ohio Worker's Compensation Certificate
- ☐ 4.14 - Contractor's Certification of Compliance with Federal Labor Standards
- ☐ 4.15 – Contractor's Section 3 Plan
- ☐ 4.16 – Contractor's Certification Regarding Section 3 and Segregated Facilities
- ☐ Certificate of Insurance *(can be turned in at a later date)*
- ☐ 4.17 – Build America, Buy America Compliance Certification

REQUIRED FORMS FOR ALL SUBCONTRACTORS THAT CAN BE TURNED IN AT A LATER DATE

- ☐ 4.18 - Subcontractor's Section 3 Plan
- ☐ 4.19 - Subcontractor's Certification Regarding Section 3 and Segregated Facilities
- ☐ 4.20 - Subcontractor's Certification of Compliance with Federal Labor Standards
- ☐ 4.21 - Subcontractor's Certification Regarding Equal Employment Opportunity
- ☐ 4.22 – Build America, Buy America Compliance Certification for Subcontractor's

Submitted

Signature: _____

Date of Signing: _____

Name and Title: _____ **(please print)**

Business Name: _____

Business Address: _____

_____

SUBCONTRACTOR FORMS – CAN BE FILLED OUT DURING CONTRACT SIGNING

Subcontractor Federal Labor Standards Bid Proposal Forms

If you will have any subcontractors perform labor on the site, please have them fill out the following forms prior to bid submission. The certifications and forms contained in this section of the bid proposal forms are based on regulations enumerated in Section 7 of these contract documents.

4.18 Subcontractor's "Section 3" Plan

According to HUD, Section 3 applies when these thresholds are met:

1) The grant administering entity receives more than $200,000 in grant funds and invests any amount of these funds to carry out new construction or rehabilitation activity (including demolition and lead-based paint abatement). The administering entity includes the PJ/grantee, as well as any subrecipient (unit of local government) or subrecipient (nonprofit organization) that receives over $200,000.

2) A subcontractor of a project receives a contract for $100,000 or more in grant assistance.

If you do not already have a Section 3 Plan, you may use this as your Section 3 Plan for this contract:

_____ *(Name of Contractor),* agrees to implement the following specific affirmative action steps directed at increasing the utilization of lower income residents and businesses within **Paulding County**.

a) To ascertain from the locality's CDBG program official the exact boundaries of the Section 3 covered project area and where advantageous, seek the assistance of local officials in preparing and implementing the affirmative action plan.

b) To attempt to recruit from within the county the necessary number of lower income residents through: local advertising, media, signs placed at the proposed site for the project, and community organizations and public or private institutions operating within or serving the project area such as Service Employment and Redevelopment (SER), Opportunities Industrialization Center (OIC), Urban League, Concentrated Employment Program, Hometown Plan, or the U.S. Employment Service.

c) To maintain a list of all lower income area residents who have applied either on their own or on referral from any source, and to employ such persons, if otherwise eligible and if vacancy exists.

***d)** To insert this Section 3 Plan in all bid documents, and to require all bidders on subcontracts to submit a Section 3 Affirmative Action Plan including utilization goals and the specific steps planned to accomplish these goals.

***e)** To ensure that subcontracts which are typically let on a negotiated rather than a bid basis in areas other than Section 3 covered project areas, are also let on a negotiated basis, whenever

feasible, when let in Section 3 covered project area.

***f)** To formally contact unions, subcontractors and trade associations to secure their cooperation for this program.

g) To ensure that all appropriate project area business concerns are notified of pending sub contractual opportunities.

h) To maintain records, including copies of correspondence, memoranda, etc., which document that all of the above affirmative action steps have been taken.

i) To appoint or recruit an executive official of the company or agency as Equal Opportunity Officer to coordinate the implementation of this Section 3 Plan.

j) To list on Table A, information related to proposed subcontracts.

k) To list on Table B, all projected workforce needs for all phases of this project by occupation, trade, skill level and number of positions.

As officers and representatives of **_____**

Name of Contractor

We the undersigned have read and fully agree to this Affirmative Action Plan and become party to the full implementation of this program.

Signature: _____ **Printed Name and Title:** _____ **Date:** ___/___/___

***Loans, grants, contracts, and subsidies for less than $10,000 will be exempt.**

Table A: Proposed Subcontracts Breakdown

For the period covering the duration of the CDBG Assisted Project.

Type of Contract (Business of Profession)	Total Number of Contracts	Total Approximate Dollar Amount	Estimated Number of Contracts to Project Area Businesses*	Estimated Dollar Amount to Project Area Businesses*

*****The Project Area is coextensive with the **Paulding** County boundaries.

Company Name: _____ **Signature of EEO Officer:** _____

Table B: Estimated Project Workforce Breakdown

Type of Contract (Business of Profession)	Total Number of Contracts	Total Approximate Dollar Amount	Estimated Number of Contracts to Project Area Businesses*	Estimated Dollar Amount to Project Area Businesses*

*****Lower income project area residents (L.I.P.A.R.) Are individuals residing within **Paulding** County of whose family income does not exceed 51% of the median income of the SMSA.

4.18 - Subcontractor's Certification Regarding Section 3 and Segregated Facilities

Proposed Subcontractor _____ **Project Name:** _____

The undersigned hereby certifies that:

- Action 3 provisions are included in the Contract;
- A written Section 3 Plan was prepared and submitted as part of the bid proceedings (if bid equals or exceeds $10,000);
- No segregated facilities will be maintained.

Signature: _____ **Printed Name and Title:** _____ **Date:** ___/___/___

4.19 Subcontractor's Certification of Compliance with Federal Labor Standards Provisions

HUD-4010 & Certification of Understanding and Eligibility

I, the undersigned, _____, the duly authorized representative of _____, hereinafter referred to as the contractor, do hereby certify that I have examined the Federal Labor Standards Provisions (HUD-4010) with related certificates and documents, and all of the conditions surrounding these provisions including, but not limited to the following:

- **a)** The contractor is responsible for employing only eligible subcontractors who have certified eligibility in written contracts containing Federal Labor Standards Provisions.
- **b)** The contractor is responsible for the payment of federal prevailing wage rates by its subcontractors while performing work under this contract. If the subcontractor fails to pay the prevailing wages as specified in this contract, the prime contractor may be required to make appropriate restitution to the underpaid workers.
- **c)** The contractor is responsible for collecting weekly certified payrolls from its subcontractor, reviewing said payrolls for compliance with the federal wage rates, and forward same to the local government contract authority.
- **d)** The contractor also understands that only those classifications listed in the original bid documents are applicable to this job, and no special classifications may be incorporated after contract award.

The contractor further certifies that:

- **a)** The Labor Standards provisions are included in the aforesaid contract:
- **b)** Correction of any infractions of the aforesaid conditions, including infractions by any of his subcontractors and any lower tier subcontractors, in his responsibility;
- **C)** Neither they nor any firm, partnership or association in which he has substantial interest is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6 (b) of the Regulations of the Secretary of Labor, Part 5 (29 CFR Part 5) or pursuant to Section 3 (a) of the Davis-Bacon Act, as amended [40 U.S.C. 275a-2(a)].
- **d)** No part of the aforementioned contract has been or will be subcontracted to any subcontractor if such subcontractor or any firm, corporation, partnership or association in which subcontractor has a substantial interest is designated as an ineligible contractor pursuant to any of the aforementioned regulatory or statutory provisions.
- **e)** They agree to obtain and forward to the aforementioned recipient within ten days after the execution of any subcontract, including those executed by his subcontractors, a Subcontractor's Certification Concerning Labor Standards and Prevailing Wage Requirements executed by the subcontractors.

Organizational Disclosure:

The legal name and the business address of the undersigned is:

_____

The undersigned is:

_____ **A Single Proprietorship**

_____ **A corporation organized in the State of**

_____ **A Partnership**

_____ **Other Organization (Describe):** _____

The name, title and address of the owner, partners or officers of the undersigned are as follows.

Name	Title	Address

The names and addresses of all other persons, both natural and corporate, having a substantial interest in the undersigned, and the nature of the interest are as follows. *If none state so here.*

Name	Address	Nature of Interest

The names addresses and trade classifications of all other building construction contractors in which the undersigned has a substantial interest are as follows. If none state so here.

Name	Adress	Trade Classification

The Primary Contractor hereby agrees to perform all of its responsibilities in conformance with the Federal Labor Standards Provisions both diligently and affectively.

Signature: _____ **Printed Name and Title:** _____ **Date:** ___/___/___

WARNING

U.S. CRIMINAL CODE, Section 1010, Title 18, U.S.C., provides in part: "Whoever...makes, passes, utters or publishes any statement, knowing the same to be false...shall be fined not more than $5,000 or imprisoned not more than two years, or both."

4.20 Subcontractor's Certification Regarding Equal Employment Opportunity

This certification is required pursuant to Executive Order 11246 (30 F.R. 12319-25). The implementing rules and regulations provide that any bidder or prospective contractor, or any of their proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicates that the bidder has not filed a compliance report due under applicable instructions, such bidder shall be required to submit a compliance report within seven calendar days after bid opening. No contract shall be awarded unless the report is submitted

Name of Subcontractor: _____

Address of Subcontractor: _____

1) Subcontractor has participated in a previous contract or subcontract subject to the Equal Opportunity Clause.
☐ **YES** ☐ **NO**

2) Compliance reports were required to be filed in connection with such contract or subcontract.
☐ **YES** ☐ **NO**

3) Subcontractor has filed all compliance reports due under applicable instructions, including SF-100.
☐ **YES** ☐ **NO**

4) Have you ever been or are you being considered for sanction due to violation of Executive Order 11246, as amended?
☐ **YES** ☐ **NO**

Signature: _____ **Printed Name and Title:** _____ **Date:** ___/___/___

4.21 Build America, Buy America (BABA) Compliance Certification

Under the **Infrastructure Investment and Jobs Act (IIJA, Pub. L. 117-58)**, most federally funded infrastructure projects (including CDBG, unless exempted) must comply with BABA requirements. This generally means:

- **Iron, steel, manufactured products, and construction materials** used in the project must be produced in the U.S.
- Waivers (if applicable) must be formally approved by HUD.
- Contractors are required to certify compliance and provide documentation as needed.

As a condition of bidding on and performing work funded in whole or in part with **U.S. Department of Housing and Urban Development (HUD) CDBG funds**, the undersigned certifies that:

☐ All **iron and steel** used in the performance of this contract will be **produced in the United States**.

☐ All **manufactured products** used in the performance of this contract will be **produced in the United States**.

☐ All **construction materials** (including but not limited to non-ferrous metals, lumber, drywall, glass, plastics, fiber optic cable) will be **produced in the United States**.

☐ If compliance with the above requirements is not possible, the Contractor will promptly notify the Grantee in writing and request a waiver through the U.S. Department of Housing and Urban Development (HUD).

☐ The Contractor will maintain and provide upon request all documentation necessary to demonstrate compliance with the Build America, Buy America Act (Pub. L. 117-58, §§ 70901-70927).

Acknowledgment

I acknowledge that failure to comply with the **Build America, Buy America Act** may render my bid non-responsive and/or subject my company to penalties, termination, or repayment obligations.

Authorized Signatory (Print Name): _____

Title: _____

Signature: _____

Date: _____

Section 5: General Conditions to the Construction Contract



Maumee Valley Planning Organization

Article 1: Contract & Contract Documents

1) The project to be constructed pursuant to this contract will be financed with assistance from the Department of Housing and Urban Development and is subject to all applicable federal laws and regulations.

2) All applicable state laws, municipal ordinances, and rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full.

3) The contents of **Section 7: Design Specifications and Design Plans, and Section 2: Addenda to the Contract Documents,** shall form part of this Contract and the provisions thereof shall be as binding upon the parties hereto as if they were herein fully set forth. The table of contents, titles, headings, running headlines and marginal notes contained herein and in said documents are solely to facilitate reference to various provisions of the Contract Documents and in no way affect, limit, or cast light on the interpretation of the provisions to which they refer.

Article 2: Performance & Payment Bonds

1) Simultaneously with his delivery of the executed contract, the Contractor shall furnish a surety bond or bonds as security for faithful performance of this contract and for the payment of all persons performing labor on the project under this contract and furnishing materials in connection with this contract, as specified in the General Conditions included herein.

2) The surety on such bond or bonds shall be a duly authorized surety company satisfactory to the Owners.

3) The bond shall be for 100 percent of the contract price.

4) A Payment Bond and Performance Bond are required.

5) Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

Article 3: Wage Rates

1) If the rate of wages paid for any trade or occupant in the locality where such work is being performed are under current collective agreements or understandings between bona fide organizations of labor and employer, then the wages to be paid shall be not less than such agreed wage rates, **nor less than the minimum rates compiled by the Federal Labor Standard Provision.** A copy of these Davis-Bacon rates of wages has been included in these specifications.

2) Every Contractor and Subcontractor who is subject to this contract shall, as soon as he begins performance under his contract with the Owners, supply the Owners a schedule of the dates on which he is required to pay wages to employees.

3) He shall also deliver to the Prevailing Wage Coordinator within three (3) weeks after each pay date, a certified copy of his payroll which shall exhibit for each employee paid any wages, name, current address, social security number, number of hours worked each day of the pay period and the total for each week, hourly rate of pay, job classification, fringe payments and deductions from wages.

4) The certification of each payroll shall be executed by the Contractor, Subcontractor, or duly appointed agent thereof and shall recite that the payroll is correct and complete and that the wage rate shown is not less than those required by the contract.

5) Insofar as possible, local labor shall be employed on this work.

Article 4: Affirmative Action

1) Each Bidder, Contractor, or Subcontractor (hereinafter the Contractor) must fully comply with either Part 1 or Part 2, as applicable, of Executive Order 11246 during the performance of this contract or subcontract.

2) The Contractor commits itself to the goals for minority manpower utilization in either Part 1 or Part 2, as applicable, and all other requirements, terms, and conditions of these bid conditions by submitting a properly signed bid.

3) The Contractor shall appoint a company executive to assume that responsibility for the Implementation of the requirements, terms, and conditions of these bid conditions.

Article 5: Insurance

1) The Contractor shall not commence work under this Contract until he has obtained all the insurance required hereunder and such insurance has been approved by the Owners, nor shall the Contractor allow any Subcontractor to commence work on his subcontract until all similar insurance required of the Subcontractor has been so obtained and approved. Approval of the insurance by the Owners shall not relieve or decrease the liability of the Contractor hereunder.

2) The Contractor shall file with the Owners all Certificate(s) of Insurance as are necessary to document the insurance coverage required hereunder, subject to the approval of the Owners and receipt of any additional forms/documentation requested, prior to final execution of the Agreement Contract and issuance of the Notice to Proceed.

3) Worker's Compensation

All contractors and subcontractors shall acquire and maintain, during the term of the Contract, Worker's Compensation insurance in full compliance with the laws of the State of Ohio.

4) Contractor's Liability Insurance

The Contractor shall acquire and maintain during the term of Contract bodily Injury and Property Damage Liability Insurance under a standard Comprehensive General/Automobile Liability Policy which shall provide and include coverage on all Contractor's Operations, Contractor's Protective (Sublet) Liability, Contractual Liability, Completed Operations Liability, Owned Automobiles and Non-owned and Hired Automobiles.

a) Property Damage Liability Insurance shall be provided on any demolition, blasting, excavating, shoring or similar operation on an "if any" basis.

b) Bodily Injury Liability limits shall be for an amount of no less the Two Hundred Fifty Thousand ($250,000) Dollars for injuries, including wrongful death to any one person and subject to the same limit for each person, in amount of not less than Five Hundred Thousand ($500,000) Dollars on the account of any one occupancy.

c) Property Damage Liability Insurance shall be in an amount of not less than One Hundred Thousand ($100,000) Dollars per occupancy. General Liability shall be extended to provide "Broad Form Property Damage Liability," and in an amount of not less the One Million ($1,000,000) Dollars aggregate for damage on account of all occupancies.

d) Any combination of underlying Comprehensive General/Automobile Liability coverage which provided no less than One Million ($1,000,000) Dollars Single Limit Bodily Injury & Property Damage Liability Insurance for the Contractor will also be acceptable.

e) The Owners may adjust the liability limits to coincide with local government procurement policies and practice within the limits of state and local law.

5) Builder's Risk Insurance

Each Contractor shall maintain insurance to protect himself and the Owners, jointly, from loss incurred by fire, lightning, extended coverage hazards, vandalism, theft, explosion, and malicious mischief in the full amount of the Contract and such insurance shall cover all labor and materials delivered to the site but not yet installed.

6) Installation Floater Insurance

When a Contractor is involved solely in the installation of materials and not in the construction of a building, an Installation Floater is required in lieu of a Builder's Risk Policy with the same general conditions applying as set forth In Paragraph E.

7) The Policies listed above shall all contain the following special provisions:

"The Company agrees that thirty (30) days prior to cancellation or reduction of the insurance afforded by this policy with respect to the Contract involved, written notice will be mailed to the MVPO, 1300 E. Second Street, Suite 200, Defiance, OH 43512."

a) The maintaining of such insurance as outlined herein shall in no way constitute a waiver of legal liability for damage to any adjoining buildings or their contents or the work and property of others on the site beyond the limits of insurance thus maintained.

b) The Contractor shall hold the Owners free and harmless from any injury and damage resulting from the negligent or faulty performance of the Contract by the Contractor or by his Subcontractors.

c) Each Contractor shall hold the Owners harmless from all payments for patents, either as royalty or

otherwise, in the use of materials, methods, appliances, etc., that he may be in any way involved in or connected with any part of his work or the work of his Subcontractors.

d) Prior to commencement of any work under Contract, the Contractor shall furnish one (1) copy of Declaration of Insurance as evidence of coverage.

Article 6: Safety

1) The Contractor will be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work.

2) He will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to all employees on the work and other persons who may be affected thereby, all the work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

3) As required by the conditions and progress of the work, the Contractor will erect and maintain all necessary safeguards for safety protection. He will notify the Owners of adjacent utilities when prosecution of the work may affect them.

4) The Contractor shall comply with the safety standards provisions of applicable laws, building and construction codes and the "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America, the requirements of the Occupational Safety and Health Act of 1970 (Public Law 91-596), and the requirements of Title 29 of the Code of Federal Regulations, Section 1518 as published in the "Federal Register," Volume 36, No. 75, Saturday, April 17, 1971. The Contractor shall also comply with Chapter 4101:9-2 of the Ohio Revised Code prohibiting the Employment of Minors in Occupations Hazardous or Detrimental to their health.

5) The Contractor shall maintain at his office or other well-known place at the job site, all articles necessary for giving first aid to the injured and shall make standing arrangements for the immediate removal to a hospital or a doctor's care of persons (including employees) who may be injured at the job site. In no case shall employees be permitted to work at a job site before the employer has made a standing arrangement for removal of injured persons to a hospital or a doctor's care.

6) Lights, signs, and barricades shall be used to maintain traffic and safety for vehicular and pedestrian traffic during the course of this contract in accordance with the specifications.

Article 7: Permits

1) The Owners are responsible for obtaining and paying for the zoning permits.

2) The Contractor is responsible for obtaining and paying for all other necessary permits and licenses from the proper authorities.

3) The Contractor shall give all notices and comply with all laws, ordinances, rules, and regulations bearing on the conduct of the work as drawn and specified. If the Contractor observes that the Contract Documents are at variance therewith, he shall promptly notify the Owners in writing.

Article 8: Supervision

1) The Contractor will supervise and direct the work. He will be solely responsible for the means, methods, techniques, sequences, and procedures of construction. The Contractor will employ and maintain on the work a qualified supervisor or superintendent who shall have been designated in writing by the Contractor as the Contractor's representatives at the site. The Supervisor shall have full authority to act on behalf of the Contractor and communications given to the supervisor shall be as binding as if given to the Contractor. The supervisor shall be present and on the site at all times as required to perform adequate supervision and coordination of the work.

2) The Owners and its representatives will at all times have access to the work. In addition, authorized representatives, and agents of any participating federal or state agency shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials and other relevant data and records. The Contractor will provide proper facilities for such access and observation of the work and also for any inspection or testing thereof.

3) The Contractor shall submit a proposed program of operation, showing clearly how he proposed to conduct work as to bring about the completion of his work within the time limit specified. This program

shall outline the proposed sequence of operations, the rates of progress and the dates when his work will be sufficiently advanced to permit the installation of the work under other contracts, and the estimated progress payments due under the Contract. The work under this contract shall be so scheduled that as structures are completed, they can be placed into useful operation with a minimum of delay. The program shall be subject to the approval of the Owners.

4) All construction as proposed along all City, Township, County, State and Federal roads including storage and stockpiling of materials, is to be conducted within the limits of the public right-of-way. Bracing, sheeting, and shoring shall be used to keep all construction work within the construction limits unless work agreements are secured from the adjacent property Owners. It is the Contractor's responsibility to secure these work agreements, if deemed necessary. Copies of the work agreements shall be delivered to the Engineer and Owners prior to any work beginning on the affected property.

Article 9: Claims Against Contractor

1) The Contractor shall indemnify and save the Owners or the Owners' agents harmless from all claims growing out of the lawful demands of Subcontractor's laborers, workers, mechanics, material persons and furnishers of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the work.

2) The Contractor shall, at the Owners' request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If the Contractor fails to do so the Owners may, after having notified the Contractor, either pay unpaid bills or withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the Contractor shall be resumed, in a accordance with the terms of the Contract Documents, but in no event shall the provisions of this sentence be construed to impose any obligations upon the Owners to either the Contractor, his Surety or any third party.

3) In paying any unpaid bills of the Contractor, any payment so made by the Owners shall be considered as a payment made under the Contract Documents by the Owners to the Contractor and the Owners shall not be liable to the Contractor for any such payments in good faith.

Article 10: Subcontracting

1) Neither the Contractor nor the Owners shall sell, transfer, assign or otherwise dispose of the Contract or any portion thereof, or of his right, title, or interest therein, or his obligations.

2) The Contractor shall not sublet, sell, transfer, or assign any portion of the Contract without written consent of the Owners or his designated agent. When such consent is given, the Contractor will be permitted to sublet a portion thereof, but shall perform with his own organization, work amounting to no less than fifty percent (50%) of the total contract cost, except that any item designated in the contract before computing the amount of work required to be performed by the Contractor with his own organization. No subcontract, or transfer of contract, shall in any way release the Contractor of his liability under the Contract and bonds.

3) The Contractor shall not award work to Subcontractor(s) without prior written approval of the Owners, after verification by the Ohio Department of Development of the Subcontractor's current eligibility status, and after submission of all certifications as required in the Instructions to Bidders. The Contractor shall be fully responsible to the Owners for the acts and omissions of the Subcontractor(s), and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

Article 11: Change of Work

1) The Owners reserve the right to make, at any time during the progress of the work, such increases or decreases in quantities and such alterations in details of work as may be deemed necessary or desirable.

2) Such increases or decrease and alterations shall not invalidate the contract nor release the Surety, and the Contractor agrees to perform the work as altered, the same as if it had been a part of the original contract.

3) Authorized alterations in plans or quantities of work involving work not covered by unit prices in the proposal shall be paid for as stipulated in the change order authorizing such work.

Article 12: Time

1) The date of beginning and the time for completion of the work are essential conditions of the Contract Documents and the work embraced shall be commenced on a date specified in the Notice to Proceed.

2) The Contractor will proceed with the work at such rate of progress to ensure full completion within the Contract Time. It is expressly understood and agreed, by and between the Contractor and the Owners, that the Contract Time for the completion of the work described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the work.

3) The work shall be fully completed 6/30/2027.

4) If the Contractor shall fail to complete the work within the Contract Time, or extension of time granted by the Owners, the Contractor will pay to the Owners for liquidated damages **$250.00** for each calendar day that the Contractor shall be in default after the time stipulated in the Contract Documents.

Article 13: Completion of Work

1) The Contractor shall guarantee all materials and equipment furnished and work performed for a period of one year from the date of Substantial Completion.

2) The Contractor warrants and guarantees for a period of one year from the date of Substantial Completion of the improvement that it is free from all defects due to faulty materials or workmanship, and the Contractor shall promptly make corrections as may be necessary by reason of such defects.

3) The Owners will give notice of observed defects with reasonable promptness.

4) In the event that the Contractor should fail to make repairs, adjustments or other work which may be made necessary by such defects, the Owners may do so and charge the Contractor the cost thereby incurred.

5) The Contract Bond shall remain in full force and effect through the guarantee period.

6) When the work, including that performed by Subcontractors, is completed, the site shall be cleaned of all rubbish and debris caused by the construction. All sheds or other temporary structures, surplus materials and equipment shall be removed, and the project left in neat and presentable condition.

Article 14: Termination

1) After ten **(10) days** from delivery of a Written Notice to the Contractor, the Owners may, without cause and without prejudice to any other right or remedy, elect to terminate the Contract. In such case the Contractor shall be paid for all work executed and any expense sustained plus reasonable profit unless such termination was due to the act or conduct of the Contractor.

Article 15: Payment

1) **Payment will occur as work is completed.**

2) The Owners' Representative shall certify on the pay request that they approved the completed work prior to the Owners making payment.

3) Upon receipt of an approved progress schedule from the Contractor, the Owner shall submit a drawdown request to the Ohio Department of Development for CDBG funds to pay the Contractor.

4) **A turnaround time of 30-45 days is expected before said funds are forwarded to the Owners.**

5) It is important that the progress schedule be based on achievable goals, and that the Contractor make every effort to meet target dates.

6) The Owners may hold the proceeds of a CDBG drawdown for only a short period. If the funds from the drawdown are not expended during the prescribed period, those funds must be returned, and a new drawdown requested. This causes delay in making payments to the Contractor.

7) **Retainage:** Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract.

- **a.** a. 96 percent of the value of the Work completed (with the balance being retainage).
- **b.** 92 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage)."

Section 6: Other Conditions to the Construction Contract



Maumee Valley Planning Organization

Article 1: Federal Labor Standards Provisions, HUD 4010, (10/2023 version)

APPLICABILITY

The Project or Program to which the construction work covered by this Contract pertains is being assisted by the United States of America, and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

1) Minimum wages and fringe benefits

I. All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in 29 CFR 5.5(d) and (e), the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(v) of these contract clauses; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under 29 CFR 5.5(a)(1)(iii)) and the Davis-Bacon poster (WH-1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

II. Frequently recurring classifications

In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to 29 CFR 5.5(a)(1)(iii), provided that:

a) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

b) The classification is used in the area by the construction industry; and

c) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

The Administrator will establish wage rates for such classifications in accordance with 29 CFR 5.5(a)(1)(iii)(A)(3). Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

III. **Conformance**

The contracting officer must require that any class of laborers or mechanics, including helpers,

which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

a) The work to be performed by the classification requested is not performed by a classification in
b) the wage determination; and
c) The classification is used in the area by the construction industry; and
d) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination. If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to DBAconformance@dol.gov. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary. In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary. The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under 29 CFR 5.5 (a)(1)(iii)(C) and (D). The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to 29 CFR 5.5 (a)(1)(iii)(C) or (D) must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

I. Fringe benefits not expressed as an hourly rate

Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

II. Unfunded plans

If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided,* That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in 29 CFR 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

III. **Interest** In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

1) Withholding

I. Withholding requirements

The U. S. Department of Housing and Urban Development may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in 29 CFR 5.5(a) for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in 29 CFR 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work (or otherwise working in construction or development of the project under a development statute) all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in 29 CFR 5.5(a)(3)(iv), HUD may on its own initiative and after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

II. Priority to withheld funds

The Department has priority to funds withheld or to be withheld in accordance with 29 CFR 5.5(a)(2)(i) or (b)(3)(i), or both, over claims to those funds by:

- **a)** A contractor's surety(ies), including without limitation performance bond sureties and
- **b)** payment bond sureties;
- **c)** A contracting agency for its reprocurement costs;
- **d)** A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a
- **e)** contractor, or a contractor's bankruptcy estate;
- **f)** A contractor's assignee(s);
- **g)** A contractor's successor(s); or
- **h)** A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901-3907.

2) Records and certified payrolls

I. Basic record requirements

- **a) Length of record retention.** All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.
- **b) Information required** Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or

cash equivalents thereof of the types described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

c) **Additional records relating to fringe benefits**. Whenever the Secretary of Labor has found
under 29 CFR 5.5(a)(1)(v) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

d) **Additional records relating to apprenticeship** Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

II. Certified payroll requirements

a) **Frequency and method of submission** The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to HUD if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the certified payrolls to the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records, for transmission to HUD. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system

b) **Information required** The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i)(B), except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (*e.g.*, the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at *https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347.pdf* or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the sponsoring government agency (or the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records).

c) **Statement of Compliance** Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

i. That the certified payroll for the payroll period contains the information required to be provided under 29 CFR 5.5(a)(3)(ii), the appropriate information and basic records are being maintained under 29 CFR 5.5 (a)(3)(i), and such information and records are correct and complete;

ii. That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3; and

iii. That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

d) Use of Optional Form WH-347 The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by 29 CFR 5.5(a)(3)(ii)(C).

e) Signature The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

f) Falsification The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.

g) Length of certified payroll retention The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

III. Contracts, subcontracts, and related documents The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

a) **Required disclosures and access**

i. Required record disclosures and access to workers The contractor or subcontractor must make the records required under 29 CFR 5.5(a)(3)(i)–(iii), and any other documents that HUD or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by 29 CFR 5.1, available for inspection, copying, or transcription by authorized representatives of HUD or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

ii. Sanctions for non-compliance with records and worker access requirements If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be

grounds for debarment action pursuant to 29 CFR 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

iii. **Required information disclosures** Contractors and subcontractors must maintain the full
Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to HUD if the agency is a party tothe contract, or to the Wage and Hour Division of the Department of Labor. If the Federal agency is not such a party to the contract, the contractor, subcontractor, or both, must, upon request, provide the full Social Security number and last known address, telephone number, and email address of each covered worker to the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records, for transmission to HUD, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

3) Apprentices and equal employment opportunity

I. Apprentices

a) **Rate of pay** Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b) **Fringe benefits** Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

c) **Apprenticeship ratio** The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to 29 CFR 5.5(a)(4)(i)(D). Any worker listed on a payroll at an apprentice wage rate, who is not registered or

otherwise employed as stated in 29 CFR 5.5(a)(4)(i)(A), must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

d) **Reciprocity of ratios and wage rates** Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

II. Equal employment opportunity The use of apprentices and journeyworkers under this part must be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

4) Compliance with Copeland Act requirements

The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract. **Subcontracts**

The contractor or subcontractor must insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (11), along with the applicable wage determination(s) and such other clauses or contract modifications as the U.S. Department of Housing and Urban Development may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate.

5) Contract termination: debarment.

A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

6) Compliance with Davis-Bacon and Related Act requirements.

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

7) Disputes concerning labor standards.

Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

8) Certification of eligibility.

a) By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b) or 29 CFR 5.12(a).

b) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) or 29 CFR 5.12(a).

c) The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and

Criminal Procedure, 18 U.S.C. 1001.

9) Anti-retaliation

It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

- **a)** Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, or 29 CFR parts 1, 3, or 5;
- **b)** Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, or 29 CFR parts 1, 3, or 5;
- **c)** Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, or 29 CFR parts 1, 3, or 5; or
- **d)** Informing any other person about their rights under the DBA, Related Acts, or 29 CFR parts 1, 3, or 5.

Contract Work Hours and Safety Standards Act (CWHSSA)

The Agency Head must cause or require the contracting officer to insert the following clauses set forth in 29 CFR 5.5(b)(1), (2), (3), (4), and (5) in full, or (for contracts covered by the Federal Acquisition Regulation) by reference, in any contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses must be inserted in addition to the clauses required by 29 CFR 5.5(a) or 4.6. As used in this paragraph, the terms "laborers and mechanics" include watchpersons and guards.

1) Overtime requirements.

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2) Violation; liability for unpaid wages; liquidated damages.

In the event of any violation of the clause set forth in 29 CFR 5.5(b)(1) the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchpersons and guards, employed in violation of the clause set forth in 29 CFR 5.5(b)(1), in the sum of $31 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in 29 CFR 5.5(b)(1).

3) Withholding for unpaid wages and liquidated damages

- **I. Withholding process** The U.S Department of Housing and Urban Development or the recipient of Federal assistance may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the

clauses set forth in 29 CFR 5.5(b) on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in 29 CFR 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

II. **Priority to withheld funds** The Department has priority to funds withheld or to be withheld in accordance with 29 CFR 5.5(a)(2)(i) or (b)(3)(i), or both, over claims to those funds by:

- **a)** A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- **b)** A contracting agency for its reprocurement costs;
- **c)** A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- **d)** A contractor's assignee(s);
- **e)** A contractor's successor(s); or
- **f)** A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901-3907.

4) **Subcontracts.**

The contractor or subcontractor must insert in any subcontracts the clauses set forth in 29 CFR 5.5(b)(1) through (5) and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in 29 CFR 5.5(b)(1) through (5). In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5) Anti-retaliation

It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a) Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in 29 CFR part 5;

b) Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or 29 CFR part 5;

c) Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or 29 CFR part 5; or

d) Informing any other person about their rights under CWHSSA or 29 CFR part 5.

CWHSSA required records clause

In addition to the clauses contained in 29 CFR 5.5(b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other laws referenced by 29 CFR 5.1, the Agency Head must cause or require the contracting officer to insert a clause requiring that the contractor or subcontractor must maintain regular payrolls and other basic records during the course of the work and must preserve them for a period of 3 years after all the

work on the prime contract is completed for all laborers and mechanics, including guards and watchpersons, working on the contract. Such records must contain the name; last known address, telephone number, and email address; and social security number of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid; daily and weekly number of hours actually worked; deductions made and actual wages paid. Further, the Agency Head must cause or require the contracting officer to insert in any such contract a clause providing that the records to be maintained under this paragraph must be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview workers during working hours on the job.

Incorporation of contract clauses and wage determinations by reference

Although agencies are required to insert the contract clauses set forth in this section, along with appropriate wage determinations, in full into covered contracts, and contractors and subcontractors are required to insert them in any lower-tier subcontracts, the incorporation by reference of the required contract clauses and appropriate wage determinations will be given the same force and effect as if they were inserted in full text.

Incorporation by operation of law

The contract clauses set forth in this section (or their equivalent under the Federal Acquisition Regulation), along with the correct wage determinations, will be considered to be a part of every prime contract required by the applicable statutes referenced by 29 CFR 5.1 to include such clauses, and will be effective by operation of law, whether or not they are included or incorporated by reference into such contract, unless the Administrator grants a variance, tolerance, or exemption from the application of this paragraph. Where the clauses and applicable wage determinations are effective by operation of law under this paragraph, the prime contractor must be compensated for any resulting increase in wages in accordance with applicable law.

HEALTH AND SAFETY

The provisions of this paragraph are applicable where the amount of the prime contract exceeds **$100,000**.

I. No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his or her health and safety, as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

II. The contractor shall comply with all regulations issued by the Secretary of Labor pursuant to 29 CFR Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, (Public Law 91-54, 83 Stat 96), 40 U.S.C. § 3701 et seq.

III. The contractor shall include the provisions of this paragraph in every subcontract, so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontractor as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

Federal Davis-Bacon Wage Rates

As stated in the Federal Labor Standards Provisions, HUD-4010, Davis-Bacon Wage Rates are required to be paid to all workers performing labor at the project site.

HUD-Standard Form 1444: Request for Authorization of Additional Classification and Rate

If you do not see every classification you will need for your certified payroll reports in the wage rates, please contact MVPO at mvpo@mvpo.org or 1300 East Second Street, Suite 200, Defiance, OH 43512.

Federal Labor Standards Posters

In total, 7 pages *must* be posted in an obvious location at the job site at the site of work:

a) Employee Rights Under the Davis-Bacon Act
- For Laborers and Mechanics Employed on Federal or Federally Assisted Construction Projects
- Citation: HUD-4010, Section A(1)(i), para. 2, sentence 3 of the Federal Labor Standards Provisions, HUD-4010.

b) OSHA: Job Safety and Health (It's the law!)
- Citation: ODOD: OCD CDBG Program Requirements

c) U.S. Equal Employment Opportunity Commission
- Know Your Rights: Workplace Discrimination is Illegal
- Citation: ODOD: OCD CDBG Program Requirements

d) U.S. Equal Employment Opportunity Commission: Know Your Rights
- Workplace Discrimination is Illegal
- Citation: ODOD: OCD CDBG Program Requirements

e) Ohio Office of Diversity, Equity, and Inclusion: State Employees and State Job Applicants: Know Your Rights
- Citation: ODOD: OCD CDBG Program Requirements

f) Ohio Office of Diversity, Equity, and Inclusion: State Employees and State Job Applicants: Know Your Rights
- Citation: ODOD: OCD CDBG Program Requirements

g) Wage Determination Packet (Wage Rates)*
- Print out the 30-40 pages wage rates packet and staple it together.
- Citation: HUD-4010, Section A(1)(i), para. 2, sentence 3 of the Federal Labor Standards Provisions, HUD-4010.

Notice

The required posters & Wage Determination Packet are attached in the Appendix.

Article 2: Equal Opportunity Provisions

1) Activities and Contracts Not Subject to Executive Order 11246, as Amended

* Applicable to federally assisted construction contracts/subcontracts below $10,000.00 and under.

During the performance of this Contract, the Contractor agrees as follows:

a) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor shall take affirmative action to ensure that the applicants for employment are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

b) The Contractor shall post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Owners setting forth the provisions of this non-discrimination clause.

c) Contractors shall incorporate foregoing requirements in all subcontracts.

2) Executive Order 11246, as Amended

* Applicable to federally assisted construction contracts/subcontracts above $10,000.00.

Section 202 Equal Opportunity Clause

During the performance of this Contract, the Contractor agrees as follows:

a) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion or transfer; recruitment, or recruitment advertising; layoff or termination, rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to all employees and applicants for employment, notices to be provided by the Owner setting forth the provisions of this nondiscrimination clause.

b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration without regard to race, color, religion, sex or national origin.

c) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other Contractor or understanding, a notice to be provided by the Owner advising the said labor union or workers' representatives of the contractor's commitment under this section and shall post copies of the notice in conspicuous places made available to the employees and applicants for employment.

d) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

e) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the Ohio Department of Development's Office of

Housing and Community Partnerships (OHCP), the U.S. Department of Housing and Urban Development (HUD) and/or the U.S. Department of Labor and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and others.

f) In the event of the Contractor's non-compliance with the non-discrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, or by rules, regulations, or orders of the Secretary of Labor, or as otherwise provided by the law.

g) The Contractor will include the provisions of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the Department may direct as a means of enforcing such provisions, including sanctions for non-compliance. Provided, however, that in the event a contractor becomes involved in, or as is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Department, the Contractor may request the United States to enter into such litigation to protect the interest of the United States.

2) Notice of Requirement for Affirmative Action to Ensure Equal Opportunity Executive Order 11246

* Applicable to federally assisted construction contracts/subcontracts above $10,000.00.

a) The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.

b) The goals and timetables for minority or Global Majority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trace on all construction work in the covered area, are as follows:

Goals for Minority Participation	Goals for Female Participation
4.4%	**6.9%**

These goals are applicable to all the Contractor's construction work (whether or not it is federal or federally assisted) performed in the covered areas. The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3 (a), and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be in violation of the Contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

c) The Contractor shall provide written notification to the manager of the Office of Housing and Community Partnerships, Ohio Department of Development, P.O. Box 1001, Columbus, OH 43216-1001 within ten (10) working days of award of any construction subcontract in excess of $10,000 at any tier for construction

work under the Contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.

d) As used in this Notice, and in the Contract resulting from this solicitation, the "covered area" is (Insert description of the geographical areas where the Contract is to be performed giving the state, county, and city, if any):

3) Standard Federal Equal Employment Opportunity Construction Contract Specifications Executive Order 11246

a) As used in these specifications:

- "Covered area" means the geographical area described in the solicitation from which this contract resulted;
- "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
- "Employer Identification Number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;
- "Minority" also referred to as "Global Majority" includes:

Black	all persons having origins in any of the Black African racial groups not of Hispanic origin;
Hispanic	all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race;
Asian and Pacific Islander	all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands
American Indian or Alaskan Native	all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification.

b) Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation, and which is set forth in the solicitations from which this contract resulted.

c) If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through as association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

b) The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

c) Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collaborative bargaining agreement, to refer either minorities or woman shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

d) In order for nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

4) Standard Federal Equal Employment Opportunity Construction Contract Specifications Executive Order 11246 – Continued

The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall implement affirmative action steps at least as extensive as the following:

a) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

b) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of organizations' responses.

c) Maintain a current file of the name, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.

d) Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e) Develop on-the-job training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.

f) Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations: by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards

accessible to all employees at each location where construction work is performed.

g) Review, at least annually, the company's EEO policy and affirmative action obligations under these specification with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foreman, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h) Disseminate the Contractor's EEO policy externally by including in any advertising in the news media, specifically including minority and the female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

i) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on site and in other areas of the Contractor's work force.

k) Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc. such opportunities.

m) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n) Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

q) Covered construction contractors performing contracts in geographical areas where they do not have a federal or federally assisted construction contract shall apply at the minority and female goals established for the geographical area where the contract is being performed. Goals are published periodically in the Federal Register in notice form and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting offices.

5) Standard Federal Equal Employment Opportunity Construction Contract Specifications Executive Order 11246 – Continued

a) Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of

their affirmative action obligations (7a through 7q). The efforts of a contractor association, join contractor union, contractor community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through 7q of these Specifications provided that the actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation shall not be in defense for the Contractor's non-compliance.

b) A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and nonminority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

c) The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

d) The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

e) The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

f) The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

g) The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by OHCP and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

h) Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

6) Certification of Nonsegregated Facilities

*Applicable to federally assisted construction contracts/subcontracts above $10,000.00.

By the submission of this bid, the bidder, offerer, applicant, or subcontractor certifies that he does not maintain or provide for his employees any segregated facility at any of his establishments, and that he does not permit employees to perform their services at any location, under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for employees any segregated facilities at any of his establishments, and he will not permit employees to perform their services at any location under his control where segregated facilities are maintained. The bidder, offerer, applicant, or subcontractor agrees that breach of this certification is a violation of the Equal Opportunity Clause of this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms, time clocks, locker rooms, and other storage and dressing areas, parking lots, drinking fountains, recreation or entertainment areas provided for the employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin, because of habit, local custom, or otherwise. He further agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certification from propose subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause; that he will retain such certifications in his files; and that he will retain such certifications in his files; and that he will forward the following notice to such proposed subcontractors (except where proposed subcontractors have submitted identical certifications for specific time periods.)

7) Civil Rights Act of 1964

Under Title VI of the Civil Rights Act of 1964, no person shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal finance assistance.

8) Section 109 of the Housing and Community Development Act of 1974

No person in the Unites States shall on the ground of race, color, national origin, or sex be excluded from participation in, be denied the direct benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds made available under this title.

Article 2: Equal Employment Opportunity Continued

Applicability

a) This Article 2 applies to any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 CFR Chapter 60, which is paid for in whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to a grant, contract, loan insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee.

b) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, disability, or national origin. The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, disability, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training including apprenticeship. The Contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided setting forth the provisions of this nondiscrimination clause.

c) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor state that all qualified applicants shall receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, disability, or national origin.

d) The Contractor shall send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding a notice to be provided advising the said labor union or workers representatives of the Contractor's commitments hereunder and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

e) The Contractor shall comply with all provisions of Executive Order 11246 of September 24, 1965 and of the rules, regulations, and relevant orders of the Secretary of Labor.

f) The Contractor shall furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and shall permit access to its books, records, and accounts by the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

g) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of the said rules, regulations, or orders, this Contract may be canceled, terminated, or suspended in whole or in part and Contractor may be declared ineligible for further government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulations or order of the Secretary of Labor, or as otherwise provided by law.

h) The Contractor shall include the provisions of paragraphs A through H of this Article 2 in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions shall be binding upon each subcontractor or vendor. The Contractor shall take such action with respect to any subcontract or purchase order as HUD or the Secretary of Labor may direct as a means of enforcing such provisions, including sanctions for noncompliance. *Provided, however,* that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by HUD or the Secretary of Labor, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

Equal Opportunity for Businesses and Lower Income Persons Located Within the Project Area

a) This Article 3 is applicable to projects covered by Section 3, as defined in 24 CFR Part 135.

b) The work to be performed under this Contract is on a project assisted under a program providing Federal financial assistance from HUD and is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u. Section 3 requires that to the greatest extent feasible opportunities for training and employment be given to low and very-low income residents of the unit of local government or the metropolitan area (or non-metropolitan county) as determined by HUD in which the Project is located and contracts for work in connection with the Project be awarded to business concerns which are located in, or owned in substantial part by persons residing in the same metropolitan area (or non-metropolitan county) as the Project.

Article 3: Enumeration of Plans, Specifications and Addenda

a) There is only one set of plans and specifications for this project.

b) Number of Addenda: _____

c) Please see the attached plans and specifications in Section 7.

Article 4: Stated Allowances

This project does not include any stated allowances.

Article 5: Special Hazards

This project will not require the Contractor and any Subcontractor(s) to purchase protection against any special hazards.

Article 6: Contractor's & Subcontractor's Public Liability, Vehicle Liability & Property Damage Insurance

As required under Article 5 of General Contract Conditions, the Contractor's Public Liability Insurance and Vehicle Liability Insurance shall be in an amount not less than $500,000 for injuries, including al death, to any one person in an amount not less than $1,000,000 on account of one accident, and Contractor's Property Damage Insurance in an amount not less than $500,000.

The Contractor shall either:

- **a)** Require each of his subcontractors to procure and to maintain during the life of his subcontract,
- **b)** Subcontractor's Public Liability and Property Damage of the type and in the same amounts as specified in the preceding paragraph or,
- **c)** Insure the activities of his subcontractors in his own policy

Article 7: Photographs of Project

The Owner of the project will furnish weekly photos of the projects.
For this project, the **CONTRACTOR** will send weekly progress photos to the **Maumee Valley Planning Organization**.

Article 8: Schedule of Federal Occupational Classifications & Davis-Bacon Minimum Hourly Wage Rates

See Appendix

Article 9: Builder's Risk Insurance

The Contractor will not maintain Builder's Risk Insurance (fire and extended coverage) on a 100 percent (100%) completed value basis on the insurable portions of the projects for the benefit of the Owners, the Contractor, and all Subcontractors, as their interests may appear.

Article 10: Conflict of Interest Provisions

Interest of Local Public Officials

No member of the governing body of the locality and no other officer, employee, agent, or public official of such locality, who exercises any functions or responsibilities in connection with the planning and carrying out of the program, shall have any personal financial interest, direct or indirect, in this contract; and the Contractor shall take appropriate steps to assure compliance.

Interest of Contractor & Employees

The Contractor covenants that he presently has no interest and shall not acquire interest, direct or indirect, in the study area or any parcels therein or any other interest which would conflict in any manner or degree with the performance of his services hereunder. The Contractor further covenants that in the performance of this Contract, no person having any such interest shall be employed.

Records & Audits

The Contractor shall maintain accounts and records, including personnel, property, and financial records, adequate to identify and account for all costs pertaining to the Contract and such other records as may be deemed necessary by the City/County to assure proper accounting for all project funds. These records will be made available for audit purposes to the City/County or any authorized representative and will be retained for three years after the expiration of this Contract unless permission to destroy them is granted by the City/County.

Federal or State Officials Not to Benefit

No members of or delegate to the Congress of the United States of America, and no resident U.S. Commissioner, nor any officer or employee of the State of Ohio subject to Ohio Ethics Law (ORC. Sec. 102.03 (A)) will be admitted to any share or part hereof or to any benefit to arise here from.

Article 11: Special Conditions Pertaining to Hazards Safety Standards and Accident Prevention

Lead-Based Paint Hazards

(*Applicable to contracts for construction or rehabilitation of residential structures.)*

The construction or rehabilitation of residential structures is subject to the HUD Lead-Based Paint Regulations, 24 CFR Part 35. The Contractor and Subcontractors shall comply with the provisions for the elimination of lead-based paint hazards under sub-part B of said regulations and certifications required under Section 35.14 (f) thereof.

Use of Explosives

When the use of explosives is necessary for the prosecution of the work, the Contractor shall observe all local, state, and federal laws in purchasing and handling explosives. The Contractor shall take all necessary precaution to protect completed work, neighboring property, water lines, or other underground structures. Where there is danger to structures or property from blasting, the charges shall be reduced, and the material shall be covered with suitable timber, steel, or rope mats.

The Contractor shall notify all owners of public utility property of intention to use explosives at least eight (8) hours before blasting is done, close to such property. Any supervision or direction of use of explosives by the Engineer does not in any way reduce the responsibility of the Contractor or his Surety for damages that may be

caused by such use.

Danger Signals & Safety Devices

The Contractor shall make all necessary precautions to guard against damages to property and injury to persons. He shall put up and maintain in good condition, sufficient red or warning lights at night, suitable barricades, and other devices necessary to protect the public. In case the Contractor fails or neglects to take such precautions, the Owner may have such lights and barricades installed and charge the cost of the work to the Contractor. Such action by the Owner does not relieve the Contractor of any liability incurred under these specifications or contract.

OSHA Compliance Statement

Occupational Safety and Health Act Compliance (29 CFR Part 1926).
All contractors and subcontractors performing work on this project funded in whole or in part by the Community Development Block Grant (CDBG) Program shall comply with the **Occupational Safety and Health Act of 1970**, as amended (29 U.S.C. § 651 et seq.), and the applicable safety and health standards issued under the Act. Specifically, the contractor shall adhere to all provisions outlined in **29 CFR Part 1926 – Safety and Health Regulations for Construction**, which includes, but is not limited to:

- Fall protection (Subpart M)
- Personal protective and life-saving equipment (Subpart E)
- Fire protection and prevention (Subpart F)
- Excavations (Subpart P)
- Scaffolds (Subpart L)
- Electrical safety (Subpart K)

Failure to comply with these requirements may result in work stoppage, contract termination, withholding of payment, or other penalties as allowed under federal, state, or local law. Contractors are responsible for ensuring that all employees, subcontractors, and on-site personnel are properly trained and that safety protocols are strictly followed throughout the duration of the project.

Article 12: Certificate of Compliance with Air and Water Acts

Applicable to federally assisted construction contracts and related subcontracts exceeding $100,000.00
During the performance of this contract, the contractor and all subcontractors shall comply with the requirements of the Clean Air Act, as amended, 42 USC 1857 et seq., the Federal Water Pollution Control Act, as amended, 33 USC 1251 et seq., and the regulations of the Environmental Protection Agency with respect thereto, at 40 CFR Part 15, as amended. In addition to the foregoing requirements, all nonexempt contractors and subcontractors shall furnish to the Owner the following:

a) A stipulation by the Contractor or subcontractors, that any facility to be utilized in the performance of any nonexempt contract or subcontract, is not listed on the List of Violating Facilities issued by the Environmental Protection Agency (EPA) pursuant to 40 CFR 15.20.

b) Agreement by the Contractor to comply with all the requirements of Section 114 of the Clean Air Act, as amended, (42 USC 1857c-8) and Section 308 of the Federal Water Pollution Control Act, as amended, (33 USC 1318) relating to inspection, monitoring, entry, reports and information, as well as all other requirements specified in said Section 114 and Section 308, and all regulations and guidelines issued thereunder.

c) A stipulation that as a condition for the award of the contract, prompt notice will be given of any notification received from the Director, Office of Federal Activities, EPA, indicating that a facility utilized, or to be utilized for the contract, is under consideration to be listed on the EPA List of Violating Facilities.

d) Agreement by the Contractor that he will include, or cause to be included, the criteria and requirements in paragraph (1) through (4) of this section in every nonexempt subcontract and requiring that the Contractor

will take such action as the government may direct as a means of enforcing such provisions.

Article 13: Energy Efficiency Clause

In accordance with **42 U.S.C. § 6201**, **Executive Order 13221**, and **2 CFR § 200.323**, the contractor agrees to comply with all applicable standards and policies relating to energy efficiency.
To the greatest extent practicable and cost-effective, the contractor shall:

1. **Utilize Energy-Efficient Products and Practices**
   Use products and services that meet the standards for energy efficiency contained in the **U.S. Environmental Protection Agency's ENERGY STAR® program** and the **U.S. Department of Energy's Federal Energy Management Program (FEMP)**.
2. **Promote Energy Conservation**
   Employ best practices for energy conservation and sustainable building design throughout the construction, renovation, or operation of facilities funded under this contract.
3. **Compliance with State and Local Codes**
   Comply with all applicable **state and local energy efficiency codes and standards**, including those governing insulation, lighting, HVAC systems, windows, and water systems.
4. **Include in Subcontracts**
   Flow down this clause into all applicable subcontracts funded under this agreement.

Article 14: No Federal Official Beneficiary Clause

No member of, or delegate to, the **Congress of the United States**, and no resident commissioner, shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom. This restriction shall not be construed to extend to this contract if made with a corporation for its general benefit.
This clause is included to comply with **24 CFR § 570.303**, and other applicable provisions of federal law governing Community Development Block Grant (CDBG) funds.

Article 15: Byrd Anti-Lobbying Amendment

The undersigned certifies, to the best of their knowledge and belief, that:

1. **No Federal Appropriated Funds** have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
2. If any funds **other than Federal appropriated funds** have been paid or will be paid to any person for influencing or attempting to influence any of the above-mentioned persons in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit **Standard Form-LLL**, "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all subawards (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

Article 16: Intellectual Property Rights Clause

Patent Rights (Invention Rights)

If the performance of this contract results in any invention or discovery that may be patentable under Title 35 of the United States Code, the following provisions apply:

a) The contractor agrees to disclose promptly in writing to the Grantee and the U.S. Department of Housing and Urban Development (HUD) all inventions conceived or first actually reduced to practice in the performance of work under this contract.

b) In accordance with **2 CFR § 200.315(c)** and **37 CFR Part 401**, the Federal awarding agency reserves a **nonexclusive, royalty-free, irrevocable license** to reproduce, publish, or otherwise use the invention for federal purposes, and to authorize others to do so.

c) The contractor shall include the requirements of this clause in all subcontracts involving the performance of experimental, developmental, or research work.

Copyrights

a. In accordance with **2 CFR § 200.315(b)**, the contractor grants to the Grantee and the Federal Government a **royalty-free, nonexclusive, and irrevocable license** to reproduce, publish, or otherwise use, and to authorize others to use for governmental purposes:

- The copyright in any work developed under this contract; and
- Any rights of copyright to which the contractor purchases ownership under this contract.

b. The contractor shall not publish or reproduce such materials in whole or in part without the written consent of the Grantee and HUD, except as required for the performance of this contract.

Article 17: Section 3 Provisions of Training, Employment and Business Opportunities

a) The work to be performed under this contract is on a project assisted under a program providing direct federal financial assistance from the Department of Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u. **[Section 3 requires that to the greatest extent feasible opportunities for training and employment be given lower income residents of the project area and contracts for work in connection with the project be awarded to business concerns which are located in, or owned in substantial part by persons residing in the area of the project.]**

b) The parties to this contract will comply with the provisions of said Section 3 and the regulations issued pursuant thereto by the Secretary of Housing and Urban Development set forth in 24 CFR 135, and all applicable rules and orders of the Department issued thereunder prior to the execution of this contract. The parties to this contract certify and agree that they are under no contractual or other disability which would prevent them from complying with these requirements.

c) The Contractor will send to each labor organization or representative of workers with which he has a collective bargaining agreement or other contract or understanding, if any, a notice advising the said labor organization or workers' representative of his commitments under this Section 3 clause and shall post copies of the notice in conspicuous places available to employees and applicants for employment or training.

d) The Contractor will include this Section 3 clause in every subcontract for work in connection with the project and will, at the direction of the applicant for recipient of federal financial assistance, take appropriate action pursuant to the subcontract upon a finding that the subcontractor is in violation of regulations issued by the Secretary of Housing and Urban Development, 24 CFR Part 135. The Contractor will not subcontract with any subcontractor where it has notice or knowledge that the latter has been found in violation of regulations under CFR Part 135 and will not let any subcontract unless the subcontractor has first provided it with a preliminary statement of ability to comply with the requirements of these regulations.

e) Compliance with the provisions of Section 3, the regulations set forth in 24 CFR Part 135, and all the applicable rules and orders of Department issued hereunder prior to the execution of the contract, shall be a condition of the federal financial assistance provided to the project, binding upon the applicant or recipient for such assistance, its successors and assigns. Failure to fulfill these requirements shall subject the applicant or recipient, its contractors and subcontractors, its successors, and assigns to those sanctions specified by the grant or loan agreement or contract through which federal assistance is provided, and to such sanctions as are specified by 24 CFR Part 135.

Article 17: Build America, Buy America Act (BABA) Requirements

a) Every contract for the construction, alteration, or repair of any public building or public work in the United States in which total federal assistance exceeds $250,000 shall contain a provision that in the performance of the work the contractor, subcontractors, material men, or supplies shall use only:
b) Unmanufactured articles, materials, and supplies that have been mined or produced in the United States; and
c) Manufactured articles, materials, and supplies that have been manufactured in the United States substantially all from articles, materials, or supplies mined, produced, or manufactured in the United States.
d) It will comply with the following domestic preference requirements on a phased implementation schedule according to HUD's Phased Implementation Waiver 6331-N-10A:
    - Effective July 1, 2023: All iron or steel items used in covered projects must be produced in the United States. This means all manufacturing processes, from the initial melting stage through the application of coatings, occur in the United States.
    - Effective July 1, 2024: All manufactured products used in covered projects must be produced in the United States. This means the manufactured product was manufactured in the United States, and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55% of the total cost of all components of the manufactured product.
    - Effective July 1, 2025: All construction materials used in covered projects must be manufactured in the United States. This means that all manufacturing processes for the construction material occurred in the United States.

Pursuant to the Build America, Buy America Act (Pub. L. 117-58, §§ 70901-70927) and HUD implementation guidance, all contractors, subcontractors, and suppliers must comply with the following requirements:

1. **Domestic Sourcing of Materials**
    - All **iron and steel** used in this project must be produced in the U.S.
    - All **manufactured products** used in this project must be produced in the U.S.
    - All **construction materials** (including but not limited to lumber, drywall, glass, plastics, fiber optic cable, and non-ferrous metals) must be produced in the U.S.
2. **Certification**
    - Bidders shall certify compliance with BABA requirements in their bid.
    - Contractors must maintain records sufficient to demonstrate compliance and shall provide such documentation upon request by the Grantee or HUD.
3. **Waivers**
    - A waiver of BABA requirements may only be granted by HUD.
    - Contractors seeking a waiver must submit a request to the Grantee for review & forward to HUD, including justification for why the requirement can’t be met.
4. **Contractor Responsibility**
    - Failure to comply with BABA requirements will render a bid non-responsive.
    - Noncompliance during the contract term may result in termination for cause, withholding of payments, or other remedies available under state and federal law

Engineer's Certification for Compliance with Minimum Standards for Accessibility by the Physically Handicapped

Grant Number:	
Project Name:	

Pursuant to the requirements of the Architectural Barriers Act of 1968, 42 USC 4151, and the regulations issued subsequent thereto, the undersigned certifies that the design on the above-mentioned project is in conformance with the minimum standards contained in the American Standard Specifications for Making Buildings and Facilities Accessible to and usable by, the Physically Handicapped, Number A-117.1R-1971 (as modified by 41 CFR 101-10.603). Citation: https://www.access-board.gov/aba/ufas.html

Designer/Engineer for the Project

Printed Name: _____ **Business Phone Number:** _____

Business Address: _____ **Signature:** _____

Business Email: _____ **Date of Signing:** _____

Authorized Municipal Signee

Printed Name: _____ **Business Phone Number:** _____

Business Address: _____ **Signature:** _____

Business Email: _____ **Date of Signing:** _____

Authorized County Signee

Printed Name: _____ **Business Phone Number:** _____

Business Address: _____ **Signature:** _____

Business Email: _____ **Date of Signing:** _____

Section 7: Design Plans, Specifications & Summary of Work



Maumee Valley Planning Organization

SECTION 011100 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 LOCATION OF THE PROJECT

A. The project is located North along Wentworth Road to West River Street, in the Village of Antwerp, Ohio.

1.2 PROJECT DESCRIPTION

A. The project consists of installing approximately 1,200-LF of C909 water main along Wentworth Road, from West Canal Street to West River Street. The existing main in place currently is between 4-to-6-inch in diameter and has experienced multiple main breaks. The existing watermain is proposed to be abandoned in place once the new watermain is installed. Existing service laterals and meters are proposed to be replaced and tied into the new waterline. The waterline installation includes installing a new bored crossing under the Patriot Rail Railroad crossing under Wentworth Road.

1.3 SPECIFICATIONS

A. In general, these Specifications describe the work to be performed by the various trades, other than work specifically excluded. It shall be the responsibility of the Contractor and Subcontractors to perform all work incidental to their trade, whether or not specific mention is made of each item, unless such incidentals are included under another Item.

B. It is advised that the Contractor and all Subcontractors familiarize themselves with the contents of the complete Specifications, particularly for the trades preceding, following, related or adjacent to their work.

1.4 DRAWING SCHEDULE

A. The work to be done under this Contract is shown on the following Drawings:

Sheet No.	Title
1	COVER SHEET
2	LEGENDS, SYMBOLOGY & SHEET INDEX
3	GENERAL NOTES (1 OF 2)
4	GENERAL NOTES (2 OF 2)
5	CONSTRUCTION DETAILS (1 OF 2)
6	CONSTRUCTION DETAILS (2 OF 2)
7	WENTWORTH ROAD WATERLINE PLAN & PROFLE STA. 12+05 TO 6+00
8	WENTWORTH ROAD WATERLINE PLAN & PROFLE STA. 6+00 TO 0+00

END OF SECTION 011100

SECTION 011419 – USE OF SITE

PART 1 - GENERAL

1.1 GENERAL

A. The Contractor will be allowed the use of as much of the site designated for the improvements as is necessary for his operation.

1.2 USE OF STREETS

A. During the progress of the work, the Contractor shall make ample provisions for both vehicle and pedestrian traffic on any public street and shall indemnify and save harmless the Owner from any expense whatsoever due to their operations over said streets. The Contractor shall also provide free access to all the fire hydrants, water, and gas valves located along the line of his work. Gutters and waterways must be kept open or other provisions made for the removal of storm water. Street intersections may be blocked only one-half at a time, and the Contractor shall lay and maintain temporary driveways, bridges and crossings, such as in the opinion of the Engineer are necessary to reasonably accommodate the public.

B. In the event of the Contractor's failure to comply with these provisions, the Owner may cause the same to be done, and may deduct the cost of such work from any monies due the Contractor under this Agreement, but the performance of such work by the Owner at its instance shall serve in no way to release the Contractor from his general or particular liability for the safety of the public or the work.

C. The Contractor shall repair at no cost to the Owner, all existing roads, parking areas, grassed areas that are damaged due to the execution of his work. The Contractor shall remove daily all mud, soil and debris that may be tracked onto existing streets, drives, or walks by his equipment or that of subcontractors or suppliers.

1.3 CLOSING STREETS TO TRAFFIC

The Contractor may with the approval of the Engineer, close streets, or parts of streets, to vehicular traffic. The streets are to remain closed as long as the construction work or the condition of the finished work requires or as determined by the Engineer. The Engineer shall be the judge of how many streets or parts of streets it is necessary for the Contractor to close at any time, and may refuse to permit the closing of additional streets to traffic until the majority of the work on the closed streets is completed and they are opened to traffic.

1.4 RIGHTS-OF-WAY

A. Whenever it is required to perform work within the limits of public or private property or in rights-of-way, such work shall be done in conformity with all agreements between the Owner and the owners of such. Care shall be taken to avoid injury to the premises entered, which premises shall be left in a neat and orderly condition by the removal of

rubbish and the grading of surplus materials, and the restoration of said public or private property to the same general conditions as pertained at the time of entry for work to be performed under this contract.

B. The Contractor shall not (except after consent from the proper parties) enter or occupy with men, tools or equipment, any land outside the rights-of-way or property of the Owner.

C. When the Contractor performs construction within 10 ft. of a right-of-way or easement line, he shall place tall stakes properly identified at points of change in width or direction of the right-of-way or easement line and at points along the line so that at least two stakes can be seen distinctly from any point on the line.

1.5 EASEMENTS

A. Where the work is to be constructed upon easements, such easements will be secured by the Owner without cost to the Contractor. The Contractor shall not enter upon or occupy any private property outside of the limits of the easements furnished.

B. Care shall be taken to avoid injury to the premises entered, which premises shall be left in a neat and orderly condition by the removal of rubbish and the grading of surplus materials, and the restoration of said public or private property to the same general conditions as pertained at the time of entry for work to be performed under this contract.

1.6 PROTECTING EXISTING BUILDINGS, STRUCTURES AND ROADWAYS

A. The Contractor shall, at his own expense, shore up and protect any buildings, roadways, utilities or other public or private structures which may be encountered or endangered in the prosecution of the work, and that may not be otherwise provided for, and he shall repair and make good any damages caused to any such property by reason of his operations. All existing fences removed due to the prosecution of the work shall be replaced by the Contractor. No extra payment will be made for said work or material, but the cost of this work must be included in the price stipulated for the work to be done under this contract.

1.7 SITE FACILITIES

A. The Contractor shall furnish and place sufficient quantities of portable toilet facilities at locations convenient for use by the Contractor's personnel, Subcontractors, the Engineer, and the Owner.

1.8 RESTORATION

A. The contractor shall restore all areas per the plans and specifications and if not specified, at least to the condition existing prior to the start of work.

END OF SECTION 011419

SECTION 011423 - ADDITIONAL WORK, OVERTIME

PART 1 - GENERAL

1.1 NIGHT, SUNDAY AND HOLIDAY WORK

A. No work will be permitted at night, Sunday or legal holidays except as noted on the plans or in the case of emergency and then only upon written authorization of the Engineer. Where no emergency exists, but the Contractor feels it advantageous to work at night, Sunday or legal holidays, the Contractor shall notify the Engineer at least two (2) days in advance, requesting written permission. Any work performed during the absence of the Engineer will be done at the Contractor's risk and responsibility and may be subject to rejection upon later inspection.

END OF SECTION 011423

SECTION 012513 – PRODUCT SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 MATERIALS AND EQUIPMENT

A. In the specifications and on the Engineer's drawings, are specified and shown certain pieces of equipment and materials deemed most suitable for the service anticipated. This is not done to eliminate other equipment and materials equally as good and efficient. The Contractor shall prepare his bid on the particular materials and equipment specified. Following the award of the contract, should the Contractor desire to use other equipment and materials, he shall submit to the Owner a written request for such change and state the advantage to the Owner and the savings or additional cost involved by the proposed substitution. The determination as to whether or not such change will be permitted rests with the Owner and the Engineer.

B. Each major item of equipment shall be inspected by a manufacturer's representative during installation and upon completion of the work. The Contractor shall supply the Engineer with a certificate of such inspection.

END OF SECTION 012513

SECTION 013119 - PROJECT MEETINGS

PART 1 - GENERAL

1.1 PRECONSTRUCTION MEETING

A. Prior to the Contractor beginning any work on the project, the Owner will schedule and hold a preconstruction meeting to discuss all aspects of the contract work.

B. The Contractor shall be present and be prepared to comment in detail on all aspects of his work.

C. The Contractor shall bring to the preconstruction meeting a proposed construction progress schedule, erosion control plan, quality control program, concrete mix designs, asphalt mix designs (JMF), etc. Approval of each by the Engineer is required prior to the start of any work.

D. Included in the construction progress schedule shall be an implementation sequence of the proposed erosion control efforts required by the contract.

1.2 PROGRESS MEETINGS

A. Monthly progress meetings will be held at a location to be determined by the Owner on a regularly scheduled day mutually convenient to the Owner, Contractor, and Engineer.

B. The Contractor shall provide an updated construction progress schedule and be prepared to comment in detail on all aspects of his work.

END OF SECTION 013119

SECTION 013216 – CONSTRUCTION PROGRESS SCHEDULE

PART 1 - GENERAL

1.1 PROGRESS SCHEDULE

A. Immediately after signing the Contract, the General Construction Contractor shall prepare a graphic progress schedule, indicating the work to be executed during each month and the rate of expected progress to secure completion on the agreed-upon completion date. The progress schedule shall be approved by the Engineer and Owner prior to starting work on the site. Copies of such graphic progress charts, upon which has been indicated the actual progress, shall be furnished to the Engineer with each requisition for payment.

This progress schedule must follow these general time frames (may vary with project):

1. Chip seal, paving fabric and/or the leveling course must start within 7 calendar days from the date of milling.

2. Casting adjustments and/or curb replacements must start within 7 calendar days from the completion of the chip seal, intermediate course and/or fabric.

3. Surface course asphalt concrete must begin installation within 7 calendar days from the completion of the casting adjustments and/or curb replacement.

B. Should the rate of progress fall materially behind the scheduled rate of progress, and unless the delay is authorized by the Engineer, each offending Contractor shall furnish additional labor, work overtime, or take other necessary means required for completion of the work on the scheduled date. No additional compensation beyond the set Contract price shall be paid for action taken or overtime expense incurred in maintaining scheduled progress.

END OF SECTION 013216

SECTION 013223 – SURVEY AND LAYOUT DATA

PART 1 - GENERAL

1.1 STAKING

A. The Contractor shall hire a surveyor licensed in the state the work is to be installed to provide all reference points not already established and staking. The Contractor shall protect and preserve the established staking and reference points as long as required for installation of the work and field verifications by any party. The Contractor's surveyor shall replace and accurately relocate all staking and reference points so lost, destroyed or moved.

1.2 LAYOUT OF WORK

A. The Contractor shall lay out his work and be responsible for correct locations, elevations and dimensions of all work executed by him under this Contract. The Contractor must exercise proper precautions to verify the figures shown on the Drawings before laying out the work and will be held responsible for any error resulting from his failure to exercise such precaution. The Contractor shall insure the new construction aligns with any existing work.

END OF SECTION 013223

SECTION 013223.02 – SURVEY AND LAYOUT DATA

PART 1 - GENERAL

1.1 REFERENCE POINTS AND STAKING

A. The Owner shall provide a surveyor to provide all reference points and staking. The Contractor shall protect and preserve the established staking and reference points as long as required for installation of the work and field verifications by any party. He shall report to the Engineer whenever any staking or reference point is destroyed. The Contractor shall reimburse the Owner for any staking or reference points destroyed by any party.

1.2 LAYOUT OF WORK

A. The Contractor shall lay out his work and be responsible for correct locations, elevations and dimensions of all work executed by him under this Contract. The Contractor must exercise proper precautions to verify the figures shown on the Drawings before laying out the work and will be held responsible for any error resulting from his failure to exercise such precaution. The Contractor shall insure the new construction aligns with any existing work.

END OF SECTION 013223.02

SECTION 013233 – PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 PROGRESS PHOTOGRAPHS

A. The General Construction Contractor shall have two (2) color photographs made of the project every three (3) weeks it is in progress. The photographs shall be of such views and taken at such times as the Engineer directs.

B. All photographed work shall be done by a qualified, established, commercial photographer. Two (2) glossy prints of each photograph shall be furnished the Engineer and two (2) to the Owner. Prints shall be approximately 7-1/2 in. X 10 in. in size. Prints shall be inserted in transparent sheet protectors provided with punching for a 3-ring binder. Suitable binders shall be provided by the Contractor.

C. Each photograph shall have a permanent negative title block in the lower right hand corner or on the back, approximately 2-1/4 in. wide x 1-3/4 in. high, and stating therein in neat lettering:

1. Owner's Name
2. Contract Description
3. Contractor's Name
4. Description of View
5. Photo No._____, Date_____
6. Consulting Engineer

D. The arrangement of and the information in the title block, shall be subject to the Engineer's approval. The cost for all photographs shall be paid for by the General Construction Contractor.

END OF SECTION 013233

SECTION 013236 – VIDEO MONITORING AND DOCUMENTATION

PART 1 - GENERAL

1.1 SCOPE

A. Provide all labor, materials, equipment, and services, and perform all operations necessary to furnish to the Owner a complete color audio-video record on a USB Flash Drive of the surface features within the proposed construction zone of influence. This record shall include, but not be limited to, all audio-video USB Flash Drives, storage cases, video logs, and indexes. The purpose of this coverage shall be to accurately document the pre-construction condition of these surface features.

1.2 QUALIFICATIONS

A. The color audio-video documentation shall be done by a responsible commercial firm known to be skilled and regularly engaged in the business of pre-construction color audio-video documentation. The firm shall furnish such information as the Owner deems necessary to determine the ability of that firm to perform the work in accordance with the Contract specifications.

1.3 PRODUCTS

A. The color audio-video recording delivered to the Owner shall be on a high-quality USB Flash Drive.

END OF SECTION 013236

SECTION 013319 - FIELD TEST REPORTING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes, but is not limited to, services performed by an independent testing laboratory. Laboratory services covered under this section are for testing materials used for field constructed elements of the work. Performance testing of manufactured items and shop fabricated materials shall be covered under their respective specification section.

B. All testing performed under this item shall be for the protection and benefit of the Owner and shall not be construed by the Contractor as a comprehensive quality control program intended to protect the Contractor, his subcontractors, or his suppliers. The testing frequency and types of testing shall be at the discretion of the Owner.

C. Inspections, tests, and related actions specified in this section and elsewhere in the contract documents are not intended to limit the Contractor's own quality control procedures and testing, which facilitate overall compliance with requirements of the contract documents. Requirements for the Contractor to provide quality control services as required by the Engineer, the Owner, governing authorities, or other authorized entities are not limited by the provisions of this Section.

D. The Contractor is required to cooperate with the independent testing laboratories performing required inspections, test, and similar services and the Engineer or his representative.

E. Materials and installed work may require testing or retesting at any time during progress of work. Retesting of rejected materials or installed work shall be done at Contractor's expense.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Supplementary Conditions and Division 1 Specifications sections, apply to work of this section.

B. The Contract Documents may include testing requirements furnished under other Sections. Work elements which may include other testing requirements are:

1. Water distribution systems.

1.3 SELECTION AND PAYMENT

A. The Contractor will employ an independent testing laboratory to perform specified testing. Payment shall be incidental to the related work bid item. The laboratory shall be mutually agreed upon by the Owner, Engineer, and Contractor. Laboratories agreeable to the Owner and Engineer include:

B. Employment of testing laboratory in no way relieves the Contractor of the obligation to perform work in accordance with requirements of the contract documents.

C. The testing laboratory and their personnel shall be under the direction of the Engineer's on-site representative, regardless of who employs their services.

1.4 REFERENCES

A. AASHTO T-19, Standard Method of Test for Unit Weight and Voids in Aggregate.

B. AASHTO T-37, Standard Method of Test for Sieve Analysis of mineral Filler for Road and Paving Materials.

C. AASHTO T-230, Standard Method of Test for Determining Degree of Pavement Compaction of Bituminous Aggregate Mixtures.

D. ASTM C-29, Standard Method of Test for Unit Weight and Voids in Aggregate.

E. ASTM C-31, Standard Practice for Making and Curing Concrete Test Specimens in the Field.

F. ASTM C-33, Standard Specification for Concrete Aggregates.

G. ASTM C-39, Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.

H. ASTM C-40, Test Method for Organic Impurities in Fine Aggregates for Concrete.

I. ASTM C-42, Standard Test Methods for Obtaining and Testing Drilled Cored and Sawed Beams of Concrete.

J. ASTM C-88, Standard Test Method for Soundness of Aggregate by use of Sodium Sulfate or Magnesium Sulfate.

K. ASTM C-94, Standard Specification for Ready-Mixed Concrete.

L. ASTM C-117, Standard Test Method for Materials Finer than 75-um (No. 200) Sieve in Mineral Aggregates by Washing.

M. ASTM C-136, Standard Method for Sieve Analysis of Fine and Course Aggregate.

N. ASTM C-142, Test Method for Clay Lumps and Friable Particles in Aggregate.

O. ASTM C-143, Standard Test Method for Slump of Hydraulic Cement Concrete.

P. ASTM C-172, Standard Practice for Sampling Freshly Mixed Concrete.

Q. ASTM C-173, Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.

R. ASTM C-231, Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.

S. ASTM C-535, Standard Test Method for Resistance to Degradation of Large-Size Course Aggregate by Abrasion and Impact in the Los Angeles Machine.

T. ASTM C-1064, Standard Test Method for Temperature of Freshly Mixed Portland Cement Concrete.

U. ASTM D-698, Standard Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5.5-lb. (2.49-kg) Rammer and 12-inc. (305-mm) Drop.

V. ASTM D-2487, Standard Test Method for Classification of Soils for engineer purposes.

W. ASTM D-2940, Standard Specification for Graded Aggregate Material for Bases or Subbases for Highways or Airports.

X. ASTM D-4253, Standard Test Method for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.

Y. ASTM D-4254, Standard Test Method for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density.

Z. ASTM D-4832, Standard Test Method for Preparation and Testing of Controlled Low Strength Material (CLSM) Test Cylinders.

AA. ODOT Supplement 1021, Method of Test for Determination of the Percent of Fractured Pieces in Gravel.

AB. ODOT Supplement 1029, Method of Test for Determining the Percentage of Deleterious Materials in Course Aggregate.

AC. ODOT Supplement 1036, Method of Test for Determination of Percent Air Voids in Compacted Dense Bituminous Paving Mixtures.

AD. ODOT Supplement 1044, Mix Design Method for Bituminous Aggregate Base.

AE. Uni-Bell PVC Pipe Association UNI-B-6-98 for Low Pressure Air Testing of Installed Sewer Pipe.

AF. ASTM – C969 – Standard practice for infiltration and exfiltration acceptance of installed concrete sewer pipe.

1.5 SUBMITTALS

A. Prior to the start of work, submit testing laboratory name, address, and telephone number, and names of full-time specialist and responsible officer.

B. Submit copy of the testing laboratory's evaluation report issued by one of the evaluation authorities identified in Article 1.6 of this Section with memorandum of remedies of any deficiencies reported by the inspection.

C. Submit the chain of custody and other QA/QC procedures for each test to be utilized by the laboratory.

D. Submit a sample test report for review by the Engineer to demonstrate conformance with Article 3.2 herein.

1.6 QUALITY ASSURANCE

A. Except as otherwise indicated, the testing laboratory engaged shall be prequalified by the Ohio Department of Transportation for the types of services specified herein.

B. The field personnel utilized to perform all field-testing and preparation shall be certified for those tests being performed.

1.7 RESPONSIBILITIES

A. Testing Laboratory Responsibilities:

1. Provide qualified personnel at the site. Cooperate with the Engineer and Contractor in performance of services.
2. Perform specified sampling and testing of products in accordance with the specified standards.
3. Ascertain compliance of materials and mixes with requirements of the contract documents.

4. Immediately notify the Engineer and Contractor of observed irregularities or nonconformance of work or products.

5. Perform additional tests required by the Engineer.

6. Testing personnel are to report to the Engineer or his representative upon arrival on site for instructions and requirements. Prior to leaving the site, furnish the Engineer or his representative all test results whether in a formal or informal format.

7. Attend preconstruction meetings and progress meetings.

B. Contractor Responsibilities:

1. Provide access to materials proposed to be used which require testing.

2. Cooperate with laboratory personnel and provide access to the work.

3. Provide incidental labor and facilities:

a. To provide access to work to be tested.

b. To obtain and handle samples at the site or at the source of products to be tested.

c. To facilitate tests.

d. To provide storage and curing of test samples as required by the testing laboratory.

4. Notify the Engineer *(and laboratory)* 24 hours prior to expected time for operations requiring testing services for scheduling purposes. Materials will not be permitted to be placed without the proper testing being performed in conformance with this Section.

1.8 LIMITS OF LABORATORY AUTHORITY

A. The laboratory may not release, revoke, alter, or enlarge the requirements of the contract documents.

B. The laboratory may not approve or accept any portion of the work.

C. The laboratory may not assume any duties of the Contractor.

D. The laboratory has no authority to stop the work.

1.9 SCHEDULE OF TESTS

Testing anticipated on this project shall include, but is not limited to:

A. Earthwork

1. Special backfill material sieve analysis per ASTM C-136, one test per source.

2. On-site trench backfill analysis per ASTM D-2487, as directed by Engineer.

3. Pipe bedding and cover sieve analysis per ASTM C-136, one test per source.

4. Drainage fill sieve analysis per ASTM C-136, one test per source.

5. Soil compaction per ASTM D-698.

a. Embankment testing shall be at least one (1) test/5,000 S.F. of each lift;

b. Trench backfill testing shall be at least one (1) test/50 L.F. of each lift;

c. Subgrade and/or subbase testing shall be at least one (1) test/200 L.F. of pavement or 5,000 S.F. of slabs subject to greater frequency due to soil conditions or Engineer's direction.

6. Backfill compaction per ASTM D-4253 and D-4254, one test per 50 L.F. of each lift.

7. Low Strength Mortar testing per ASTM D-4832.

B. Concrete

1. Concrete aggregate deleterious substances per ASTM C-40, ASTM C-117, and ASTM C-142, one test per source.

2. Concrete aggregate abrasion per ASTM C-535, one test per source.

3. Sodium sulfate soundness of coarse aggregate per ASTM C-88, one test per source.

4. Sampling Fresh Concrete: ASTM C-172, except modified for slump to comply with ASTM C 94.

a. When cylinders and/or beam samples are made, the slumps and air test shall be made using concrete from the same batch.

b. Slump: ASTM C-143; one test at point of discharge for each day's pour of each type of concrete; additional tests when concrete consistency seems to have changed.

c. Air Content: ASTM C-173, volumetric method of lightweight concrete; ASTM C-231 pressure method for normal weight concrete; at least one for each pour of each type of air-entrained concrete, and each time a set of compression test specimens is made.

d. Concrete Temperature: ASTM C-1064, test hourly when air temperature is 40º F. (4º C.) and below, and when 80º F. (27º C.) and above; and each time a set of compression test specimens is made.

e. Compression Test Specimen: ASTM C-31; one set of 4 standard cylinders for each compressive strength test, unless otherwise directed. Mold and store cylinders for laboratory cured test specimens except when field-cure test specimens are required.

f. Compressive Strength Tests: ASTM C-39; one set for each day's pour exceeding 5 cubic yards plus additional sets for each 50 cubic yards over and above the first 25 cubic yards of each concrete class placed in any one day; one specimen tested at 7 days, two specimens tested at 28 days, and one specimen retained in reserve for later testing if required. A strength test shall be the average of the strengths of two cylinders made from the same sample of concrete and tested at 28 days.

    i. When frequency of testing will provide less than 5 strength tests for a given class of concrete, conduct testing from at least 5 randomly selected batches or from each batch if fewer than 5 are used.

    ii. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength, and no individual strength test result falls below specified compressive strength by more than 500 psi.

g. Two (2) tests beams shall be made for each 250 square yards of concrete pavement and/or slabs on grade placed.

i. For traffic to be allowed on pavement or slab, the modulus of rupture shall be a minimum of 600 psi for Class C concrete or 400 psi for ODOT Class MS or FS.

h. When cylinders and/or beam samples are made, the slumps and air test shall be made using concrete from the same batch.

5. Nondestructive Testing: Penetration resistance, sonoscope, or other nondestructive devices may be permitted but shall not be used as the sole basis for acceptance or rejection.

6. Additional Tests: The testing service will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by Engineer. Testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed.

a. Contractor shall pay for such tests conducted, and any other additional testing as may be required, when unacceptable concrete is verified.

C. Pavement

1. Aggregate base sieve analysis per ASTM D-2940, one test per source.

2. Sodium sulfate soundness of aggregate base per ASTM C-88, one test per source.

3. Percent of fractured pieces for aggregate base per ODOT Supplement 1021, one test per source.

D. Asphalt

1. Provide testing for mixture acceptance in accordance with Ohio Department of Transportation Procedures. The person performing the testing must have a current Level 1 Bituminous Concrete approval from ODOT.

E. Sewers

1. Deflection Testing

a. All thermoplastic gravity sanitary sewer pipe shall be tested for allowable deflection.

b. Deflection tests shall be performed before final acceptance and no sooner than thirty (30) days after installation of final backfill

c. Maximum allowable pipe deflection shall be five (5) percent of the average inside diameter for the size and class of pipe specified.

d. Acceptance testing shall be performed with a non-adjustable “go, no-go” mandrel with a minimum of eight (8) contact points. Adjustable mandrels for acceptance testing shall be used only with permission of the Engineer.

e. The mandrel size shall be ninety-five (95) percent of the average inside diameter for the size and class of pipe specified.

f. If the "go, no-go" mandrel will not pass through a section of pipe a deflectometer or adjustable mandrel may be used to determine the extent and/or severity of the non-acceptable area. A “go, no-go” mandrel shall be re-run through the pipe section for final acceptance testing at no additional cost to the Owner.

g. The Contractor or subcontractor performing the test shall be experienced and qualified to perform deflection testing with the equipment and procedures utilized. The contractor shall provide all labor, materials, tools and equipment necessary to clean and test all sections of sewer pipe, locate deficient areas, repair, deficient areas, and retest all repaired areas.

h. All sewer runs shall be cleaned prior to testing.

i. The acceptance test shall be performed without mechanical pulling devices.

j. All pipe failing the deflection test shall be exposed, repaired or replaced and retested at no additional cost to the Owner.

2. Leakage Testing

a. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

b. The Contractor shall perform sufficient tests to determine that the installation of all pipe materials have been as specified and that test results are in accordance with those required for approval of the installation.

c. The Contractor shall furnish all pressure gauges, suitable pump or pumps, pipes, test heads, and any other apparatus and materials used for these tests. These tests are to be considered as part of the work, and no additional compensation shall be made.

d. The tests shall be conducted under the direction of the Engineer or an appointed agent. Any testing done without direction and supervision as specified shall not be considered as a proper means of approval.

e. The Contractor may obtain water for testing as may be required by observing the rules and regulations enforced in the municipality in which the work is being done.

f. In addition to requirements of these specifications, comply with manufacturer's instructions and recommendations for work.

3. Infiltration and Exfiltration Testing

a. All sewers shall be tested using an exfiltration test or, where specifically allowed in writing by the Engineer, an infiltration test.

b. All sewers shall be tested. No visible leakage in the sewers or manholes shall be permitted.

c. Bulkheads shall be used to isolate the test sections as required to perform the work. All service laterals, stubs and fittings shall be plugged or capped at the connection to the test section.

d. Each manhole run shall be tested separately.

4. Exfiltration Testing

a. The test shall be performed first with a minimum head of water of three (3) feet above the top of the high end of the sewer or two (2) feet above the high end of the highest lateral in the section or sections to be tested, or three (3) feet above the existing groundwater elevation, whichever is higher.

b. The exfiltration test shall be conducted between two manholes by sealing the downstream end of the test section and all inlet sewers at the upstream manhole with pipe stoppers.

c. The average internal pressure in the system shall not exceed 11.6 feet of water or 5 psi and the maximum internal pipe pressure at the lowest end shall not exceed 23 feet of water or 10 psi.

d. Water shall be added to the pipe section at a steady rate from the upstream manhole to allow air to escape from the sewer until the water is at the specified level above the crown of the pipe. The water may stand in the pipe and manhole up to seventy-two (72) hours prior to measurement of leakage to allow for absorption by the pipe and bleeding of air. After absorption into the pipe and manhole has stabilized, the water in the upstream manhole shall be brought to test level.

e. The leakage rate shall be determined by measurement of the drop in water elevation measured in the upstream manhole and the loss of water calculated. The test period shall be a minimum of sixty (60) minutes duration. Use the following table to determine loss of water as measured in the manhole:

		Volume of Leakage	
Water Level Change in Test Manhole		4 Ft. Dia. MH	5 Ft. Dia. MH
(Inches)	(Feet)	(Gals.)	(Gals.)
1/8	0.01	0.98	1.53
1/4	0.02	1.96	3.06
3/8	0.03	2.94	4.59
1/2	0.04	3.92	6.12
5/8	0.05	4.90	7.65
3/4	0.06	5.87	9.18
7/8	0.07	6.85	10.71
1	0.08	7.83	12.24

1-1/8	0.09	8.81	13.77
1-1/4	0.10	9.79	15.30
1-3/8	0.11	10.77	16.83
1-1/2	0.12	11.75	18.36
1-5/8	0.13	12.72	19.89
1-3/4	0.14	13.71	21.42
1-7/8	0.16	14.69	22.90
2	0.17	15.67	24.48

5. Infiltration Testing

   a. An infiltration test shall be conducted for all sections of sewer, only when the ground water level is two (2) feet or more above the elevation of the inside crown of pipe at the upstream limit of the section being tested.

   b. The use of well point pumps or other dewatering devices shall have been discontinued for 24 hours prior to testing to permit the groundwater table to return to a static condition.

   c. The leakage rate shall be measured by a weir, by determination of the time required to fill a container of known volume, or other measuring device approved by the Engineer in the lower end of the sewer section to be tested.

   d. The incoming sewer or sewers in the upper end of the test section shall be securely sealed.

6. Allowable Leakage

   a. The maximum allowable leakage for either infiltration or exfiltration shall be 50 gallons per inch of internal pipe diameter per mile per day.

   b. If actual leakage measured exceeds the limits specified, the Contractor must locate and repair or remove and replace the defective pipe sections to the satisfaction of the Engineer and retest the section accordingly at no additional cost to the Owner.

   c. All sanitary manholes shall be tested separately by using an exfiltration test (or infiltration test where groundwater conditions permit) to two (2) feet above the highest joint with no measurable leakage for a one hour test.

7. Low Pressure Air Testing

a. PVC sanitary sewers 54-inch diameter and less may be air tested as specified. If the groundwater level is two (2) feet or more above the top of the pipe at the upstream end or if the air pressure required for the test is greater than 5 psig, the air test method should not be used for RCP sanitary sewers.

b. Each manhole run shall be tested separately, unless otherwise approved by the Engineer, as the construction progresses. Backfill shall be brought to final grade before testing. Testing shall be done prior to surface restoration, and preferably with not more than four (4) manhole runs constructed ahead of testing.

c. Test equipment consists of valves and pressure gages to control airflow and to monitor pressure within the test section.

d. The sewer shall be flushed and cleaned prior to testing to clean out any debris. The pipe surface should be wet for more consistent results.

e. The section of pipe to be tested shall be plugged at each end and the ends of laterals, stubs and fittings to be included in the test section shall be plugged and securely braced to prevent air leakage, and possible blowouts.

f. Equipment used shall meet the following minimum requirements and be approved by the Engineer:

i. Pneumatic plugs shall have a sealing length equal to or greater than the diameter of the pipe to be inspected.

ii. Pneumatic plugs shall resist internal test pressures without requiring external bracing or blocking.

iii. All air used shall pass through a single control panel.

iv. Three (3) individual hoses shall be used for the following connections:

a). From control panel to pneumatic plugs for inflation.

b). From control panel to sealed line for introducing the low pressure air.

c). From sealed line to control panel for continually monitoring the air pressure rise in the sealed line.

g. All pneumatic plugs shall be seal tested before being used in the actual test installation. One length of pipe shall be laid on the ground and sealed at both ends with the pneumatic plugs to be used for the test. The sealed pipe shall be pressurized to 9 psig. The plugs must hold against this pressure without having to be braced. No persons shall be allowed in the alignment of the pipe during plug testing.

h. After a manhole to manhole run of pipe has been backfilled and cleaned, and the pneumatic plugs are checked by the above procedure, the plugs shall be placed in the line at each manhole. Low pressure air shall be slowly introduced into this sealed line until the internal air pressure reaches approximately 4 psig greater than the average groundwater back pressure, but not greater than 9 psig for PVC pipe or 5 psig for RCP.

i. In areas where groundwater is known to exist, the Contractor must determine the average groundwater back pressure. The Contractor shall install a 1/2-inch diameter capped pipe nipple, approximately 10 inches long, through the manhole wall on top of one of the sanitary sewer lines entering the manhole. See Figure No. 1. This shall be done at the time the sanitary sewer line is installed or install an 8-inch diameter stand pipe outside of the manhole backfilled with a column of clean stone of 2-inch minimum diameter to subgrade. Immediately prior to the performance of the low pressure air test, the ground water back pressure shall be determined by removing the pipe cap, blowing air through the pipe nipple into the ground so as to clear it, and then connecting a clear plastic tube to the nipple. The plastic tube shall be vertical and a measurement of the height, in feet of water over the invert of the pipe shall be taken after the water has stopped rising in this plastic tube. This height, divided by 2.307, will equal the average groundwater back pressure.

j. At least two (2) minutes shall be allowed for the air to stabilize when the specified internal air pressure has been obtained. When the pressure has stabilized and is at or above 3.5 psig, the air hose from the control panel to the air supply shall be disconnected. The portion of the line being tested shall be termed "acceptable" if the time required in minutes for the pressure to decrease from 3.5 to 2.5 psig (greater than the average groundwater back pressure calculated) shall not be less than the time in the tables in Reference Table 1.

k. If a one (1) psi drop in pressure does not occur within the test time, the line has passed. If the pressure drop is more than one (1) psi during the test time, the line is presumed to have failed the test. If

the line fails the test, segmented testing may establish the location of any leaks.

l. The Contractor must repair the leak or remove and replace the defective pipe section and re-test the section to the satisfaction of the Engineer at no additional cost to the Owner.

m. The pneumatic plugs must be installed in such a way as to prevent blowouts. Inasmuch as a force of 250 pounds is exerted on an 8-inch plug by an internal pipe pressure of 5 psi, it should be realized that sudden expulsion of a poorly installed plug or a plug, which is partially deflated before the pipe pressure is released, can be dangerous.

n. The Contractor should internally restrain or externally brace the plugs to the manhole wall as an added safety precaution throughout the test.

o. Pressurizing equipment shall include a regulator or relief valve set at no higher than 9 psig for PVC pipe or 5 psig for RCP pipe to avoid over-pressurizing and damaging an otherwise acceptable line.

p. No one shall be allowed in the trench or manholes during testing.

q. Plugs shall not be removed until all pressure has been released.

r. All sanitary manholes shall be tested separately by using an exfiltration test (or infiltration test where groundwater conditions permit) to two (2) feet above the highest joint with no measurable leakage for a one hour test.

s. The air test data sheet marked Exhibit “A” at the end of this section shall be filled out for each section of piping tested in this manner.

t. Testing concrete pipe sewer lines by the low pressure air test method will be per ASTM C924-02 and C1103.

8. Hydrostatic Testing – Pressure Pipe, For Watermain and Force Main

a. The pipe to be tested must be sufficiently backfilled to prevent movement while under test pressure.

b. Joint restraint at fittings should be permanent and constructed to withstand test pressure. If concrete thrust blocks are used, sufficient time must be allowed before testing to permit the concrete to cure. A cure time of seven (7) days is recommended when Type I Portland

Cement is used; three (3) days is recommended when Type III high-early Portland Cement is used.

c. Test ends should be restrained to withstand the appreciable thrusts that are developed under test pressure.

d. Air pressure testing of installed pressure pipe is expressly prohibited.

e. Any testing performed without the knowledge of the Engineer shall not be considered a test for the purpose of this specification.

f. The hydrostatic testing sheet marked "Exhibit D" following this section shall be filled out for each section of piping tested in this manner.

g. After the pipe has been installed and partially backfilled (if applicable) subject all newly installed pipe, or any valved sections of it in such lengths of the force main as determined by the responsible agency, unless otherwise specified, to a hydrostatic pressure test equal to 1-1/2 times the line working pressure (50% over the working pressure) but not less than 1.25 times the working pressure at the highest point along the test section; but, in no case, shall such force mains be tested at less than 150 pounds per square inch.. The duration of each test shall be at least 2 hours.

h. Each section of pipeline shall be slowly filled with water and the specified test pressure, measured at the point of lowest elevation, shall be applied by means of a booster pump connected to the pipe in a manner satisfactory to the Engineer. The duration of the test shall be for a minimum of sixty (60) minutes.

i. No pipe installation will be accepted unless the leakage rate for the section of pipe being tested does not exceed a rate as shown on hydrostatic test chart, during a 24-hour test duration.

j. The Contractor shall furnish suitable means for determining the quantity of water lost by leakage during the test.

9. Manhole Vacuum Testing

a. Temporarily plug all pipe entering the manhole. Each plug must be installed at a location beyond the manhole/pipe gasket (i.e. outside the manhole wall), and shall be braced to prevent the plug or pipe from being drawn into the Manhole.

b. The test head shall be placed inside the rim of the cast iron frame at the top of the manhole and inflated, in accordance with the manufacturer's recommendations.

c. A vacuum of at least 10 inches of mercury (10" Hg) shall be drawn on the manhole. Shut the line on the vacuum line to the manhole and shut off the pump or disconnect the vacuum line from the pump.

d. The pressure gauge shall be liquid filled, having a 3.5" diameter face with a reading from zero to thirty inches of mercury.

e. The manhole shall be considered to pass the vacuum test if the vacuum reading does not drop more than 1" Hg (i.e from 10" to 9" Hg) during the Table 1 minimum test time.

f. If a manhole fails the vacuum test, the manhole shall be repaired with non-shrinkable grout or other material or method approved by the engineer. The manhole surfaces shall be properly prepared prior to any repairs. Once the repair material has curred according to the manufacturer's recommendations, the vacuum test shall be repeated. This process shall continue until a satisfactory test is obtained.

g. All temporary plugs and braces shall be removed after each test.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION

3.1 SEQUENCING AND SCHEDULING

A. The Contractor shall coordinate the sequence of work activities so as to accommodate required testing and shall allow sufficient time for testing of materials by the laboratory so as to cause no delay in the work or the work of any other Contractor. In addition, the Contractor shall coordinate his work so as to avoid the necessity of removing and replacing work to accommodate inspections and tests.

3.2 LABORATORY TEST RESULTS

A. The testing laboratory shall submit a certified written report of each inspection, test, or similar service concurrently to the Owner, Engineer, and Contractor.

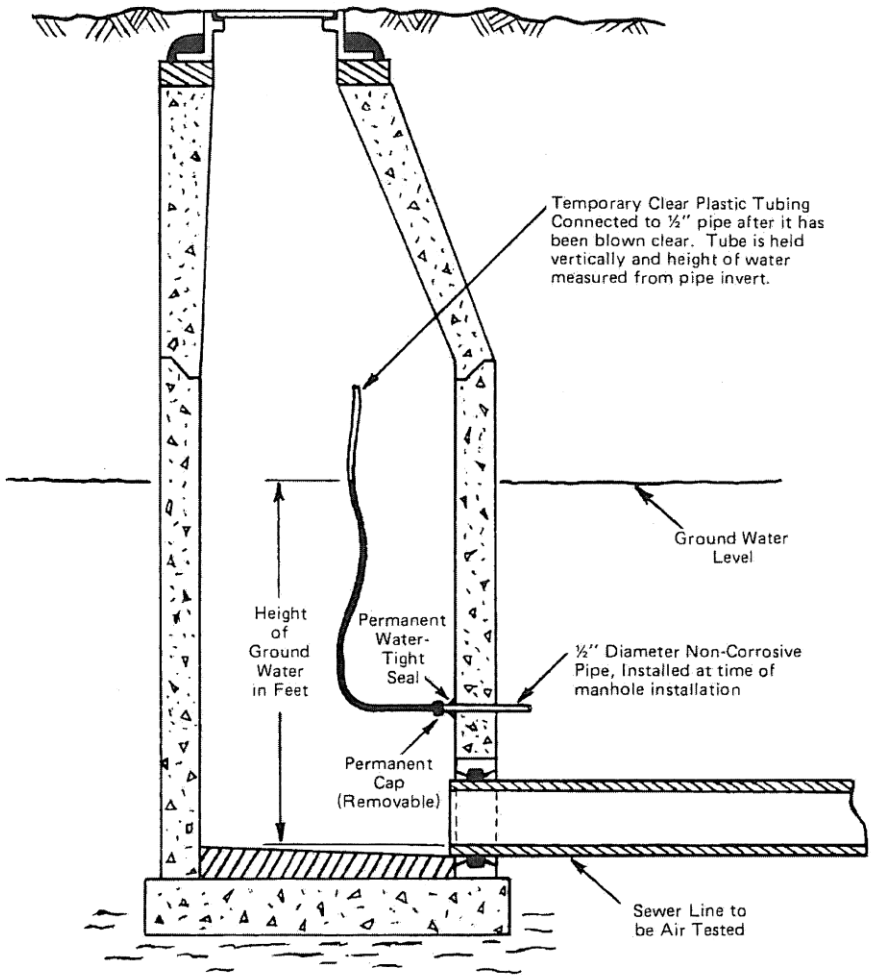
B. Written reports of each inspection, test, or similar service shall include, but not be limited to, the following:

1. Name of testing laboratory.
2. Project name and construction contract reference number.
3. Dates and locations of samples and tests or inspections.
4. Date of report.
5. Names of individuals making the inspection or test.
6. Designation of the work and test method.
7. Test results.
8. Notation of significant ambient conditions at the time of sample taking and testing.

END OF SECTION 013319

FIGURE NO. 1

**MANHOLE CROSS-SECTIONAL VIEW
OF THE PROPER METHOD FOR
DETERMINING GROUND WATER HEIGHT**



AIR TEST DATA SHEET

PIPE TESTING FORM

NOTE: Pressurize pipe to 4.5 P.S.I.F. and let stabilize for 5 minutes. Pressure should then be backed off to 4.0 P.S.I.G. and test time started.

JOB NAME: **SANITARY ☐** **STORM ☐** **DATE:**

JOB LOCATION: **TEST COMPANY:**

JOB NO. **PROJECT REP:**

SPECIFIED PRESSURE DROP ( ) P.S.I.G. **BASE PRESSURE: 4.0 P.S.I.G.** **PIPE MATERIAL:**

(See Table 1 or Table II for Reference) **(Note: No test shall exceed 9.0 P.S.I.G.)**

PIPE SECTION UNDER TEST										
UPSTREAM MH/STATION	**DN-STREAM MH/STATION**	**PIPE DIAMETER**	**PIPE LENGTH**	**GROUND WATER DEPTH**	**BASE P.S.I.G. PLUS GROUND WATER ADJ. (÷ 2.31=P.S.I.G.)**	**TEST TIME DURATION**	**TEST START TIME**	**TEST STOP TIME**	**TEST TIME ELAPSED**	**PASS FAIL P or F**

***Identify any section(s) that failed:**

***Leak (was) (was not) located. Method used:**

REMARKS:

TABLE I

1 Pipe Diameter (Inches)	**2** Minimum Time (Min:Sec)	**3** Length for Minimum Time (Ft.)	**4** Time for Longer Length (Sec)	Specification Time for Length (L) Shown (Min:Sec)							
				100 Ft.	150 Ft.	200 Ft.	250 Ft.	300 Ft.	350 Ft.	400 Ft.	450 Ft.
4	3:46	597	.380 L	3:46	3:46	3:46	3:46	3:46	3:46	3:46	3:46
6	5:40	398	.854 L	5:40	5:40	5:40	5:40	5:40	5:40	5:42	6:24
8	7:34	298	1.520 L	7:34	7:34	7:34	7:34	7:36	8:52	10:08	11:24
10	9:26	239	2.374 L	9:26	9:26	9:26	9:53	11:52	13:51	15:49	17:48
12	11:20	199	3.418 L	11:20	11:20	11:24	14:15	17:05	19:56	22:47	25:38
15	14:10	159	5.342 L	14:10	14:10	17:48	22:15	26:42	31:09	35:36	40:04
18	17:00	133	7.692 L	17:00	19:13	25:38	32:03	38:27	44:52	51:16	57:41
21	19:50	114	10.470 L	19:50	26:10	34:54	43:37	52:21	61:00	69:48	78:31
24	22:40	99	13.674 L	22:47	34:11	45:34	56:58	68:22	79:46	91:10	102:33
27	25:30	88	17.306 L	28:51	43:16	57:41	72:07	86:32	100:57	115:22	129:48
30	28:20	80	21.366 L	35:37	53:25	71:13	89:02	106:50	124:38	142:26	160:15
33	31:10	72	28.852 L	43:05	64:38	86:10	107:43	129:16	150:43	172:21	193:53
36	34:00	66	30.768 L	51:17	76:55	102:34	128:12	153:50	179:29	205:07	230:46
42	39:48	57	41.883 L	69:48	104:42	139:37	174:30	209:24	244:19	279:13	314:07
48	45:34	50	54.705 L	91:10	136:45	182:21	227:55	273:31	319:06	364:42	410:17
54	51:02	44	69.236 L	115:24	173:05	230:47	288:29	346:11	403:53	461:34	519:16
60	56:40	40	85.476 L	142:28	213:41	284:55	356:09	427:23	498:37	569:50	641:04

Minimum specified time required for a 1.0 P.S.I.G. Pressure Drop

for size and length of pipe indicated for Q = 0.0015

NOTE: If there has been no leakage, (zero P.S.I.G. drop), after one hour of testing, the test shall be accepted and the test complete. (See Section 7.5)

TABLE II

Minimum specified time required for a 0.5 P.S.I.G. Pressure Drop

for size and length of pipe indicated for Q = 0.0015

1 Pipe Diameter (Inches)	**2** Minimum Time (Min:Sec)	**3** Length for Minimum Time (Ft.)	**4** Time for Longer Length (Sec)	Specification Time for Length (L) Shown (Min:Sec)							
				100 Ft.	100 Ft.	100 Ft.	100 Ft.	100 Ft.	100 Ft.	100 Ft.	100 Ft.
4	1:53	597	.190 L	1:53	1:53	1:53	1:53	1:53	1:53	1:53	1:53
6	2:50	398	.427 L	2:50	2:50	2:50	2:50	2:50	2:50	2:51	3:12
8	3:47	298	.760 L	3:47	3:47	3:47	3:47	3:48	4:26	5:04	5:42
10	4:43	239	1.187 L	4:43	4:43	4:43	4:57	5:56	6:55	7:54	8:54
12	5:40	199	1.709 L	5:40	5:40	5:42	7:08	8:33	9:58	11:24	12:50
15	7:05	159	2.671 L	7:05	7:05	8:54	11:08	13:21	15:35	17:48	20:02
18	8:30	133	3.846 L	8:30	9:37	12:49	16:01	19:14	22:26	25:38	28:51
21	9:55	114	5.235 L	9:55	13:05	17:27	21:49	26:11	30:32	34:54	39:16
24	11:20	99	6.837 L	11:24	17:57	22:48	28:30	34:11	39:53	45:35	51:17
27	12:45	88	8.653 L	14:25	21:38	28:51	36:04	43:16	50:30	57:42	64:54
30	14:10	80	10.683 L	17:48	26:43	35:37	44:31	53:25	62:19	71:13	80:07
33	15:35	72	12.926 L	21:33	32:19	43:56	53:52	64:38	75:24	86:10	96:57
36	17:00	66	15.384 L	25:39	38:28	51:17	64:06	76:55	89:44	102:34	115:23
42	19:54	57	20.942 L	34:54	52:21	69:49	87:15	104:42	122:10	139:37	157:04
48	22:47	50	27.352	45:35	68:23	91:11	113:58	136:46	159:3	182:21	205:0

			L						3		9
54	25:31	44	34.618 L	57:42	86:33	115:24	144:15	173:05	201:56	230:47	259:38
60	28:20	40	42.738 L	71:14	106:51	142:28	178:05	213:41	249:18	284:55	320:32

NOTE: If there has been no leakage, (zero P.S.I.G. drop), after one hour of testing, the test shall be accepted and the test complete. (See Section 7.5)

CT CONSULTANTS, INC.

HYDROSTATIC LEAKAGE TEST

JOB. NO. _____ PROJECT: _____

CONTRACTOR: _____ CLIENT: _____

WATERLINE TESTED AT: _____ _____

(Street Name) (Station of Gauge)

FROM STATION _____ TO STATION _____ ON _____

WATERLINE SIZE _____ TYPE _____

TESTED _____ , _____ AT _____ FOR _____

TOTAL L.F. PIPE SIZE PSI DURATION

ALLOWABLE LEAKAGE _____ PER 1,000 L.F. OR _____ PER _____

GALS./HR. TOTAL GALS. TOTAL L.F.

1ST TEST _____, _____ AND _____

PASS / FAIL PRESSURE LOST GALLONS LOST

2nd TEST _____, _____ AND _____

PASS / FAIL PRESSURE LOST GALLONS LOST

APPROVED BY _____

(INSPECTOR)

COMMENTS: _____

_____

ALLOWABLE LEAKAGE PER 1,000 FEET OF WATERMAIN:

PIPE SIZE INCH DIAMETER	ALLOWABLE LEAKAGE GALS. / 1,000 FEET
6	1
8	1.3
10	1.6
12	1.9
16	2.5
20	3.2
24	3.8
30	4.8
36	5.7

NOTE: IN NO CASE SHALL THE TESTED SECTION EXCEED 2,000 FEET IN LENGTH.

CT Consultants
engineers | architects | planners

PROJECT: _____ **SHEET NO. 1 OF** _____

JOB NO. _____ **STREET:** _____

CONTRACTOR: _____ **PROJECT REP:** _____

MANHOLE VACUUM TEST

M.H. NO.	M.H. Diameter (in.)	M.H. Depth (ft.) (btm.m.h. cover to shelf)	Vacuum Required (in Hg)	Vacuum Attained (in Hg)	Vacuum Drop (in Hg)	Holding Time Required (sec.)	Pass/ Fail	Date Tested	Contractor Attest	Engineer Attest	Remarks

TABLE 1 – Minimum Test Times for Various Manhole Diameter									
Depth	Diameter, in.								
(ft)	30	33	36	42	48	54	60	66	72
Time(s)									
8	11	12	14	17	20	23	26	29	33
10	14	15	18	21	25	29	33	36	41
12	17	18	21	25	30	35	39	43	49
14	20	21	25	30	35	41	46	51	57
16	22	24	29	34	40	46	52	58	67
18	25	27	32	38	45	52	59	65	73
20	28	30	35	42	50	53	65	72	81
22	31	33	39	46	55	64	72	79	89
24	33	36	42	51	59	64	78	87	97
26	36	39	46	55	64	75	85	94	105
	39	42	49	59	69	81	91	101	113
	42	45	53	63	74	87	98	108	121

Note: Allowable drop equals 1 in. Hg for time shown

PROJECT REP: _____

DATE: _____

SECTION 013323 - SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

PART 1 - GENERAL

1.1 GENERAL

A. The Contractor shall submit detailed drawings, acceptable catalog data, specifications and material certifications for all equipment and materials specified or required for the proper completion of the work.

B. The intent of these items is to demonstrate compliance with the design concept of the work and to provide the detailed information necessary for the fabrication, assembly and installation of the work specified. It is not intended that every detail of all parts of manufactured equipment be submitted, however sufficient detail will be required to ascertain compliance with the specifications and establish the quality of the equipment proposed.

Shop Drawings shall be sufficiently clear and complete to enable the Engineer/Architect and Owner to determine that items proposed to be furnished conform to the specifications and that items delivered to the site are actually those that have been reviewed.

C. It is emphasized that the Engineer/Architect's review of Contractor's submitted data is for general conformance to the contract drawings and specifications but subject to the detailed requirements of drawings and specifications. Although the Engineer/Architect may review submitted data in detail, such review is an effort to discover errors and omissions in Contractor's drawings. The Engineer/Architect's review shall in no way relieve the Contractor of his obligation to properly coordinate the work and to Engineer/Architect the details of the work in such manner that the purposes and intent of the contract will be achieved. Such review by the Engineer/Architect shall not be construed as placing on him or on the Owner any responsibility for the accuracy and for proper fit, functioning or performance of any phase of the work included in the contract.

D. Shop Drawings shall be submitted in proper sequence and with due regard to the time required for checking, transmittal and review so as to cause no delay in the work. The Contractor's failure to transmit appropriate submittals to the Engineer/Architect sufficiently in advance of the work shall not be grounds for time extension.

E. The Contractor shall submit Shop Drawings for all fabricated work and for all manufactured items required to be furnished in the Contract in accordance with the General Provisions and as specified herein. Shop Drawings shall be submitted in sufficient time to allow at least twenty-one (21) calendar days after receipt of the Shop Drawings from the Contractor for checking and processing by the Engineer/Architect.

F. It is the responsibility of each Prime Contractor to furnish to all other Prime Contractors and especially the General Construction Contractor reviewed Shop Drawings for guidance in interfacing the various trades; i.e., sleeves, inserts, anchor bolts, terminations, and space requirements.

G. No work shall be performed requiring Shop Drawings until same have been reviewed by Engineer/Architect.

H. Accepted and reviewed Shop Drawings shall not be construed as approval of changes from Contract plan and specification requirements.

I. The Engineer/Architect will review the first and second Shop Drawing item submittals at no cost to the Contractor. Review of the third submittal and any subsequent submittal will be at the Contractor's expense. Payment will be deducted from the Contract amount at a rate of 2.8 times direct labor cost plus expenses.

1.2 SUBMITTAL PROCEDURE

A. All required submissions shall be made to the Engineer/Architect by the Prime Contractor(s) only. Any data prepared by subcontractors and suppliers and all correspondence originating with subcontractors, suppliers, etc., shall be submitted through the Contractor.

B. Contractor shall review and approve all Shop Drawings prior to submission. Contractor's approval shall constitute a representation to Owner and Engineer/Architect that Contractor has either determined and verified all quantities, dimensions, field construction criteria, materials, catalog numbers, and similar data or assumes full responsibility for doing so, and that Contractor has reviewed or coordinated each Shop Drawing or sample with the requirements of the work and the Contract Documents.

C. Submittal Preparation: Mark each submittal with a permanent label or page for identification. Provide the following information on the label for proper processing and recording of action taken:

1. Location
2. Project Name
3. Contract
4. Name and Address of Engineer/Architect
5. Name and Address of Contractor
6. Name and Address of Subcontractor
7. Name and Address of Supplier
8. Name of Manufacturer
9. Number and Title of appropriate Specification Section
10. Drawing Number and Detail References, as appropriate.
11. Submittal Sequence or Log Reference Number.

    a. Provide a space on the label for the Contractor's review and approval markings and a space for the Engineer/Architect's "Action Stamp".

D. Each Shop Drawing, sample and product data submitted by the Contractor shall have affixed to it the following Certification Statement including the Contractor's Company name and signed by the Contractor:

Certification Statement: By this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog

numbers and similar data and I have checked and coordinated each item with other applicable approved shop drawings and all Contract requirements.

_____ _____

Signature Date

_____

Company

E. Shop Drawings shall be submitted in not less than six (6) copies to the Engineer/Architect at the address specified at the Preconstruction Conference. Single mylar or sepia reproducible copies of simple Shop Drawings may be submitted with prior approval of the Engineer/Architect.

F. At the time of each submission, Contractor shall in writing identify any deviations that the Shop Drawings or samples may have from the requirements of the Contract Documents.

G. Drawings shall be clean, legible and shall show necessary working dimensions, arrangement, material finish, erection data, and like information needed to define what is to be furnished and to establish its suitability for the intended use. Specifications may be required for equipment or materials to establish any characteristics of performance where such are pertinent. Suitable catalog data sheets showing all options and marked with complete model numbers may, in certain instances, be sufficient to define the articles which it is proposed to furnish.

H. SAMPLES: For product which require submittal of samples, furnish samples so as not to delay fabrication, allowing the Engineer reasonable time for the consideration of the samples submitted. Properly label samples, indicating the material or product represented, its place of origin, the names of the vendor and Contractor and the name of the project for which it is intended. Ship samples prepaid. Accompany samples with pertinent data required to judge the quality and acceptability of the sample, such as certified test records and, where required for proper evaluation, certified chemical analyses.

1.3 REVIEW PROCEDURE

A. Engineer/Architect will review with reasonable promptness all properly submitted Shop Drawings. Such review shall be only for conformance with the design concept of the Project and for compliance with the information given in the plans and specifications and shall not extend to means, methods, sequences, techniques or procedures of construction or to safety precautions or programs incident thereto.

B. The review of a separate item as such will not constitute the review of the assembly in which the item functions. The Contractor shall submit entire systems as a package.

C. All Shop Drawings submitted for review shall be stamped with the Engineer/Architect's action and associated comments.

D. Except for submittals for record, information or similar purposes, where action and return is required or requested, the Engineer/Architect will review each submittal, mark to

indicate action taken, and return accordingly. Compliance with specified characteristics is the Contractor's responsibility.

Action Stamp: The Engineer/Architect will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be appropriately marked, as follows, to indicate the action taken:

1. If Shop Drawings are found to be in general compliance, such review will be indicated by marking the first statement.
2. If only minor notes in reasonable number are needed, the Engineer/Architect will make same on all copies and mark the second statement. Shop Drawings so marked need not be resubmitted.
3. If the submitted Shop Drawings are incomplete or inadequate, the Engineer/Architect will mark the third statement, request such additional information as required, and explain the reasons for revision. The Contractor shall be responsible for revisions, and/or providing needed information, without undue delay, until such Shop Drawings are acceptable. Shop Drawings marked with No. 3 shall be completed resubmitted.
4. If the submitted Shop Drawings are not in compliance with the Contract Documents, the Engineer/Architect will mark the fourth statement. The Contractor will be responsible to submit a new offering conforming to specific products specified herein and/or as directed per review citations.

E. No submittal requiring a Change Order for either value or substitution or both, will be returned until the Change Order is approved or otherwise directed by the Owner.

APPLICATION FOR USE OF SUBSTITUTE ITEM

TO: _____

PROJECT: _____

SPECIFIED ITEM:

_____	_____	_____
Page	Paragraph	Description

A. The undersigned requests consideration of the following as a substitute item in accordance with Article 6.05 of the General Conditions.

_____

B. Change in Contract Price (indicate + or -) $ _____

C. Attached data includes product description, specifications, drawings, photographs, references, past problems and remedies, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified. For consideration of the attached data as SHOP DRAWINGS, submittal shall be in accordance with requirements of Section 013323.

D. Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The undersigned certifies that the following paragraphs, unless modified by attachments are correct:

1. The proposed substitute does not affect dimensions shown on Drawings.

2. The undersigned will pay for changes to the building design, including engineering design, detailing, and construction costs caused by the requested substitution.

3. The proposed substitution will have no adverse affect on other contractors, the construction schedule, or specified warranty requirements. (If proposed substitution affects construction schedule, indicate below using + or -)

_____ CONSECUTIVE CALENDAR DAYS

4. Maintenance and service parts will be locally available for the proposed substitution.

The undersigned further states that the function, appearance, and quality of the proposed substitution are equivalent or superior to the specified item, and agrees to reimburse the OWNER for the charges of the ENGINEER for evaluating this proposed substitute item.

E. Signature: _____

Firm: _____

Address: _____

_____

Telephone: _____ Date: _____

Attachments: _____

_____

_____

_____

For use by ENGINEER:

_____Accepted as evidenced by affixed SHOP DRAWING REVIEW stamp.
_____Accepted as evidenced by included CHANGE ORDER.
_____Not accepted as submitted. See Remarks.
_____Acceptance requires completion of submittal as required for SHOP DRAWINGS.
_____Not accepted. Do not resubmit.

By: _____ Date: _____

Remarks: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

APPLICATION FOR USE OF "OR-EQUAL" ITEM

TO: _____

PROJECT: _____

SPECIFIED ITEM:

_____	_____	_____
Page	Paragraph	Description

A. The undersigned requests consideration of the following as an "or-equal" item in accordance with Article 6.05 of the General Conditions.

_____

B. Change in Contract Price (indicate + or -) $ _____

C. Attached data includes product description, specifications, drawings, photographs, references, past problems and remedies, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified. For consideration of the attached data as SHOP DRAWINGS, submittal shall be in accordance with requirements of Section 013323.

D. Signature:

_____

Firm:

_____

Address:

_____

_____

Telephone: _____ Date: _____

Attachments: _____

_____

_____

_____

For use by ENGINEER:

_____Accepted as evidenced by affixed SHOP DRAWING REVIEW stamp.
_____Accepted as evidenced by included CHANGE ORDER.
_____Not accepted as submitted. See Remarks.
_____Acceptance requires completion of submittal as required for SHOP DRAWINGS.
_____Not accepted. Do not resubmit.

By: _____ Date: _____

Remarks: _____

END OF SECTION 013323

SECTION 013326 – PRODUCT TESTING AND CERTIFYING

PART 1 - GENERAL

1.1 QUALITY OF MATERIALS

A. Where the specifications call for mill or shop tests, the Contractor shall furnish duplicate copies of attested manufacturer's certificates showing details of quality or performance sufficient to demonstrate conformity to contract requirements. Mill, shop or witness tests shall be subject to view by the Engineer's representative, but the Engineer's representation shall not relieve the Contractor from the necessity of furnishing certificates specified. The Engineer shall be notified by the Contractor in writing, sufficiently in advance of the time of making tests, so that proper arrangements may be made. Waiving of witness of tests by the Engineer may be in writing only by the Engineer. All costs for travel, lodging, food and transportation that are necessary for the Engineer's representative and the Owner's representative to attend witness tests shall be included in the Contractor's bid for those item(s) specifically designated as being subject to witness testing.

B. Unless otherwise specified, all materials, equipment and articles shall be erected, installed, applied, or connected, used, cleaned and conditioned in accordance with the printed instructions and directions of the manufacturer.

C. The installation shall be so made that its several component parts will function together as a workable system. It shall be complete with all accessories necessary for its operation and shall be left with all equipment properly adjusted and in working order.

D. The work shall be executed in conformity with the best practice and so as to contribute to efficiency of operation, minimum maintenance, accessibility and sightliness. It shall also be executed so that the installation will conform and accommodate itself to the building structure, its equipment and usage.

E. Whenever in the contract documents a particular brand, make of material, device or equipment is shown or specified, such brand, make of material, device or equipment is to be regarded merely as a standard and such trade name shall be followed by "or equal".

1.2 QUALITY ASSURANCE

A. The equipment and materials to be furnished under this Contract shall be the products of well established and reliable firms which have had ample experience for at least five (5) years in the manufacture of equipment or materials similar in design and of equal quality to that specified. If required, the manufacturer shall submit a list of installations of similar equipment which have been in successful operation for at least five (5) years.

1.3 EXPERIENCE CLAUSE REQUIREMENT AND PERFORMANCE BONDS FOR MANUFACTURER

A. For every piece of equipment furnished under this Contract, the manufacturer will be required to have a minimum of five (5) years of experience in providing this specific type of equipment. In lieu of this experience requirement, the manufacturer will be required to provide performance bond(s) for the faithful performance of the equipment and guarantee payment in a sum of not less than one hundred and fifty percent (150%) of the total equipment price for the completed work for that item. In the absence of verifiable experience, the manufacturer will be required to provide the performance bond(s) for the same number of years that the manufacturer was found lacking in experience from the specified five (5) year period. The performance bond(s) shall be from an approved surety company, to the satisfaction of the Owner's Law Director.

B. Agents of bonding companies which write bonds for the performance and payment of the contract shall furnish power of attorney bearing the seal of the company, evidencing such agent's authority to execute the particular type of bond to be furnished, and evidencing also the right of the surety company to do business in the State of Ohio. Copy of this proof shall be attached to each copy of the contract.

C. The bond shall be purchased through a surety company with a local agent upon whom service of process can be made.

D. In event of failure of surety or co-surety, the manufacturer shall immediately furnish a new bond, as required herein. The manufacturer's bond will not be released until all provisions of the contract have been fulfilled.

E. The surety used for the bid bond and performance bond shall be listed in the latest U.S. Treasury Circular 570 and the Penal Sums shall be within the maximum specified for such company in said Circular 570.

END OF SECTION 013326

SECTION 013326.01 - QUALITY CONTROL PLAN

PART 1 - GENERAL

1.1 QUALITY CONTROL

A. The Contractor shall be responsible for the quality of all materials incorporated into the project work and shall be responsible for all costs of testing and certification of same. The Contractor shall provide the City Engineer a list of three (3) local qualified firms for the City to select from to be the Contractor's testing firm.

B. The Contractor shall provide the Engineer with a Quality Control Plan in which his testing methods/procedures are defined. Said Plan shall meet with the approval of the Engineer and include identification of laboratories, types of testing, and the tentative amount and scheduling of each.

All certifications of tests and/or gradations for materials to be utilized in the work and all quality control testing shall be performed by an independent laboratory (not affiliated with, owned by, or managed by the Contractor). The laboratory shall be accredited by the AASHTO Materials Reference Laboratory for the type of testing performed.

C. The Owner may perform field Quality Assurance testing; however, such testing shall not relieve the Contractor from the responsibility of Quality Control testing or from supplying certificates from manufacturers or suppliers to demonstrate compliance with the specifications. It is intended that the testing by the Contractor and the Owner be complimentary toward a quality project; however, the Contractor may not assume the Owner will test or that any tests will be done in lieu of the Contractor's own Quality Control testing. In the same sense, the Contractor may not rely on Owner Quality Assurance testing as a basis of acceptance or approval of his work nor may any Owner performed testing be reflected in his submitted plan.

1.2 TEST CRITERIA

A. The following tests at a minimum shall be included with the Contractor's Quality Control Plan in accordance with the specifications:

1. Aggregates

a. For each material and/or different source, the laboratory shall perform soundness, gradation, and other tests for all parameters specified. Aggregates incorporated into concrete or asphalt mixes shall also be tested for moisture content daily.

2. Compaction Tests

a. Compaction tests or field density tests shall be taken on all embankment, trench backfill, subgrade, and subbase materials.
b. Minimum testing shall be as follows:

Embankment testing shall be at least one (1) test/5000 S.F. of each lift;
Trench backfill testing shall be at least one (1) test/50 L.F. of each lift;
Subgrade and/or subbase testing shall be at least one (1) test/200 L.F. of pavement or /5000 S.F. of slabs; subject to greater frequency due to soil conditions or Engineer's direction.

c. Proctors or relative density tests shall be performed as often as necessary for the differing soils or granular materials utilized. Proctors shall be run with a minimum of 5 points. Test reports shall show the wet (bulk) weight, dry weight, wet (bulk) density, dry density, moisture content weight and moisture content percentage. Both the dry curve and the wet curve shall be plotted. The source materials shall be tested for gradation, Atterberg limits, shore-hydrometer and moisture content.

3. Concrete Mix Design

   a. For each type of concrete, the laboratory shall perform the necessary mix design providing all test data as required by the specifications.

4. Concrete Field and Laboratory Tests

   a. The laboratory shall cast concrete cylinders and test beams:
      1) One set of four cylinders per 50 C.Y. with a minimum of two sets per day. The cylinders shall be broken: one at 7 days, two at 28 days, one at 56 days, unless otherwise directed by the Engineer.
      2) One beam per 50 C.Y. with a minimum of two beams per day.
   b. Temperature and unit weight shall be run on fresh concrete at intervals sufficient for the type of structure being placed and a minimum of once per day. Bulk weight, bucket weight, (tare), net weight, bucket factor (bucket volume) and unit weight shall be recorded on the fresh concrete report. Show all batch weights for yield calculations. Slump and air content tests shall be taken a minimum of one test per 20 C.Y. and at least once per day.
   c. All field and laboratory testing shall be performed by technicians certified by the American Concrete Institute (ACI) for the type of testing performed.
   d. Initial cure of all cylinders shall be in a temperature controlled cure box or temperature controlled water tank with a hi-low thermometer. Hi-low temperature readings shall be recorded on the fresh concrete report.

5. Asphalt Mix Design

   a. For each type of asphalt mix, submit job mix formula (JMF) prepared by an ODOT pre-qualified laboratory from tests performed on the aggregates proposed for use.
   b. Sample and test for gradation and bitumen content as per ODOT 441.
   c. Asphalt compaction, thickness, and temperature tests shall be performed during asphalt placement per ODOT Item 448.

1.3 LABORATORY REPORTS

A. Reports of laboratory and field tests will be distributed to the Engineer, Owner, and Suppliers within 24 hours of completion.

END OF SECTION 013326.01

SECTION 013543 - ENVIRONMENTAL PROTECTION

PART 1 - GENERAL

1.1 UNNECESSARY NOISE, DUST AND ODORS

A. The Contractor's performance of this contract shall be conducted so as to eliminate all unnecessary noise, dust and odors.

1.2 SEWAGE, SURFACE AND FLOOD FLOWS

A. The Contractor shall take whatever action is necessary to provide all necessary tools, equipment and machinery to adequately handle all sewage, surface flows and flood flows which may be encountered during the performance of the work. The entire cost of and liability for handling such flows is the responsibility of the Contractor and shall be included in the price for the appropriate item.

1.3 WORK IN FREEZING WEATHER

A. Written permission from the Engineer shall be obtained before any work is performed which, in the judgment of the Engineer, may be affected by frost, cold, or snow. When work is performed under such conditions, the Contractor shall provide facilities for heating the materials and for protecting the finished work.

1.4 POLLUTION CONTROL

A. It shall be the responsibility of the Contractor to prevent or limit pollution of air and water resulting from his operations.

B. The Contractor shall perform work required to prevent soil from eroding or otherwise entering onto all paved areas and into natural watercourses, ditches, and public sewer systems. This work shall conform to all local ordinances and/or regulations, if any, and if not otherwise regulated by local ordinances or regulations shall at a minimum conform to the Ohio EPA General Storm Water NPDES Permit for Construction Activities and the Ohio Department of Natural Resources Rainwater and Land Development manual. This work may consist of but not be limited to construction and continual maintenance of silt fence, bio bag filters, sedimentation traps, stilling basins, check dams, temporary seeding, temporary mulching, erosion mats and other means to clarify waters containing suspended materials from excavations, embankments, cleared and grubbed or stripped areas, stockpiles, well points, and disposal sites and shall be commensurate with the contractor’s schedule, sequence of work, means and methods. If a SWPPP plan is not required for the project, the contractor shall at a minimum submit a plan of his proposed erosion control prevention methods for approval by the Owner and/or other regulatory authorities having jurisdiction prior to starting any construction activities which may cause erosion.

C. The Contractor shall perform work required to prevent dust attributable to his operations from entering the atmosphere. Dust on unsurfaced streets or parking areas and any remaining dust on surfaced streets shall be controlled with water and/or calcium chloride dust palliative as needed.

D. Any material removed from sanitary or storm sewers shall be disposed in accordance with all applicable regulations.

END OF SECTION 013543

SECTION 014126 - GENERAL REGULATIONS AND PERMITS

PART 1 - GENERAL

1.1 REGISTRATION

All Contractors and subcontractors shall be registered with the Building Department having jurisdiction. Contact the Building Department for additional registration information.

1.2 PERMITS

The Contractor shall apply for and pay for all permits from the Owner and/or other authorities having jurisdiction.

1.3 ARCHAEOLOGICAL DISCOVERIES

Contractors and subcontractors are required under Ohio Revised Code (O.R.C.) Section 149.53, to notify Ohio's State Historic Preservation Office (SHPO), and to cooperate with that office in archaeological and historic surveys and mitigation efforts if such discoveries are uncovered within the project area.

Contact: Ohio's State Historic Preservation Office
Kristen Koehlinger, Resource Protection & Review Department Manager
Phone: 1-614-298-2000
Email: kkoehlinger@ohiohistory.org

Should archaeological discoveries or other activities delay progress of the work, an adjustment in contract time will be made.

END OF SECTION 014126

SECTION 014223 - INDUSTRY STANDARDS

PART 1 - GENERAL

1.1 ABBREVIATIONS

A. Abbreviations, as used, designate the following:

AASHTO	-	American Association of State Highway and Transportation Officials
ACI	-	American Concrete Institute
AIEE	-	American Institute of Electrical Engineers
AISC	-	American Institute of Steel Construction
ANSI	-	American National Standards Institute
ASTM	-	American Society of Testing and Materials
AWWA	-	American Water Works Association
CMS	-	Construction and Material Specifications
NEMA	-	National Electrical Manufacturers Association
ODOT	-	Ohio Department of Transportation
ORC	-	Ohio Revised Code
UL	-	Underwriters Laboratories, Inc.

1.2 REFERENCE TO OTHER SPECIFICATIONS

A. Where reference is made to specifications such as ASTM, AWWA or AASHTO, the latest edition shall be used, unless otherwise noted on the plans or in the specifications.

1.3 CODES AND STANDARDS

A. All work provided for by these specifications must be installed according to the provisions of the State and local building codes, subject to inspection and acceptance by the State and local inspectors.

END OF SECTION 014223

SECTION 014323 – QUALIFICATIONS OF TRADESMEN

PART 1 - GENERAL

1.1 CHARACTER OF WORKMEN AND EQUIPMENT

A. The Contractor shall employ competent and efficient workmen for every kind of work. Any person employed on the work who shall refuse or neglect to obey directions of the Owner or his representative, or who shall be deemed incompetent or disorderly, or who shall commit trespass upon public or private property in the vicinity of the work, shall be dismissed when the Owner so orders, and shall not be re-employed unless express permission be given by the Owner. The methods, equipment and appliances used on the work and the labor employed shall be such as will produce a satisfactory quality of work, and shall be adequate to complete the contract within the specified time limit.

B. In hiring of employees for the performance of work under this Contract, or any Subcontract hereunder, no Contractor or Subcontractor, nor any person acting on behalf of such Contractor or Subcontractor, shall, by reason of race, sex, creed or color, discriminate against any citizen of the State of Ohio in the work to which the employment relates. No Contractor, Subcontractor, nor any person on his behalf shall, in any manner, discriminate against or intimidate any employee hired for the performance of work under this contract on account of race, creed, sex or color.

END OF SECTION 014323

SECTION 015100 - TEMPORARY POWER SERVICE

PART 1 - GENERAL

1.1 ELECTRICAL POWER

A. The Contractor shall furnish at his own expense all electrical power which may be required for the project. All temporary lines shall be furnished and installed by the Contractor at his own expense in a manner which meets the approval of the Engineer, and shall be removed by the Contractor at the completion of the construction.

END OF SECTION 015100

SECTION 015136 - TEMPORARY WATER AND DISTRIBUTION

PART 1 - GENERAL

1.1 WATER

A. The Contractor shall be responsible for an adequate supply of water suitable for his use for construction and drinking. At his own expense, he shall provide and maintain adequate supplies and supply lines in such locations and installed in such a manner as may be satisfactory to the Engineer.

END OF SECTION 015136

SECTION 015213 - FIRST AID

PART 1 - GENERAL

1.1 AID TO THE INJURED

The Contractor shall keep in their office and on the work site, all articles necessary for giving "First Aid to the Injured". They shall also have standing arrangements for the immediate removal and hospital treatment of any employee or other person who may be injured on the work site.

END OF SECTION 015213

SECTION 015526 - TEMPORARY TRAFFIC CONTROL DEVICES

PART 1 - GENERAL

1.1 BARRICADES, SIGNS AND LIGHTS

A. The Contractor shall employ watchmen on the work when and as necessary. The Contractor shall erect and maintain such strong and suitable barriers and such lights as will effectively prevent the occurrence of any accident to health, limb or property. Lights shall be maintained between the hours of one-half (1/2) hour after sunset and one-half (1/2) hour before sunrise.

B. No manhole, trench, excavation will be left open awaiting connection or removal at a later date by the Contractor's forces or others but shall be temporarily backfilled and resurfaced if applicable with a temporary pavement passable to traffic at no additional cost to the Owner.

C. In addition to other safety requirements, a minimum of four (4) foot high fence will be incorporated around any shaft or manhole or other excavation left open at the end of a day's work.

1.2 MAINTENANCE OF TRAFFIC

A. The Contractor is required to provide maintenance of traffic in conformance with the Ohio Manual of Uniform Traffic Control Devices and Item 614 of the current Construction and Material Specifications of the Ohio Department of Transportation.

B. This work shall include providing suitable and satisfactorily trained and properly attired flagmen for use at any location where existing roadway is narrowed to a width of less than 2 full lanes (18 feet).

C. The Contractor is also responsible for maintaining local access to all residences and businesses along the route of the construction and to provide whatever temporary materials are necessary to provide a safe, adequate drive surface.

D. At all boring locations, Contractor shall provide suitable flashers, barricades, and traffic control devices as may be deemed necessary by the Engineer or the responsible authority in the case of the Department of Transportation, Turnpike Commission, or affected railroad. This may extend to maintain facilities on a 24-hour basis until such time as the areas are completely backfilled.

END OF SECTION 015526

SECTION 015713 - TEMPORARY EROSION CONTROL

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Furnishing all labor, materials, tools, equipment and services for the temporary soil erosion and sediment control work as indicated.

B. Coordinating the temporary pollution and erosion control with work of all other trades.

C. Reducing to the greatest extent practicable the area and duration of exposure of readily erodible soils.

D. Protecting the soils by use of temporary vegetation or mulch or by accelerating the establishment of permanent vegetation.

E. Mechanically retarding the rate of runoff from the construction site and control disposal of runoff.

F. Traping all sediment resulting from construction in temporary debris basins.

G. Using temporary measures to keep erosion under control if construction is suspended for any appreciable length of time.

H. Providing protection against chemical, fuel, or lubricant spills, and sewage pollutants.

I. Protecting project and existing structures from surface water damage due to utility line excavations.

J. Controlling soil erosion and sedimentation by use of silt fences, dikes, ditches, slope protection, sediment pits, basins, dams, slope drains, coarse aggregate, mulches, sod, grasses, filter fabrics, and other erosion control devices or methods.

1.2 PRODUCTS FURNISHED BUT NOT INSTALLED UNDER THIS SECTION

Not used

1.3 PRODUCTS INSTALLED BUT NOT FURNISHED UNDER THIS SECTION

Not Used

1.4 UNIT PRICES

A. Work under this section is incidental to work covered under other sections of these Specifications and shall be paid as work incidental to those items.

1.5 SUBMITTALS

A. Product Data
   1. Filter fabric
   2. Silt Fence
   3. Filter Sock
   4. Inlet Protection

B. Shop Drawings

C. Samples

D. Quality Control Submittals
   1. Design Data
   2. Test Reports
   3. Certificates
      a. Seed
      b. Fertilizer
      c. Limestone
   4. Manufacturers Instructions

E. Contract Closeout Submittals
   1. Project Record Documents

1.6 QUALITY ASSURANCE

A. Qualifications

B Regulatory Requirements

C. Certifications

D. Field Samples

E. Mock-ups

F. Pre-Installation Conference

1.7 DELIVERY, STORAGE, AND HANDLING

A. Packing and Shipping
   1. Deliver grass seed, fertilizer and limestone in original containers labeled with content analysis.

B. Acceptance at Site

C. Storage and Protection

1.8 SEQUENCING AND SCHEDULING

A. All temporary control measures as shown on the Drawings, called for in these Specifications or ordered by the Engineer shall remain in effect during the life of the contract to control soil erosion, sedimentation and water pollution.

PART 2 - PRODUCTS

2.1 SEED

A. Provide fresh, clean, new crop seed complying with tolerance for purity and germination established by Official Seed Analysts of North America.

B. All areas of temporary seeding shall be seeded with grass as shown in the following table:

March 1 - August 15	Per 1000 Square Feet	Per Acre
Oats	3 lbs.	4 bu.
Perenial Ryegrass	1 lb.	40 lbs.
Tall Fescue	1 lb.	40 lbs.

August 16 - November 1*	Per 1000 Square Feet	Per Acre
Rye	3 lbs.	2 bu.
Wheat	3 lbs.	2 bu.
Perenial Ryegrass	1 lb.	40 lbs.
Tall Fescue	1 lb.	40 lbs.

* After November 1, use mulch only

2.2 ORGANIC MULCH

A. Select mulch material based on site requirements, availability of materials and availability of labor and equipment. The following are the minimum rates:

	Rates		
Mulch	Per Acre	Per 1000 ft^2	Notes

Straw (temporary only)	2 tons	90 lbs.	Free from weeds and coarse matter. Must be anchored. Spread with mulch blower or by hand.
Wood Chips (permanent or temporary)	400 yds.^{3}	9 - 10 yds.^{3}	Apply approx. 3" deep. Treat with 12 lbs. of nitrogen per ton. Do not use on firm turf areas. Apply with mulch blower, chip handler, or by hand.
Bark Chips or Shredded Bark (temporary mulch only)	70 yds.^{3}	1½ - 2 yds.^{3}	Do not use in fine turf areas. Apply about ½" thick. Apply with a mulch blower or by hand.

2.3 FERTILIZER

A. All fertilizer shall be manufactured from cured stock and organic sources. Chemical elements shall be accurately proportioned, uniformly mixed, and delivered to the site in factory-sealed containers fully labeled, bearing the name or trademark and warranty of the manufacturer. Commercial fertilizer for lawn sodding shall be dry or liquid compounds of 12-12- 12 analysis, meeting applicable requirements of State and Federal laws.

2.4 LIMESTONE

A. All limestone shall be ground agricultural grade dolomitic limestone containing at least 10 percent magnesium oxide with a minimum total neutralizing power of 90, with at least 40 percent passing a No. 100 sieve and at least 95 percent passing a No. 8 sieve.

2.5 WATER

A. All irrigation water shall be clean and free from injurious amounts of oil, acid, alkali, or other deleterious substances.

2.6 INLET FILTERS

A. Temporary inlet filters and silt fences shall be adequately supported as detailed on the drawings.

2.7 SLOPE DRAINS

A. Temporary slope drains shall consist of pipe, coarse aggregate, riprap, rock channel protection, mats, plastic sheets or other materials approved by the Engineer. Sediment pits may be included as part of slope drain protection.

2.8 FILTER FABRIC

A. Synthetic filter fabric shall be a pervious sheet of propylene, nylon, polyester or ethylene yarn and shall be certified by the manufacturer or supplier as conforming to the following requirements:

Physical Property	Requirements
Filtering Efficiency	75% (min.)
Tensile Strength at 20% (max.) Elongation *	Extra Strength - 50 lbs./lin. in. (min.)
	Standard Strength - 30 lbs./lin. in. (min.)
Flow Rate	0.3 gal./sq.ft./min. (min.)

*Requirements reduced by 50 percent after 6 months of installation.

B. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 6 months of expected usable construction life at a temperature range of 0° F to 120° F.

2.9 BURLAP

A. Burlap shall be 10 ounce per square yard fabric.

2.10 FILTER SUPPORTS AND REINFORCING

A. Posts for silt fences shall be either 4" diameter wood or 1.33 pounds per linear foot steel with a minimum length of 5 feet. Steel posts shall have projections for fastening wire to them.

B. Stakes for filter barriers shall be 1" x 2" wood (preferred) or equivalent metal with a minimum length of 3 feet.

C. Wire fence reinforcement for silt fences using standard strength filter cloth shall be a minimum of 42 inches in height, a minimum of 14 gauge and shall have a maximum mesh spacing of 6 inches.

PART 3 - EXECUTION

3.1 CONSTRUCTION REQUIREMENTS

A. The Contractor shall limit the surface area of erodible earth material exposed by clearing and grubbing; the surface area of erodible earth material exposed by excavation; borrow; and fill operations; and provide immediate permanent or temporary control measures to prevent contamination of adjacent streams or other areas of water impoundment. Such work will involve the construction of temporary

ditch checks, filters, benches, dikes, slope drains, and use of temporary mulches, mats, seeding or other control devices or methods necessary to control erosion and sedimentation.

B. The Contractor shall incorporate all permanent erosion control features into the Work at the earliest practicable time. Except where future construction operations will damage slopes, the Contractor shall perform the permanent seeding and mulching and other specified slope protection work in stages, as soon as substantial areas of exposed slopes can be made available. This will require the establishing of final grades as shown on the Drawings and application of agricultural limestone, commercial fertilizer, seeding and mulching or sodding . When directed by the Engineer, temporary fertilizer, seeding and mulching materials shall be used. In general, the Contractor shall temporarily seed all disturbed areas within seven (7) days if they are to remain dormant for more than forty- five (45) days. Permanent soil stabilization shall be applied to disturbed areas within seven (7) days after final grade is reached on any portion of the site.. Temporary control measures will be used when and as directed by the Engineer to correct conditions that develop during construction that were not foreseen during the design stage; that are needed prior to installation of permanent control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.

C. Where erosion is likely to be a problem, clearing and grubbing operations should be so scheduled and performed that grading operations and permanent erosion control features can follow immediately thereafter if the project conditions permit; otherwise temporary erosion control measures will be required between successive construction stages.

D. The Engineer will limit the area of excavation, borrow and embankment operations in progress commensurate with the Contractor's capability and progress in keeping the finished grading, mulching, seeding, and other such permanent control measures current in accordance with the accepted schedule. Mulching, seeding, and other such permanent control measures shall be applied after completion of a vertical eight (8) feet of embankment or cut, unless otherwise directed by the Engineer. Should seasonal limitations or embankment make such coordination unrealistic, temporary erosion control measures shall be taken immediately.

E. The Engineer may increase or decrease the allowable amount of surface area or erodible earth material to be exposed at one time by clearing and grubbing, excavation, borrow and fill operations as determined by his analysis of project conditions. Factors such as soil erodibility, slope, cut or fill height, exposed area contributing to a watercourse and weather will be considered in this determination.

F. In the event of conflict between these requirements and pollution control laws, rules, or regulations or other Federal, State or local agencies, the more restrictive laws, rules or regulations shall apply.

G. Temporary seeding areas shall be fertilized at a rate of 12-15 pounds per 1000 square feet of 10-10-10 or 12-12-12 analysis or equal.

H. When directed by the Engineer, the seed bed shall be thoroughly watered to maintain adequate moisture in the upper four (4) inches of soil, necessary to promote proper root growth.

I. When directed by the Engineer, temporary seeded areas shall be mowed when grass exceeds four (4) inches in height.

J. Temporary erosion control features shall be acceptably maintained and shall subsequently be removed or replaced when directed by the Engineer.

K. Removed materials shall become the property of the Contractor and shall be disposed of off the site at the Contractor's expense.

3.2 PERFORMANCE

A. If, in the opinion of the Engineer and Owner, proper control of soil erosion and sedimentation is not being provided by the Contractor, the Owner may take all necessary steps to provide corrective measures and the cost of such services will be deducted from any money which may be due or become due the Contractor.

B. Control work performed for protection of construction areas outside the construction site, such as borrow and waste areas, haul roads, equipment and material storage sites, and temporary plant sites shall be considered as a subsidiary obligation of the Contractor, with all necessary control costs included in the contract price.

C. In the event that temporary erosion and sediment control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled, and are ordered by the Engineer, such temporary work shall be performed by the Contractor at his expense.

3.3 SILT FENCE

A. The height of a silt fence shall not exceed 36 inches (higher fences may impound volumes of water sufficient to cause failure of the structure).

B. The filter fabric shall be purchased in a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are necessary, filter cloth shall be spliced together only at a support post, with a minimum six (6) inches overlap and securely sealed.

C. Posts shall be spaced a maximum of ten (10) feet apart at the barrier location and driven securely into the ground (minimum of 12 inches). When extra strength fabric is used without the wire support fence, post spacing shall not exceed six (6) feet.

D. A trench shall be excavated approximately four (4) inches wide and four (4) inches deep along the line of posts and upslope from the barrier.

E. When standard strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least one (1) inch long, tie wires or hog rings. The wire shall extend into the trench a minimum of two (2) inches and shall not extend more than 36 inches above the original ground surface.

F. The standard strength filter fabric shall be stapled or wired to the fence, and eight (8) inches of the fabric shall be extended into the trench. The fabric shall not extend more than 36 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.

G. When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts with all other provisions of Subparagraph F above applying.

H. The trench shall be backfilled and soil compacted over the filter fabric.

I. Silt fences shall be removed when they have served their purpose, but not before the upslope area has been permanently stabilized.

J. Silt fences and filter barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.

K. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly.

L. Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately one-half the height of the barrier.

M. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform with the existing grade, prepared and seeded.

3.4 TEMPORARY MULCHING

A. Application
   1. Mulch materials shall be spread uniformly, by hand or machine.
      a. When spreading straw mulch by hand, divide the areas to be mulched into approx. 1000 sq. ft. sections and place approx. 90 lbs. of straw in each section to facilitate uniform distribution.

B. Mulch Anchoring
   1. Straw mulch shall be anchored immediately after spreading to prevent windblow. One of the following methods of anchoring straw shall be used:
      a. Mulch anchoring tool

1. This is a tractor-drawn implement (mulch crimper, serrated straight disk or dull farm disk) designed to punch mulch approximately two(2) inches into the soil surface. This method provides maximum erosion control with straw. It is limited to use on slopes no steeper than 3:1, where equipment can operate safely. Machinery shall be operated on the contour.

b. Liquid mulch binders

1. Application of liquid mulch binders and tackifiers should be heaviest at edges of areas and at crests of ridges and banks, to prevent windblow. The remainder of the area should have binder applied uniformly. Binders may be applied after mulch is spread; however, it is recommended to be sprayed into the mulch as it is being blown onto the soil. Applying straw and binder together is the most effective method.
2. The following type of binder may be used:
   a.) Asphalt - any type of asphalt thin enough to be blown from spray equipment is satisfactory. Recommended for use are rapid curing (RC-80, RC-250, RC-800), medium curing (MC-250, MC-800) and emulsified asphalt (SS-1, MS-2, RS-1 and RS-2). Apply asphalt at 4 gal./1000 ft.^{2}, 600 gal./acre. Do not use heavier applications as it may cause the straw to "perch" over rills.
   b.) Wood Fiber - wood fiber hydroseeder slurries may be used to tack straw mulch.

c. Mulch nettings

1. Lightweight plastic, cotton or paper nets may be stapled over the mulch according to manufacturer's recommendations.

C. Chemical Mulches

1. Chemical mulches may be used alone only in the following situations:
   a. Where no other mulching material is available.
   b. In conjunction with temporary seeding during the times when mulch is not required for that practice.
2. Chemical mulches may be used to bind other mulches or with wood fiber in a hydroseeded slurry at any time. Manufacturer's recommendations for application of chemical mulches shall be followed.

D. Nets and Mats

1. Nets may be used alone on level areas, on slopes no steeper than 3:1, and in waterways.
2. When mulching is done in late fall or during June, July and August, or where soil is highly erodible, net should only be used in conjunction with an organic mulch such as straw.
3. When net and organic mulch are used together, the net should be installed over the mulch except when the mulch is wood fiber. Wood fiber may be sprayed on top of the installed net.

4. Excelsior blankets are considered protective mulches and may be used alone on erodible soils and during all times of the year.
5. Other products designed to control erosion shall conform to manufacturer's specification and should be applied in accordance with manufacturer's instructions provided those instruction are at least as stringent as this specification.
6. Staples will be made of plain iron wire, No. 8 gauge or heavier, and will be six (6) inches or more in length.
7. Prior to installation:
    a. Shape and grade as required the waterway, channel, slope or other area to be protected.
    b. Remove all rocks, clods or debris larger than two (2) inches in diameter that will prevent contact between the net and the soil surface.
    c. When open-weave nets are used, lime, fertilizer and seed may be applied either before or after laying the net. When excelsior matting is used, they must be applied before the mat is laid.
8. Laying the Net:
    a. Start laying the net from top of channel or top of slope and unroll down-grade.
    b. Allow to lay loosely on soil - do not stretch.
    c. To secure net: Upslope ends of net should be buried in a slot or trench no less than six (6) inches deep. Tamp earth firmly over net. Staple the net every twelve (12) inches across the top end.
    d. Edges of net shall be stapled every three (3) feet. Where two strips of net are laid side by side, the adjacent edges shall be overlapped three (3) inches and stapled together.
    e. Staples shall be placed down the center of net strips at 3-foot intervals. Do not stretch net when applying staples.
9. Joining strips
    a. Insert new roll of net in trench, as with upslope ends of net. Overlap the end of the previous roll eighteen (18) inches, turn under six (6) inches and staple across end of roll just below anchor slot and at the end of the turned-under net every twelve (12) inches.
10. At bottom of slopes
    a. Lead net out onto a level area before anchoring. Turn ends under six (6) inches and staple across end every twelve (12) inches.
11. Check slots
    a. On highly erodible soils and on slopes steeper than 4:1, erosion check slots should be made every fifteen (15) feet. Insert a fold of net into a six (6) inch trench and tamp firmly. Staple at twelve (12) inch intervals across the downstream portion of the net.
12. Rolling
    a. After installation, stapling and seeding, net should be rolled to ensure firm contact between net and soil.
13. All mulches should be inspected periodically, in particular after rainstorms, to check for rill erosion. Where erosion is observed, additional mulch should be applied. Net should be inspected after rainstorms for dislocation or failure. If washouts or breakage occur, re- install net as necessary after

repairing damage to the slope. Inspections should take place up until grasses are firmly established. Where mulch is used in conjunction with ornamental plantings, inspect periodically throughout the year to determine if mulch is maintaining coverage of the soil surface; repair as needed.

3.5 TEMPORARY SEEDING

A. Site Preparation
   1. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application and anchoring.
   2. Install the needed erosion control practices prior to seeding such as diversions, temporary waterways for diversion outlets and sediment basins.

B. Seedbed Preparation
   1. Lime (in lieu of a soil test recommendation) shall be applied on acid soil (pH 5.5 or lower) and subsoil at a rate of 100 pounds per 1000 square feet or two tons per acre of agricultural ground limestone. For best results, make a soil test.
   2. Fertilizer (in lieu of a soil test recommendation) shall be applied at a rate of 12-15 pounds per 1000 square feet or 500-600 pounds per acre of 10-10-10 or 12-12-12 analysis or equivalent.
   3. Work the lime and fertilizer into the soil with a disk harrow, springtooth harrow or similar tools to as depth of two inches. On sloping areas, the final operation shall be on the contour.

C. Seeding
   1. Apply the seed uniformly with a cyclone seeder, drill, cultipacker seeder or hydroseeder (slurry may include seed and fertilizer) preferably on a firm, moist seedbed. Seed wheat or rye no deeper than one (1) inch. Seed ryegrass no deeper than one-fourth (¼) inch.
   2. When feasible, except where a cultipacker type seeder is used, the seedbed should be firmed following seeding operations with a cultipacker, roller or light drag. On sloping land, seeding operations should be on the contour wherever possible.

D. Mulching
   1. Mulch shall be applied to protect the soil and provide a better environment for plant growth.
   2. Mulch shall consist of small grain straw (preferably wheat or rye) and shall be applied at the rate of two tons per acre or 100 pounds (two to three bales) per 1000 square feet.
   3. Spread the mulch uniformly by hand or mechanically so the soil surface is covered.
   4. Mulch Anchoring Methods
      a. Mechanical - use a disk, crimper or similar type tool set straight to punch or anchor the mulch material into the soil.
      b. Asphalt Emulsion - apply at the rate of 160 gallons per acre into the mulch as it is being applied.

c. Mulch Nettings - use according to the manufacturer's recommendations. Use in areas of water concentration to hold mulch in place.

E. Irrigation

1. If soil moisture is deficient, supply new seedings with adequate water for plant growth until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

END OF SECTION 015713

SECTION 015800 - PROJECT IDENTIFICATION

PART 1 - GENERAL

1.1 PROJECT SIGN

A. The Contractor shall be responsible for constructing, installing, maintaining and removing all project signs.

B. The Contractor shall be responsible for obtaining all permits for project signs from any local authority having jurisdiction including the payment of fees, if any.

C. The contractor shall install one project sign at a location to be determined by the Owner. The sign shall contain all of the data and graphics depicted on the attached exhibit SD-6-16 C.

END OF SECTION 015800

SECTION 016600 - PRODUCT HANDLING AND PROTECTION

PART 1 - GENERAL

1.1 DELIVERY AND STORAGE OF MATERIALS

A. The Contractor shall be responsible for delivery and storage of all materials.

B. The Contractor shall coordinate with the Engineer on the arrangement for storing construction materials and equipment. Deliveries of all construction materials and equipment should be made at suitable times.

C. The Contractor shall store all materials required for the performance of this contract at sites designated by the Engineer.

D. All stockpiles shall be neat, compact, completely safe, and barricaded with warning lights if necessary.

E. Precautions shall be taken so that no shade trees, shrubs, flowers, sidewalks, driveways or other facilities will be damaged by the storage of materials. The Contractor shall be responsible for the restoration of all stockpile sites to their original condition.

F. Materials, tools and machinery shall not be piled or placed against shade trees, unless they shall be amply protected against injury therefrom. All materials, tools, machinery, etc. stored upon public thoroughfares must be provided with red lights at night time so as to warn the traffic of such obstruction.

G. Materials shall be so stored as to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, shall again be inspected prior to their use in the work. Stored materials shall be located so as to facilitate their prompt inspection. Approved portions of the construction site may be used for storage purposes and for the placing of the Contractor's plant and equipment, but any additional space required therefore must be provided by the Contractor at his expense. Private property shall not be used for storage purposes without written permission of the property owner or lessee, and copies of such written permission shall be furnished the Engineer. All storage sites shall be restored to their original condition by the Contractor at his expense.

END OF SECTION 016600

SECTION 016617 - MAINTENANCE

PART 1 - GENERAL

1.1 DESCRIPTION

A. This Section provides general requirements for the maintenance of equipment in the field. Storage maintenance requirements are provided by Section 016600, Product Handling and Protection. Specific maintenance requirements are provided by manufacturers per individual Sections in the Project Manual.

B. Maintenance is performed to ensure delivery to the Owner of equipment in an undeteriorated and fully serviceable condition.

C. This Section also includes requirements for preventive and corrective maintenance during operation of the equipment prior to the commencement of the Warranty period.

1.2 RELATED SECTIONS

A. Section 016600, Product Handling and Protection.

1.3 DEFINITIONS

A. Storage maintenance consists of establishing and maintaining the environment required by the stored materials and performing periodic servicing.

B. Preventive maintenance consists of activities performed on a periodic basis to maintain operating or operational items or equipment.

C. Corrective maintenance consists of correcting faults or failures in an item or equipment. This may include adjustments or replacement of defective parts.

1.4 SUBMITTALS

A. The Maintenance Log shall be submitted to the Owner upon completion of the Operational Demonstration and before the start of the Warranty period.

B. No submittals are required by this Section, except as noted above. Maintenance schedules and practices shall conform to approved submittals required by individual Sections in the Project Manual.

PART 2 – PRODUCTS

2.1 COMPONENTS, ACCESSORIES AND REPAIR PARTS

A. All components, accessories and repair parts used in maintenance shall be supplied by or approved by the equipment manufacturer for use on the equipment.

2.2 SOURCE QUALITY CONTROL

A. All parts and materials used in maintenance shall meet the quality control requirements provided for the item or equipment. These are specified in individual Sections of the Project Manual.

PART 3 – EXECUTION

3.1 EXAMINATION AND VERIFICATION OF CONDITION

A. The Contractor shall prepare a Maintenance Log for all equipment.

1. This log shall include a list of required maintenance services and inspections, as provided by the manufacturer and submitted under individual Sections of the Project Manual.

2. The Maintenance Log shall include checklists for the periodic services and inspections required.

3. The Contractor shall initial and date the requisite log entries upon completion of the individual servicing or inspection.

4. The Maintenance Log shall be located in the Contractor's Field Office and shall be available for review by the Owner until it is submitted for record purposes upon completion of the Operational Demonstration and the start of the Warranty period.

3.2 PREPARATION

A. Before removing an item from storage per Section 016600, the Contractor all review the installed location. Protection and services at the installed location must meet the equipment storage requirements.

B. Before moving equipment to the installed location, the Contractor shall have available materials for temporary shelter or services required to establish the proper storage environment after the equipment is installed until it is placed in service in its final operating environment.

3.3 PERFORMANCE OF MAINTENANCE

A. The Contractor shall perform all storage and preventive maintenance and inspections required by the manufacturer at the specified intervals.

B. When notified by the Owner, the Contractor will perform corrective maintenance. This will be performed at no cost to the Owner. Corrective maintenance will be performed per manufacturer's written instructions or by direction of the approved representative of the manufacturer.

C. The Contractor shall restore equipment to its operating condition before start-up.

D. The Contractor shall re-establish storage maintenance in the event an item or equipment is removed from service.

E. When the equipment warranty becomes effective, the Owner will assume responsibility for its maintenance.

END OF SECTION 016617

SECTION 017800 - FINAL COMPLIANCE AND SUBMITTALS

PART 1 - GENERAL

1.1 The following forms and related sign-offs shall be documented in accordance with provisions of the contract. These forms shall be completed by the Contractor and approved by the Owner before final retainer is approved for release. Forms for Items A to E will be attached to the Contractor's executed copy of the contract.

A. Certificate of Substantial Completion (To be submitted at time of Substantial Completion).

B. Contractor's Certification of Completion.

C. Contractor's Affidavit of Prevailing Wage.

D. Consent of Surety Company for Final Payment.

E. Affidavit of Final Acceptance Date and Correction Period.

F. Before the OWNER will approve and accept the work and release the retainer, the CONTRACTOR will furnish the OWNER a written report indicating the resolution of any and all property damage claims filed with the CONTRACTOR by any party during the construction period. The information to be supplied shall include, but not be limited to, name of claimant, date filed with CONTRACTOR, name of insurance company and/or adjuster handling claim, how claim was resolved and if claim was not resolved for the full amount, a statement indicating the reason for such action.

END OF SECTION 017800

SECTION 017821 - CLEANING AND PROTECTION

PART 1 - GENERAL

1.1 GENERAL

A. On or before the completion date for the work, the Contractor shall tear down and remove all temporary structures built by him, all construction plant used by him, and shall repair and replace all parts of existing embankments, fences or other structures which were removed or injured by his operations or by the employees of the Contractor. The Contractor shall thoroughly clean out all buildings, sewers, drains, pipes, manholes, inlets and miscellaneous and appurtenant structures, and shall remove all rubbish leaving the grounds in a neat and satisfactory condition.

B. As circumstances require and when ordered by the Engineer, the Contractor shall clean the road, driveway, and/or sidewalk on which construction activity under this contract has resulted in dirt or any other foreign material being deposited with an automatic self-contained mechanical sweeper with integral water spray, vacuum and on-board or supplementary containment.

C. Failure to comply with this requirement when ordered by the Engineer or his representative, may serve as cause for the Engineer to stop the work and to withhold any monies due the Contractor until such order has been complied with to the satisfaction of the Engineer.

D. As the work progresses, and as may be directed, the Contractor shall remove from the site and dispose of debris and waste material resulting from his work. Particular attention shall be given to minimizing any fire and safety hazard from form materials or from other combustibles as may be used in connection with the work, which should be removed daily.

E. The Contractor shall wash all windows and other glass surfaces, leaving all areas free from putty marks, paint, etc.

F. During and after installation, the Contractor shall furnish and maintain satisfactory protection to all equipment against injury by weather, flooding or breakage thereby permitting all work to be left in a new condition at the completion of the contract.

END OF SECTION 017821

SECTION 017839 - PROJECT RECORDS, DRAWINGS

PART 1 - GENERAL

1.1 RECORD DRAWINGS

A. The Contractor shall furnish an authentic set of marked-up drawings showing the installation insofar as the installation shall have differed from the Engineer's drawings. The drawings shall be delivered to the Engineer for making revisions to the original drawings immediately after final acceptance by the Owner.

B. The Contractor shall furnish dimensioned drawings indicating locations of all underground mechanical and electrical facilities.

1.2 SERVICE CONNECTION RECORDS

A. The Contractor shall record the location of all service and property connections, new or existing, made to utilities constructed under this contract. Such records shall be turned over to the Owner upon completion of the work. The cost of making such records shall be included in the various unit or lump sum prices stipulated for the various items of the work.

B. The location of each sewer connection as measured along the sewer from the nearest downstream manhole and its description with respect to the sewer shall be recorded. The record shall include the depth of new stubs for future connections and the depth of existing connections as measured from the surface grade. Also, the use of any vertical riser pipe shall be noted.

C. The location of each water connection as measured along the water line from the nearest fire hydrant.

END OF SECTION 017839

SECTION 024119 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

A. This section includes removal of pavement, piping, and equipment necessary to clear space for new construction and/or to rehabilitate existing construction.

1.3 REQUIREMENTS OF REGULATORY AGENCIES

A. State and local code requirements shall control the disposal of debris resulting from the removal operation.

1.4 PROTECTION

A. Structures shall be removed in such a manner as not to damage portions of the existing structure which are to remain in place.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 PAVEMENTS, SIDEWALKS, CURBING, SIMILAR STRUCTURES

A. Removal of existing pavements, sidewalks, curbing, and similar structures shall end at an existing joint or a sawed joint. Sawed joints shall be straight, neat and free from chipped or damaged edges.

B. For removal of reinforced or non-reinforced concrete, the minimum depth of saw cut shall be 3 in.

C. For removal of reinforced concrete, the depth of saw cut shall be sufficient to cut the steel.

D. If the concrete is coated with a bituminous surface or other material, the depth shall be sufficient to cut into the concrete, not including the coating depth, as specified above.

3.2 EXCAVATION OF RIGID PAVEMENT

A. The Contractor shall excavate rigid pavement, consisting of concrete or concrete base with a wearing surface of brick or bituminous concrete, wherever such excavation is required for the purpose of this Contract.

B. Pavement shall be excavated to neat lines and, only to widths required for trenches, for pipe laying and for construction of structures. Adequate provision shall be made to prevent settlement and breakage of pavement beyond the approved limits of excavation.

C. All pavement broken or damaged beyond the limits above stated, or the approved extension thereof, shall be replaced by the Contractor at his expense.

3.3 CATCH BASINS, INLETS AND SIMILAR STRUCTURES

A. Existing drainage structure designated by the Engineer to be removed shall be completely removed.

B. Abandoned sewers shall be sealed and made watertight with approved masonry bulkheads.

C. All castings salvaged from abandoned or removed drainage structures shall remain the property of the Owner and shall be cleaned and transported by the Contractor to a site designated by the Engineer or incorporated in the work where called for on the Drawings, scheduled, or so directed.

3.4 FENCE

A. Where so required by the Drawings, existing fence shall be carefully dismantled and stored for reuse or for salvage by the Owner.

B. Wood posts and other materials not considered salvageable by the Engineer shall be disposed of by the Contractor.

C. The Contractor will be required to replace, at no cost to the Owner, material lost or damaged by negligence or by the use of improper methods.

3.5 EQUIPMENT REMOVAL

A. All equipment, valves, piping, fittings, and miscellaneous steel structures that are removed shall remain the property of the Owner and shall be stored at site selected by the Owner. The Owner reserves the right to require the Contractor to dispose of certain unwanted portions of removed equipment and materials. The Owner shall have the right to reject any or all materials removed during construction, and the Contractor shall haul away and dispose of these materials in a suitable manner at no additional cost to the Owner.

3.6 DISPOSAL OF DEBRIS

A. All debris resulting from demolition operations; i.e., broken concrete, masonry, pipe, miscellaneous metal, trees and brush, equipment, etc., shall be disposed of offsite.

B. The Contractor shall police the hauling of debris to insure that all spillage from haul trucks is promptly and completely removed.

3.7 BACKFILLING

A. All trenches, holes, and pits resulting from the removal and abandonment of any structure or obstruction shall be backfilled and compacted in accordance with the requirements of Section 312323.14.

END OF SECTION 024119

SECTION 030000 - CONCRETE WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1. Section 013319 – Field Testing Requirements

1.2 SUMMARY

A. This Section specifies cast-in place concrete, including form work, reinforcing, mix design, placement procedures and finishes.

1. Extent of concrete work is shown on drawings.

1.3 SUBMITTALS

A. Product Data: Submit data for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, waterstops, joint systems, curing compounds, dry-shake finish materials, and others as requested by Engineer.

B. Shop Drawings; Reinforcement: Submit original shop drawings prepared for fabrication, bending, and placement of concrete reinforcement. Comply with ACI Detailing Manual showing bar schedules, stirrup spacing, diagrams of bent bars, arrangement of concrete reinforcement. Include special reinforcement required for openings through concrete structures.

C. Shop Drawings; Form work: Submit shop drawings prepared by a registered Professional Engineer for fabrication and erection of forms for specific finished concrete surfaces. Show form construction including jointing, special form joint or reveals, location and pattern of form tie placement, and other items which affect exposed concrete visually.

1. Engineer's review is for general architectural applications and features only. Design of form work for structural stability and efficiency is Contractor's responsibility.

D. Samples: Submit samples of materials as requested by Engineer, including names, sources, and descriptions.

E. Laboratory Test Reports: Submit laboratory test reports for concrete materials and mix design tests.

1. The proposed mix design submittal(s) shall follow the procedures of Chapter 5, Sections 5.2 to 5.3 of ACI-318.
2. Reference should be made to ACI-211.5R "Guide for Submittal of Concrete Proportions" for the required submittal information. Sample forms for presenting the necessary information can be found in the addendum at the end of this section.

Example Form B should follow a completed Example A in the submittal when laboratory trial batches are used to document a water-cementious materials ratio curve.

3. Additional data summarizing the past performance records should be an integral part of the submittal if the submittal is based on past performance with the proposed materials and proportions.

F. Materials Certificates: Provide materials certificates in lieu of materials laboratory test reports when permitted by Engineer. Materials certificates shall be signed by manufacturer and Contractor, certifying that each material item complies with, or exceeds, specified requirements. Provide certification from admixture manufacturers that chloride content complies with specification requirements.

1.4 QUALITY ASSURANCE

A. Codes and Standards: Comply with provisions of following codes, specifications, and standards, latest revisions, except where more stringent requirements are shown or specified:

1. ACI 301 "Specifications for Structural Concrete for Buildings."
2. ACI 318 "Building Code Requirements for Reinforced Concrete."
3. Concrete Reinforcing Steel Institute (CRSI), "Manual of Standard Practice."
4. ACI 347 "Guide to Form work for Concrete."
5. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

B. Materials and installed work may require testing and retesting at anytime during progress of work. Tests, including retesting of rejected materials for installed work, shall be done at Contractor's expense.

C. Engage a testing agency acceptable to Engineer to perform initial material evaluation and certification tests for mix designs and to design concrete mixes.

1.5 PROJECT CONDITIONS

A. Protection of Footings Against Freezing: Cover completed work at footing level with sufficient temporary or permanent cover as required to protect footings and adjacent subgrade against possibility of freezing; maintain cover for time period as necessary.

B. Protect adjacent finish materials against spatter during concrete placement.

PART 2 - PRODUCTS

2.1 FORM MATERIALS

A. Forms for Exposed Finish Concrete: Plywood, metal, metal-framed plywood faced, or other acceptable panel-type materials, to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings.

1. Use plywood complying with U.S. Product Standard PS-1 "B-B (Concrete Form) Plywood," Class I, Exterior Grade or better, mill-oiled and edge-sealed, with each piece bearing legible inspection trademark.

B. Forms for Unexposed Finish Concrete: Plywood, lumber, metal, or other acceptable material. Provide lumber dressed on at least two (2) edges and one side for tight fit.

C. Forms for Textured Finish Concrete: Units of face design, size, arrangement, and configuration to match Engineer's control sample. Provide solid backing and form supports to ensure stability of textured form liners.

D. Forms for Cylindrical Columns and Supports: Metal, fiberglass reinforced plastic, or paper or fiber tubes. Construct paper or fiber tubes of laminated plies using water-resistant adhesive with wax-impregnated exterior for weather and moisture protection. Provide units with sufficient wall thickness to resist loads imposed by wet concrete without deformation.

E. Form Coatings: Provide commercial formulation form-coating compounds that will not bond with, stain, nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces.

F. Form Ties: Factory-fabricated, adjustable-length, snapoff metal or glass fiber-reinforced plastic form ties, designed to prevent form deflection and to prevent spalling concrete upon removal. Provide units which will leave no metal closer than 1-1/2" to the exposed surface.

1. Provide ties which, when removed, will leave holes not larger than 1" diameter in concrete surface.
2. All form ties shall have a factor of safety of two (2) to determine the recommended safe working load.

2.2 REINFORCING MATERIALS

A. Reinforcing Bars: ASTM A 615, Grade 60, deformed.

B. Galvanized Reinforcing Bars: ASTM A 767, Class II (2.0 oz. zinc psf) hot-dip galvanized, after fabrication and bending.

C. Epoxy-Coated Reinforcing Bars: ASTM A 775.

1. Repair of damaged epoxy-coating - When required, damaged epoxy-coating shall be repaired with patching material conforming to ASTM A 775. Repair shall be done in accordance with the patching material manufacturer's recommendations.

D. Steel Wire: ASTM A 82, plain, cold-drawn steel.

E. Welded Wire Fabric: ASTM A 185, welded steel wire fabric. (Flat sheets only)

F. Welded Deformed Steel Wire Fabric: ASTM A 497.

G. Epoxy - Coated Welded Wire Fabric: ASTM A884, Class A.

H. Support for Reinforcement: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire fabric in place. Use wire bar type supports complying with CRSI specifications.

1. For slabs-on-grade, use supports with sand plates or horizontal runners where base material will not support chair legs.
2. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with legs which are plastic protected (CRSI, Class 1) or stainless steel protected (CRSI, Class 2).

2.1 CONCRETE MATERIALS

A. Portland Cement: ASTM C 150, Type I, II or I/II and ASTM C595M, Type IP, unless otherwise specified. (See Table I, Concrete Requirements).

1. Use one brand of cement throughout project, unless otherwise acceptable to Engineer.

B. Fly Ash: ASTM C 618, Class F.
1. Limit use of fly ash to not exceed 25% of cement content by weight.

C. Ground Granulated Blast-Furnace Slag: ASTM C989, Grade 100 or 120.

1. Limit use of granulated blast-furnace slag to not exceed 30% of cement content by weight.

D. Normal Weight Aggregates: ASTM C 33, and as herein specified. Provide aggregates from a single source for exposed concrete, with nominal maximum aggregate size of 1 inch.

1. For exterior exposed surfaces, do not use fine or coarse aggregates containing spalling-causing deleterious substances.
2. Local aggregates not complying with ASTM C 33 but which have shown by special test or actual service to produce concrete of adequate strength and durability may be used when acceptable to Engineer.
3. Combined Aggregate Gradation: Well graded from coarsest to finest with not more than 18 percent and not less than 8 percent retained on an individual sieve, except that less than 8 percent may be retained on coarsest sieve and on No. 50 (0.3-mm) sieve, and less than 8 percent may be retained on sieves finer than No. 50 (0.3 mm).

E. Lightweight Aggregates: ASTM C 330.

Maximum nominal aggregate size of 1 inch.

F. Water: Drinkable and complying with ASTM C94.

G. Air-Entraining Admixture: ASTM C 260, certified by manufacturer to be compatible with other required admixtures.

1. Products: Subject to compliance with requirements, provide one of the following:

a. "Air-Mix"; Euclid Chemical Co.
b. "Sika Aer"; Sika Corp.
c. "MB-VR or MB-AE"; Master Builders.

H. Water-Reducing Admixture: ASTM C 494, Type A, and containing not more than 0.1 percent chloride ions.

1. Products: Subject to compliance with requirements, provide one of the following:

a. "WRDA"; W.R. Grace.
b. "Eucon WR-75"; Euclid Chemical Co.
c. "Pozzolith Normal"; Master Builders.

I. High-Range Water-Reducing Admixture (Super Plasticizer): ASTM C 494, Type F and containing not more than 0.1 percent chloride ions.

1. Products: Subject to compliance with requirements, provide one of the following:

a. "Sikament 300"; Sika Chemical Corp.
b. "Eucon 37"; Euclid Chemical Co.
c. "Rheobuild or Polyheed"; Master Builders.

J. Water-Reducing, Non-Chloride Accelerator Admixture: ASTM C 494, Type E, and containing not more than 0.1 percent chloride ions.

1. Products: Subject to compliance with requirements, provide one of the following:

a. "Accelguard 80"; Euclid Chemical Co.
b. "Pozzutec 20"; Master Builders.
c. "Daraset"; W.R. Grace & Co.

K. Water-Reducing, Retarding Admixture: ASTM C 494, Type D, and containing not more than 0.1 percent chloride ions.

1. Products: Subject to compliance with requirements, provide one of the following:

a. "Pozzolith"; Master Builders.
b. "Eucon Retarder 75"; Euclid Chemical Co.
c. "Plastiment"; Sika Chemical Co.

L. Corrosion-Inhibiting Admixture: Commercially formulated, anodic inhibitor or mixed cathodic and anodic inhibitor; capable of forming a protective barrier and minimizing chloride reactions with steel reinforcement in concrete.

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
2. Products: Subject to compliance with requirements, provide one of the following:

a. Catexol 1000CL; Axim Concrete Technologies.
b. MCI 2000 or MCI 2005; Cortec Corporation.

c. DCI or DCI-S; W.R. Grace & Co., Construction Products Div.
d. Rheocrete 222+; Master Builders, Inc.
e. FerroGard-901; Sika Corporation.

M. Prohibited Admixtures: Calcium chloride thyocyanates or admixtures containing more than 0.1 percent chloride ions are not permitted.

2.2 RELATED MATERIALS

A. Reglets: Where resilient or elastomeric sheet flashing or bituminous membranes are terminated in reglets, provide reglets of not less than 26 gage galvanized sheet steel. Fill reglet or cover face opening to prevent intrusion of concrete or debris.

B. Waterstops: Provide waterstops at construction joints and other joints as indicated and specified in Section 030000.02.

C. Granular Base: Evenly graded mixture of fine and coarse aggregates to provide, when compacted, a smooth and even surface below slabs on grade.

D. Non-Shrink Grout: CRD-C 621 and ASTM C-1107, factory pre-mixed grout.

1. Products: Subject to compliance with requirements, provide one of the following:

a. Non-metallic

1) "Set Grout"; Master Builders.
2) "Euco-NS"; Euclid Chemical Co.
3) "Five Star Grout"; U.S. Grout Corp.

E. Non-slip Aggregate Finish: Provide fused aluminum oxide grits, or crushed emery, as abrasive aggregate for non-slip finish with emery aggregate containing not less than 50 percent aluminum oxide and not less than 25 percent ferric oxide. Use material that is factory-graded, packaged, rust-proof, and non-glazing, and is unaffected by freezing, moisture, and cleaning materials.

F. Colored Wear-Resistant Finish: Packaged, dry, combination of materials, consisting of Portland cement, graded quartz aggregate, coloring pigments, and plasticizing admixture. Use coloring pigments that are finely ground, non-fading mineral oxides, interground with cement. Color as selected by Engineer, unless otherwise indicated.

1. Products: Subject to compliance with requirements, provide one of the following:

a. "Colorcron"; Master Builders.
b. "Surflex"; Euclid Chemical Co.
c. "Lithochrome"; L.M. Scofield Co.

G. Absorptive Cover: Burlap cloth made from jute or kenaf, weighing approximately 9 oz. per sq. yd., complying with AASHTO M 182, Class 2.

H. Moisture-Retaining Cover: One of the following, complying with ASTM C 171.

1. Waterproof paper.
2. Polyethylene film.
3. Polyethylene-coated burlap.

I. Liquid Membrane-Forming Curing Compound: Liquid type membrane- forming curing compound complying with ASTM C 309, Type I, Class A. Moisture loss not more than 0.55 kg./sq. m. when applied at 200 sq ft./gal.

1. Products: Subject to compliance with requirements, provide one of the following:

a. "Masterkure"; Master Builders.
b. "Ecocure"; Euclid Chemical Co.
c. "Horn Clear Seal"; A.C. Horn, Inc.

J. Underlayment Compound: Free flowing, self-leveling, pumpable cementitious base compound for applications from 1 inch thick to feathered edges.

1. Products: Subject to compliance with requirements, provide one of the following:

a. "Flo-Top"; Euclid Chemical Co.
b. "Underlayment 110," Master Builders, Inc.
c. "Thoro Underlayment Self-Leveling"; Thoro System Products.

K. Bonding Compound: Polyvinyl acetate or acrylic base.

1. Products: Subject to compliance with requirements, provide one of the following:

a. Polyvinyl Acetate (Interior Only):

1) "Euco Weld"; Euclid Chemical Co.
2) "Weldcrete"; Larsen Products Corp.
3) "Everweld"; L&M Construction Chemicals, Inc.

b. Acrylic or Styrene Butadiene:

1) "Day-Chem AD Bond"; Dayton Superior Corp.
2) "Everbond"; L & M Construction Chemicals.
3) "SBR Latex"; Euclid Chemical Co.

L. Epoxy Adhesive: ASTM C 881, two component material suitable for use on dry or damp surfaces. Provide material "Type," "Grade," and "Class" to suit project requirements.

1. Products: Subject to compliance with requirements, provide one of the following:

a. "Epoxtite Binder 2390"; A.C. Horn, Inc.
b. "Sikadur 32 Hi-Mod"; Sika Chemical Corp.
c. "Euco Epoxy 452 or 620"; Euclid Chemical Co.

2.3 PROPORTIONING AND DESIGN OF MIXES

A. Prepare design mixes for each type and strength of concrete by either laboratory trial batch or field experience methods as specified in ACI 301 and ACI 211. If the trial batch method is used, use an independent testing facility acceptable to Engineer for preparing and reporting proposed mix designs. The testing facility shall not be the same as used for field quality control testing unless otherwise acceptable to Engineer.

1. Limit use of fly ash to not exceed 25 percent of cement content by weight.

B. Submit written reports to Engineer and Structural Engineer of each proposed mix for each class of concrete at least 15 days prior to start of work. Do not begin concrete production until mixes have been reviewed by Engineer.

C. Design mixes to provide normal weight concrete with the following properties, as indicated in Table I.:

TABLE 1

CONCRETE REQUIREMENTS

Concrete Class	Cement Type	Min. 28-Day Compressive Strength PSI	*Max. Water-Cement Ratio	Min. Cement Content Sacks	Slump Min.	Inch Max.	Entrained Air %
A	I	4000	0.45	6	-	-	6±1
B	I	2000	0.74	4-1/2	2	6	5±1-1/2
C	I	4000	0.50	6.38	1	4	6±2
D	II or IP	4000	0.45	6	-	-	6±1

*Maximum Water - Cementitious Materials Ratio

1. Concrete used for mud mats, fill and channeling in manholes and chambers shall be Class B unless otherwise noted on the drawings.
2. Class C concrete conforming to ODOT 499 (Class C) shall be used for all concrete pavement, curbing, driveways, and sidewalks, unless noted otherwise on the drawings.
3. Class B concrete may be used for encasing pipelines, fill, and pipe bedding.
   a. The following steps shall be taken for installation of the Class B concrete:
      1) Scrub concrete slabs and/or walls with a stiff wire brush and streams of clean water as a minimum, to remove laitenance.
      2) Apply a bonding agent in accordance with the manufacturer's surface preparation and application recommendations.
      3) The Class B concrete shall then be placed and screeded to bring the surface to final grade.

D. Lightweight Concrete: Lightweight aggregate and concrete shall conform to ASTM C 330. Proportion mix to produce concrete with a minimum compressive strength of 3000 psi at 28 days and a calculated equilibrium unit weight of 110 pcf plus or minus 3 pcf as

determined by ASTM C 567. Concrete slump at the point of placement shall be the minimum necessary for efficient mixing, placing, and finishing. The maximum slump shall be 6 inches for pumped concrete and 5 inches elsewhere. Air entrain concrete exposed to weather according to ACI 301 requirements.

E. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant; at no additional cost to Owner and as accepted by Engineer. Laboratory test data for revised mix design and strength results must be submitted to and accepted by Engineer before using in work.

F. Admixtures:

1. Use high range water-reducing admixture (super plasticizer) in Classes A and D concrete unless noted otherwise.
2. Use non-chloride accelerating admixture in concrete slabs placed at ambient temperatures below 50 deg F (10 deg C).
3. Use air-entraining admixture in all concrete, unless otherwise indicated. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having total air content within limits shown in Table I.
4. Use admixtures for water-reducing and set-control in strict compliance with manufacturer's directions.
5. Slump Limits: Proportion and design mixes to result in concrete slump at point of placement as shown in Table I:

    a. Concrete containing HRWR admixture (super-plasticizer): Not more than 8" after addition of HRWR to site-verified 2"-3" slump concrete.

2.4 CONCRETE MIXING

A. Job-Site Mixing: Mix materials for concrete in appropriate drum type batch machine mixer. For mixers of one cu. yd., or smaller capacity, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released. For mixers of capacity larger than one cu. yd., increase minimum 1-1/2 minutes of mixing time by 15 seconds for each additional cu. yd., or fraction thereof.

1. Provide batch ticket for each batch discharged and used in work, indicating project identification name and number, date, mix type, mix time, quantity, and amount of water introduced.

B. Ready-Mix Concrete: Comply with requirements of ASTM C 94, and as herein specified.

1. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C 94 may be required.

    a. When air temperature is between 85 deg F (30 deg C) and 90 deg F (32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes, and when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 GENERAL

A. Coordinate the installation of joint materials and vapor retarders with placement of forms and reinforcing steel.

3.2 FORMS

A. Design, erect, support, brace, and maintain form work to support vertical and lateral, static, and dynamic loads that might be applied until such loads can be supported by concrete structure. Construct form work so concrete members and structures are of correct size, shape, alignment, elevation, and position. Maintain form work construction tolerances complying with ACI 347.

B. Design form work to be readily removable without impact, shock, or damage to cast-in-place concrete surfaces and adjacent materials.

C. Construct forms to sizes, shapes, lines, and dimensions shown, and to obtain accurate alignment, location, grades, level and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required in work. Use selected materials to obtain required finishes. Solidly butt joints and provide back-up at joints to prevent leakage of cement paste.

D. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, recesses, and the like, to prevent swelling and for easy removal.

E. Provide temporary openings where interior area of form work is inaccessible for cleanout, for inspection before concrete placement, and for placement of concrete. Securely brace temporary openings and set tightly to forms to prevent loss of concrete mortar. Locate temporary openings on forms at inconspicuous locations.

F. Chamfer exposed corners and edges as indicated, using wood, metal, PVC, or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.

G. Provisions for Other Trades: Provide openings in concrete form work to accommodate work of other trades. Determine size and location of openings, recesses, and chases from trades providing such items. Accurately place and securely support items built into forms.

H. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, or other debris just before concrete is placed. Retightening forms and bracing after concrete placement if required to eliminate mortar leaks and maintain proper alignment.

3.3 VAPOR RETARDER INSTALLATION

A. Following leveling and tamping of granular base for slabs on grade, place vapor retarder sheeting with longest dimension parallel with direction of pour.

B. Lap joints 6" and seal with manufacturer's recommended mastic or pressure-sensitive tape.

3.4 PLACING REINFORCEMENT

A. Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars," for details and methods of reinforcement placement and supports, and as herein specified.

1. Avoiding cutting or puncturing vapor retarder during reinforcement placement and concreting operations. Repair damages before placing concrete.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials which reduce or destroy bond with concrete.

C. Accurately position, support, and secure reinforcement against displacement by form work, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as required.

D. Place reinforcement to obtain at least minimum coverages for concrete protection. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.

E. Install welded wire fabric in longest lengths as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset end laps in adjacent widths to prevent continuous laps in either direction.

F. Epoxy - Coated Reinforcing Steel:

1. Epoxy-coated reinforcing bars supported from form work shall rest on coated wire bar supports, or on bar supports made of dielectric material or other acceptable materials. Wire bar supports shall be coated with dielectric material for a minimum distance of 2 inches from the point of contact with the epoxy-coated reinforcing bars. Reinforcing bars used as support bars shall be epoxy-coated.
In walls having epoxy-coated reinforcing bars, spreader bars where specified by the Engineer, shall be epoxy-coated. Proprietary combination bar clips and spreaders used in walls with epoxy-coated reinforcing bars shall be made of corrosion-resistant material.

2. Epoxy-coated reinforcing bars - Equipment for handling epoxy-coated bars shall have protected contact areas. Bundles of coated bars shall be lifted at multiple pick-up points to minimize bar-to-bar abrasion from sags in the bundles. Coated bars or bundles of coated bars shall not be dropped or dragged. Coated bars shall be stored on protective cribbing. Fading of the color of the coating shall not be cause for rejection of epoxy-coated reinforcing bars. Coating damage due to handling, shipment and placing need not be repaired in cases where the damaged area is 0.1 square inches or smaller. Damaged areas larger than 0.1 square inches shall be

repaired in accordance with the epoxy material manufacturer's recommendations. The maximum amount of damage including repaired and unrepaired areas shall not exceed 2 percent of the surface area in each linear foot of each bar.

3.5 JOINTS

A. Construction Joints: Locate and install construction joints as indicated or, if not indicated, locate so as not to impair strength and appearance of the structure, as acceptable to Engineer.

1. Provide keyways at least 1-1/2" deep in construction joints in walls, slabs, and between walls and footings; accepted bulkheads designed for this purpose may be used for slabs.
2. Place construction joints perpendicular to main reinforcement. Continue reinforcement across construction joints, except as otherwise indicated.

B. Waterstops: Provide waterstops in construction joints as indicated. Install waterstops to form continuous diaphragm in each joint. Make provisions to support and protect exposed waterstops during progress of work. Fabricate field joints in waterstops in accordance with manufacturer's printed instructions.

C. Isolation Joints in Slabs-on-Ground: Construct isolation joints in slabs-on-ground at points of contact between slabs-on-ground and vertical surfaces, such as column pedestals, foundation walls, grade beams, and elsewhere as indicated.

1. Joint filler and sealant materials are specified in Section 030000.02 of these specifications.

D. Contraction (Control) Joints in Slabs-on-Ground: Construct contraction joints in slabs-on-ground to form panels of patterns as shown. Use inserts 1/4 of slab depth, unless otherwise indicated.

1. Form contraction joints by inserting premolded plastic strips into fresh concrete until top surface of strip is flush with slab surface.
2. Follow the directions of Insert Manufacturer for finishing the slab and joints.

E. If joint pattern not shown, provide joints not exceeding 15' in either direction and located to conform to bay spacing wherever possible (at column centerlines, half bays, third-bays).

1. Joint sealant material is specified in Section 030000.02 of these specifications.

3.6 INSTALLATION OF EMBEDDED ITEMS

A. General: Set and build into work anchorage devices and other embedded items required for other work that is attached to, or supported by, cast-in-place concrete. Use setting drawings, diagrams, instructions, and directions provided by suppliers of items to be attached thereto. Electrical conduit shall not be embedded in concrete.

B. Install reglets to receive top edge of foundation sheet waterproofing, and to receive thru-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, relieving angles, and other conditions.

C. Edge Forms and Screed Strips for Slabs: Set edge forms or bulkheads and intermediate screed strips for slabs to obtain required elevations and contours in finished slab surface. Provide and secure units to support screed strips using strike-off templates or compacting type screeds.

3.7 PREPARATION OF FORM SURFACES

A. Clean re-used forms of concrete matrix residue, repair and patch as required to return forms to acceptable surface condition.

B. Coat contact surfaces of forms with an approved, nonresidual, low-VOC, from-coating compound before placing reinforcement.

C. Thin form-coating compounds only with thinning agent of type, amount, and under conditions of form-coating compound manufacturer's directions. Do not allow excess form-coating material to accumulate in forms or to come into contact with in-place concrete surfaces against which fresh concrete will be placed. Apply in compliance with the manufacturer’s instructions.

D. Coat steel forms with a non-staining, rust-preventative form oil or otherwise protect against rusting. Rust-stained steel form work is not acceptable.

3.8 CONCRETE PLACEMENT

A. Preplacement Inspection: Before placing concrete, inspect and complete form work installation, reinforcing steel, and items to be embedded or cast-in. Notify other crafts to permit installation of their work; cooperate with other trades in setting such work. Moisten wood forms immediately before placing concrete where form coatings are not used.

1. Apply temporary protective covering to lower 2' of finished walls adjacent to poured floor slabs and similar conditions, and guard against spattering during placement.

B. General: Comply with ACI 304 "Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete,” and as herein specified.

1. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as herein specified. Deposit concrete as nearly as practicable to its final location to avoid segregation.

C. Placing Concrete in Forms: Deposit concrete in forms in horizontal layers not deeper than 24" and in a manner to avoid inclined construction joints. Where placement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints.

1. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand-spading, rodding, or tamping. Use equipment and procedures for consolidation of concrete in accordance with ACI 309.
2. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations not farther than visible effectiveness of machine. Place vibrators to rapidly penetrate placed layer and at least 6" into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to set. At each insertion limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing segregation of mix.

D. Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until the placing of a panel or section is completed.

1. Consolidate concrete during placing operations so that concrete is thoroughly worked around reinforcement and other embedded items and into corners.
2. Bring slab surfaces to correct level with straightedge and strikeoff. Use bull floats or darbies to smooth surface, free of humps or hollows. Do not disturb slab surfaces prior to beginning finishing operations.
3. Maintain reinforcing in proper position on chairs during concrete placement operations.

E. Cold Weather Placing: Protect concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures, in compliance with ACI 306 and as herein specified.

1. When air temperature has fallen to or is expected to fall below 40 deg F (4 deg C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F (10 deg C), and not more than 80 deg F (27 deg C) at point of placement.

    a. The concrete shall be maintained within this temperature range for not less than seven (7) days.

2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials or against cold reinforcing steel.
3. Do not use calcium chloride, salt, and other materials containing antifreeze agents or chemical accelerators, unless otherwise accepted in mix designs.

F. Hot Weather Placing: When hot weather conditions exist that would seriously impair quality and strength of concrete, place concrete in compliance with ACI 305 and as herein specified.

1. Cool ingredients before mixing to maintain concrete temperature at time of placement below 90 deg F (32 deg C). Mixing water may be chilled, or chopped ice may be used to control temperature provided water equivalent of ice is calculated to total amount of mixing water. Use of liquid nitrogen to cool concrete is Contractor's option.

2. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before embedment in concrete.
3. Fog spray forms, reinforcing steel, and subgrade just before concrete is placed.
4. Use water-reducing retarding admixture when required by high temperatures, low humidity, or other adverse placing conditions, as acceptable to Engineers.

3.9 FINISH OF FORMED SURFACES

A. Rough Form Finish: For formed concrete surfaces not exposed-to- view in the finish work or by other construction, unless otherwise indicated. This is the concrete surface having texture imparted by form facing material used, with tie holes and defective areas repaired and patched and fins and other projections exceeding 1/4" in height rubbed down or chipped off.

B. Smooth Form Finish: For formed concrete surfaces exposed-to-view, or that are to be covered with a coating material applied directly to concrete, or a covering material applied directly to concrete, such as waterproofing, dampproofing, veneer plaster, painting, or other similar system. This is an as-cast concrete surface obtained with selected form facing material, arranged orderly and symmetrically with a minimum of seams. Repair and patch defective areas with fins or other projections completely removed and smoothed; provide smooth rubbed finish to smooth form finish. Refer to "Concrete Surface Repairs."

C. Smooth Rubbed Finish: Provide smooth rubbed finish to scheduled concrete surfaces, which have received smooth form finish treatment.

1. Scarify or roughen entire surface by grinding or similar effective means.
2. Combined one part Portland cement to 1-1/2 parts fine sand by volume and a 50:50 mixture of acrylic or styrene butadiene-based bonding admixture and water to form the consistency of thick paint. Blend standard Portland cement and white Portland cement, amounts determined by trial patches, so that final color of dry grout will match adjacent surfaces.
3. Thoroughly wet concrete surfaces and apply grout to coat surfaces and fill small holes. Remove excess grout by scraping and rubbing with clean burlap. Keep damp by fog spray for at least 36 hours after rubbing.
4. Repeat the above process if necessary to fill voids or bug holes and obtain a consistent match to adjacent surfaces, subject to acceptance of the Engineer.

D. Grout Cleaned Finish: Provide grout cleaned finish on scheduled concrete surfaces which have received smooth form finish treatment.

1. Scarify or roughen the entire surface by grinding or similar effective means.
2. Apply Thoroseal plaster mix coating by Thoro System Products or approved equivalent with an approximate thickness of 1/8-inch to ¼-inch.
3. Follow the manufacturer's recommendations and guidelines regarding surface preparation, application methods and curing.
4. Repeat the above process if necessary to fill voids or bug holes and obtain a consistent match to adjacent surfaces, subject to acceptance of the Engineer.

E. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces occurring adjacent to formed surfaces, strike-off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.10 CONCRETE CURING AND PROTECTION

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Protect concrete from rapid moisture loss before and during finishing operations.
   1. The evaporation graph, Figure 1, of ACI 308 - Curing Concrete, shall be used to determine the evaporation rate during concrete placement. If the rate of evaporation equals or exceeds 0.2 lbs/sq.ft./hr., steps shall be taken to prevent excessive evaporation from the surface.
   2. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing.

      a. Initial curing may be any of the methods listed herein that maintain a satisfactory moisture content and temperature.

   3. Begin final curing procedures, if they differ from initial curing, immediately following initial curing and before concrete has dried. Continue curing for at least seven (7) days in accordance with ACI 301 procedures. Avoid rapid drying at end of final curing period.

B. Curing Methods: Perform curing of all structural concrete as herein specified.

   1. Provide moisture curing by following methods.

      a. Keep concrete surface continuously wet by covering with water.
      b. Continuous water-fog spray.
      c. Cover concrete surface with specified absorptive cover, thoroughly saturating cover with water and keeping continuously wet. Place absorptive cover to provide coverage of concrete surfaces and edges, with 4" lap over adjacent absorptive covers.

   2. Provide moisture-cover curing as follows:

      a. Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width with sides and ends lapped at least 3" and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

C. Provide curing and sealing compound to pavement, walks, and curbs only, as follows:

   1. Apply specified curing and sealing compound to concrete slabs as soon as final finishing operations are complete (within 2 hours) and after surface water sheen has disappeared. Apply uniformly in continuous operation by power-spray or roller in accordance with manufacturer's directions. Recoat areas subjected to heavy rainfall

within three (3) hours after initial application. Maintain continuity of coating and repair damage during curing period.

D. Curing Formed Surfaces: Cure formed concrete surfaces, including undersides of beams, supported slabs, and other similar surfaces by moist curing with forms in place for full curing period or until forms are removed. If forms are removed, continue curing by methods specified above, as applicable.

E. Curing Unformed Surfaces: Cure unformed surfaces, such as slabs, floor topping, and other flat surfaces by moist curing methods.

1. Final cure concrete surfaces to receive liquid floor hardener or finish flooring by use of moisture-retaining cover, unless otherwise directed.

3.11 SHORES AND SUPPORTS

A. Comply with ACI 347 for shoring and reshoring in multistory construction, and as herein specified.

B. Extend shoring from ground to roof for structures four (4) stories or less, unless otherwise permitted.

C. Extend shoring at least three (3) floors under floor or roof being placed for structures over four (4) stories. Shore floor directly under floor or roof being placed, so that loads from construction above will transfer directly to these shores. Space shoring in stories below this level in such a manner that no floor or member will be excessively loaded or will induce tensile stress in concrete members where no reinforcing steel is provided. Extend shores beyond minimums to ensure proper distribution of loads throughout structure.

D. Remove shores and reshore in a planned sequence to avoid damage to partially cured concrete. Locate and provide adequate reshoring to safely support work without excessive stress or deflection.

1. Keep reshores in place a minimum of 15 days after placing upper tier, and longer if required, until concrete has attained its required 28-day strength and heavy loads due to construction operations have been removed.

3.12 REMOVAL OF FORMS

A. Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50 deg F (10 deg C) for five (5) days after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection operations are maintained.

B. Formwork supporting weight of concrete, such as beam soffits, joists, slabs, and other structural elements, may not be removed in less than 14 days or until concrete has attained at least 75 percent of design minimum compressive strength at 28 days. Determine potential compressive strength of in-place concrete by testing field-cured specimens

representative of concrete location or members. Lab cured cylinders will not be considered.

C. Form facing material may be removed five (5) days after placement, only if shores and other vertical supports have been arranged to permit removal of form facing material without loosening or disturbing shores and supports.

3.13 RE-USE OF FORMS

A. Clean and repair surfaces of forms to be re-used in work. Split, frayed, delaminated, or otherwise damaged form facing material will not be acceptable for exposed surfaces. Apply new form coating compound as specified for new form work.

B. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints. Align and secure joint to avoid offsets. Do not use "patched" forms for exposed concrete surfaces, except as acceptable to Engineer.

3.14 MISCELLANEOUS CONCRETE ITEMS

A. Filling-In: Fill-in holes and openings left in concrete structures for passage of work by other trades, unless otherwise shown or directed, after work of other trades is in place. Mix, place, and cure concrete as herein specified, to blend with in-place construction. Provide other miscellaneous concrete filling shown or required to complete work.

B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.

C. Equipment Bases and Foundations: Provide machine and equipment bases and foundations, as shown on drawings. Set anchor bolts for machines and equipment with template at correct elevations, complying with certified diagrams or templates of manufacturer furnishing machines and equipment.

1. Grout base plates and foundations as indicated, using specified non-shrink grout. Use non-metallic grout for exposed conditions, unless otherwise indicated.

D. Steel Pan Stairs: Provide concrete fill for steel pan stair treads and landings and associated items. Cast-in safety inserts and accessories as shown on drawings. Screed, tamp, and finish concrete surfaces as scheduled. Cure concrete as herein specified.

E. Reinforced Masonry: Provide concrete grout conforming to ASTM C476 for reinforced masonry lintels and bond beams where indicated on drawings and as scheduled. Maintain accurate location of reinforcing steel during concrete placement.

3.15 CONCRETE SURFACE REPAIRS

A. Patching Defective Areas: Repair and patch defective areas with cement mortar immediately after removal of forms, when acceptable to Engineer.

1. Saw-cut out honeycomb, rock pockets, voids over 1/4" in any dimension, down to solid concrete but, in no case to a depth of less than 1." Make edges of cuts slightly undercut to the concrete surface. Thoroughly clean, dampen with water, and brush-coat the area to be patched with specified bonding agent. Place patching mortar after bonding compound has dried.
2. For exposed-to-view surfaces, blend white Portland cement and standard Portland cement so that, when dry, patching mortar will match surrounding color. Provide test areas at inconspicuous location to verify mixture and color match before proceeding with patching. Compact mortar in place and strike-off slightly higher than surrounding surface.

B. Repair of Formed Surfaces: Remove and replace concrete having defective surfaces if defects cannot be repaired to satisfaction of Engineer. Surface defects, as such, include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets; fins and other projections on surface; and stains and other discolorations that cannot be removed by cleaning. Flush out form tie holes, fill with Portland Cement patching mortar, or precast cement cone plugs secured in place with bonding agent. When other materials are used, apply them in accordance with manufacturer's recommendations.

1. Repair concealed formed surfaces, where possible, that contain defects that affect the durability of concrete. If defects cannot be repaired, remove and replace concrete.
2. Repair of Unformed Surfaces: Test unformed surfaces, such as monolithic slabs, for smoothness and verify surface plane to tolerances specified for each surface and finish. Correct low and high areas as herein specified. Test unformed surfaces sloped to drain for trueness of slope, in addition to smoothness using a template having required slope.
3. Repair finished unformed surfaces that contain defects which affect durability of concrete. Surface defects, as such, include crazing, cracks in excess of 0.01" wide or which penetrate to reinforcement or completely through non-reinforced sections regardless of width, spalling, pop-outs, honeycomb, rock pockets, and other objectionable conditions.
4. Correct high areas in unformed surfaces by grinding, after concrete has cured at least 14 days.
5. Correct low areas in unformed surfaces during or immediately after completion of surface finishing operations by cutting out low areas and replacing with fresh concrete. Finish repaired areas to blend into adjacent concrete. Proprietary patching compounds may be used when acceptable to Engineer.
6. Repair defective areas, except random cracks and single holes not exceeding 1" diameter, by cutting out and replacing with fresh concrete. Remove defective areas to sound concrete with clean, square cuts and expose reinforcing steel with at least 3/4" clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding compound. Mix patching concrete of same materials to provide concrete of same type or class as original concrete. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
7. Repair isolated random cracks and single holes not over 1" in diameter by dry-pack method. Groove top of cracks and cut-out holes to sound concrete and clean of dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding

compound. Mix dry-pack, consisting of one part Portland cement to 2-1/2 parts fine aggregate passing a No. 16 mesh sieve, using only enough water as required for handling and placing. Place dry pack after bonding compound has dried. Compact dry-pack mixture in place and finish to match adjacent concrete. Keep patched area continuously moist for not less than 72 hours.

8. Perform structural repairs with prior approval of Engineer or Structural Engineer for method and procedure, using specified epoxy adhesive and mortar.
9. Repair methods not specified above may be used, subject to acceptance of Engineer.
10. Underlayment Application: Leveling of floors for subsequent finishes may be achieved by use of specified underlayment material.

3.16 THROUGH SECTION CONCRETE CRACK REPAIRS

A. Sealing through wall or slab cracks.

1. Seal cracks for a water-tight or structurally bonded repair with epoxy or chemical grouting procedures.

    a. The Contractor shall make proper repairs with epoxy injection or chemical injection with a moisture reactive hydrophilic polyurethane foam grout, as directed by the Engineer.

3.17 MUD MATS

A. Where called for on the plans or as directed by the Engineer, the Contractor shall construct concrete mud mats immediately after cleaning the excavation bottom, to preserve the bearing surface condition. Concrete for mud mats shall be not less than 3 in. thick. Bottom of excavation shall be free of water, mud and loose material prior to mud mat placement. See Section 310000.

1. Mud mat concrete shall be cast against the side walls of all excavations to completely seal the bottom.

ADDENDUM
EXAMPLE FORM A

CONCRETE SUPPLIER:_____

PROJECT:_____ CONTRACTOR:_____

MIXTURE ID:_____ SPECIFIED f'c:_____PSI

MATERIAL MIXTURE PROPORTIONS lbs-mass/cu.yd. (pcy)

1.0 Cement Type_____ Source:_____

Sp. Gr._____ _____pcy _____cu. ft.

1.1 Other Cementitious Materials:_____ Class:_____ Source:_____

Sp. Gr._____ _____pcy _____cu. ft.

2.0 Aggregate (No. 1) Type:_____ Size:_____ Source:_____

SSD Sp. Gr._____ _____pcy _____ cu. ft.

Dry Rodded Unit Wt.:_____pcf

Alternate (No. 1) Lightweight Aggregate Type:_____ Size:_____Source:_____

Sp. Gr. Factor _____ over dry pcy _____ cu. ft.

Loose Unit Wt._____pcf Estimated Wet_____pcf

2.1 Aggregate (No. 2) Type:_____ Size:_____ Source:_____

SSD Sp. Gr._____ _____pcy _____cu. ft.

Dry Rodded Unit Wt.: _____pcf (If Fine Sized - FM _____)

2.2 Aggregate (Nos. 3, 4, n) Type:_____ Size:_____ Source:_____

SSD Sp. Gr._____ _____pcy _____cu. ft.

Dry Rodded Unit Wt.: _____pcf

3.0 Water: _____gal. _____pcy _____cu. ft.

4.0 Admixtures expressed as fluid ounces/cubic yard, and estimated range

Source:_____ Name:_____ Type_____ _____oz

Source:_____ Name:_____ Type_____ _____oz

Source:_____ Name:_____ Type_____ _____oz

Total Admixture Liquid Vol. _____ cu. ft.

(*) Note: Show volume in 4.0 if not included in cubic feet of air or water.

5.0 Other Materials - fibers, color pigment or other additions

Sp. Gr._____ _____pcy _____cu. ft.

Total Mixture Mass and Volume: _____pcy _____cu. ft.

Fresh Concrete Properties

Slump _____ +/-_____ in.

Unit Weight _____ pcf

Air Content _____+/-_____%

If Trail Batch Data -

Identify Batch No. _____

Batch Date _____

Concrete Temp._____°F

Comp. Strength-Average _____°F

Coarse & Fine Aggregate Gradation

Percent Passing

Sieve Size	Aggregate No. 1	2	3	4	Combined
2 in.	____	____	____	____	_____
1-1/2 in.	____	____	____	____	_____
1 in.	____	____	____	____	_____
3/4 in.	____	____	____	____	_____
1/2 in.	____	____	____	____	_____
3/8 in.	____	____	____	____	_____
No. 4	____	____	____	____	_____
No. 8	____	____	____	____	_____
No. 16	____	____	____	____	_____
No. 30	____	____	____	____	_____

7 day avg. _____psi	No. 50	____	____	____	____	_____
28 day avg. _____psi	No. 100	____	____	____	____	_____
	No. 200	____	____	____	____	_____

Comments:_____

_____

Signature: _____ Date:_____

Title: _____

Organization: _____

EXAMPLE FORM B

CONCRETE SUPPLIER:_____

MATERIAL	TRAIL BATCH NUMBER - proportions per cubic yard			
	1	2	3	4
1.0 Cement Source: _____				
Type ____	_____lb	_____lb	_____lb	_____lb
1.1 Other Cementitious Material Sources:_____				
Type ____	_____lb	_____lb	_____lb	_____lb
2.0 Aggregate No. 1 Size_____ Source:_____				
SSD ____	_____lb	_____lb	_____lb	_____lb
Alternate No. 1 Lightweight Aggregates Type _____ Source: _____				
Sp. Gr. Factor _____				
Oven Dry	_____lb	_____lb	_____lb	_____lb
Wet	_____lb	_____lb	_____lb	_____lb
2.1 Aggregate No. 2 Size_____ Source:_____				
SSD ____	_____lb	_____lb	_____lb	_____lb
2.2 Aggregate Nos. 3, 4, n) Size_____Source:_____				
SSD ____	_____lb	_____lb	_____lb	_____lb
3.0 Water	_____lb	_____lb	_____lb	_____lb
4.0 Admixtures Source: _____				
_____ Type _____	_____oz	_____oz	_____oz	_____oz
_____ Type _____	_____oz	_____oz	_____oz	_____oz
_____ Type _____	_____oz	_____oz	_____oz	_____oz

EXAMPLE FORM B (CONTINUED)

5.0 Other Materials

_____ Type _____ _____lb _____lb _____lb _____lb

_____

Total Mass: _____lb _____lb _____lb _____lb

Total Mass/cy: _____pcy _____pcy _____pcy _____pcy

Relative Cubic Yard Volume:

_____cy _____cy _____cy _____cy

Water-Cementitious Material Ratio:

Fresh Concrete Properties

_____

TRAIL BATCH NUMBER

	## -1	## -2	## -3	## -4
Slump-inches	_____	_____	_____	_____
Air-Content %	_____	_____	_____	_____
Unit Wt. pcf	_____	_____	_____	_____
Concrete Temp. °F	_____	_____	_____	_____

Compressive Strength Results (ASTM C192, C39) or Other Specified Test Requirements

7 days	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
Average (7 day)	_____	_____	_____	_____

28 days	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
Average (28 day)	_____	_____	_____	_____
Water-Cementitious Material Ratio:				
	_____	_____	_____	_____

Signature: _____ Date:_____

Title:_____

Organization: _____

END OF SECTION 030000

SECTION 310000 - EARTHWORK

PART 1 - GENERAL

1.1 SUMMARY

A. The Work covered by this Section shall include all excavation, trenching and related work for the construction of the designated structures and pipelines, backfill and other incidental work.

B. The Work covered by this Section consists of:
1. making all necessary excavations for the construction of all Work;
2. preparing subgrade for foundations, slabs, walks, and pavements;
3. doing all pumping, fluming, and dewatering necessary to keep the trenches and other excavation free from water;
4. providing for uninterrupted flow of existing drains and sewers, and the disposal of water from any sources during the progress of the Work;
5. supporting and protecting all trench walls, structures, pipes, conduits, culverts, posts, poles, wires, fences, buildings and other public and private property adjacent to the Work;
6. removing and replacing existing sewers, culverts, pipelines and bulkheads where necessary;
7. removing after completion of the Work all sheeting and shoring or other soil support materials not necessary to support the sides of trenches;
8. removing and disposing all surplus excavated material;
9. doing all backfilling and grading, of compacting backfill to limits specified or ordered by the Engineer;
10. restoring all property damaged as a result of the Work involved in this Contract.

C. The Work includes transporting surplus excavated materials not needed for backfill at the location where the excavation is made, to other parts of the Work where filling is required, and disposal of all types of surplus material off the site.

D. The Work includes:
1. constructing a structure of soil or granular material in layers to a predetermined elevation and cross section;
2. supporting and protecting all structures, pipes, conduits, culverts, posts, poles, wires, fences, buildings and other public and private property adjacent to the Work;
3. restoring all property damaged as a result of the Work involved in this Contract.

1.2 RELATED DOCUMENTS AND SECTIONS

A. Section 013319 – Field Testing Requirements

B. Section 015713 - Temporary Erosion Control

C. Section 030000 - Concrete Work

D. Specific Project Requirements

1.3 DEFINITIONS

A. Backfill: Soil or granular materials used to fill an excavation.
   1. Initial Backfill: Backfill placed beside and over pipe in a trench, not including haunches to support sides of pipe.
   2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Bedding: Layer placed over the excavated subgrade in a trench before laying pipe.

C. Borrow: Satisfactory soil imported for use as fill or backfill.

D. Excavation: Removal and disposal of material encountered above subgrade or foundation elevations.
   1. Additional Excavation: Excavation below subgrade or foundation elevations as directed by Engineer.
   2. Trench: Narrow linear excavation
   3. Unauthorized Excavation: Excavation below subgrade or foundation elevations or beyond indicated dimensions without direction by Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be without additional compensation.
   4. Unclassified Excavation: Excavation to subgrade elevations regardless of the character of surface or subsurface conditions encountered, including rock, soil materials and obstructions.

E. Embankment: A structure consisting of soil, granular material, shale, rock, or other approved material, constructed in layers to a predetermined elevation and cross-section.

F. Granular materials: Natural aggregate, such as broken or crushed rock, gravel, or sand that can be readily incorporated into an 8-inch layer, and in which at least 65% by weight of the grains or particles are retained in a No. 200 sieve.

G. Laboratory Dry Weight: The maximum laboratory dry weight shall be the weight provided by the laboratory when the sample is tested in accordance with ASTM D-698 Method A, C, or D.

H. Optimum Moisture: The water content at which the maximum density is produced in a soil by a given compaction effort (ASTM D-698).

I. Pavement Prism: Also referred to as the zone of influence. The area below a line drawn 45 degrees to the horizontal from the surface at the edge of pavement, sidewalk or curb.

J. Pipe Embedment: The material placed in a trench surrounding a pipe or conduit consisting of the foundation, bedding, haunching, and initial backfill.

K. Rock: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material one (1) cu. yd. or more in volume that when tested by an independent geotechnical testing agency, according to ASTM D 1586, exceeds a standard penetration resistance of 100 blows/2 inches.

L. Shale: Laminated material, formed by the consolidation in nature of soil, having a finely stratified structure. For the purpose of these specifications, the following bedrock types shall also be considered shale: mudstone, claystone, siltstone and hard clay.

M. Soil: All earth materials, organic or inorganic, which have resulted from natural processes such as weathering, decay, and chemical reaction.

N. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, pavement, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

O. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage course, or topsoil materials.

P. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.4 SUBMITTALS

A. Comply with all provisions of Section 013323, Shop Drawings and Submittals.

B. Product Data: For the following:
1. Source-locations of all materials shall be identified to the Engineer.
2. Source quality laboratory test of all fill materials as required to show compliance with material specifications.

C. Shop Drawings: Submit information for the following items:

1. Sheeting, shoring and bracing
2. Dewatering system and standby equipment.
3. Protection methods anticipated.
4. Excavation procedures

1.5 REFERENCES

A. AASHTO M 43 Standard Specification for Size of Aggregate for Road and Bridge Construction

B. ASTM C-150 Standard Specification for Portland Cement

C. ASTM C-618 Standard Specification for Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete

D. ASTM D-698 Standard Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5.5-lb (2.49-kg) Rammer and 12-in. (305-mm) Drop

E. ASTM D-1586 Standard Method for Penetration Test and Split-Barrel Sampling of Soils

F. ASTM D-2487 Standard Test Method for Classification of Soils for Engineering Purposes

G. ASTM D-2940 Standard Specification for Graded Aggregate Material for Bases or Subbases for Highways or Airports

H. ASTM D-4253 Standard Test Method for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table

I. ASTM D-4254 Standard Test Method for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density

J. State of Ohio - Department of Transportation - Construction and Material Specifications, Item 304, Aggregate Base.

K. State of Ohio - Department of Transportation - Construction and Material Specifications, Material Detail 703.16, Suitable Materials for Embankment Construction.

L. State of Ohio - Department of Transportation - Construction and Material Specifications, Material Detail 703.02.A.2, Fine Aggregate for Portland Cement Concrete

1.6 QUALITY ASSURANCE

A. Qualifications

B. Regulatory Requirements

C. Certifications

D. Field Samples

E. Mock-ups

F. Pre-Construction Conference

1.7 PROJECT CONDITIONS

A. Environmental Requirements

B. Existing Conditions
   1. Existing ground elevations of the site are shown by figures and/or by contours on the Drawings. The contours and elevations of the present ground are believed to be reasonably correct, but do not purport to be absolutely so, and, together with any schedule of quantities, are presented only as an approximation. The Contractor shall satisfy himself, however, by actual examination on the site of the Work, as to the existing elevations and contours, and the amount of work required.

C. Existing Utilities
   1. Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Engineer and then only after arranging to provide temporary utility services according to requirements indicated.
   2. Notify Engineer not less than two days in advance of proposed utility interruptions.
   3. Do not proceed with utility interruptions without Engineer's written permission.
   4. Contact utility-locator service for area where Project is located before excavating.

1.8 DELIVERY, STORAGE AND HANDLING

A. Deliver products to the site, store and protect under provisions of Section 016600, Product Handling and Protection.

B. Comply with all provisions of Section 013543, Environmental Protection.

1.9 SEQUENCING AND SCHEDULING

A. Refer to 013319 for testing laboratory service scheduling.

1.10 PROHIBITION OF EXPLOSIVES

A. The use of explosives is not permitted.

1.11 FIELD MEASUREMENTS

A. The Contract Drawings may indicate locations where certain utilities, structures or facilities might possibly interfere with the installation of new improvements. The Contractor shall dig such exploratory test pits as may be necessary to determine the exact location and elevation of the indicated subsurface structure and shall make acceptable provision for their protection, support and maintenance in operation. The Engineer shall be provided advance notification when and where excavation for test

pits will take place. The Contractor shall provide the Engineer a record of field locations of all listed utilities, structures or facilities a minimum of five (5) days prior to initiating construction of the project. Locations and elevations are to be provided by a Surveyor registered in the State of Ohio.

2.1 GRANULAR PIPE EMBEDMENT

A. Crushed gravel or crushed limestone meeting AASHTO M 43 gradation shall be used for bedding, haunching, and initial backfill as shown on the Drawings.

2.2 SPECIAL BACKFILL MATERIAL (ODOT Item 304)

A. Special backfill material shall meet the gradation requirements of ODOT Item 304 and shall consist of crushed gravel or crushed limestone in combination with natural sand or stone. The aggregate shall meet the following gradation requirements:

Sieve	Total Percent Passing
2 inch	100
1 inch	70-100
¾ inch	50-90
No. 4	30-60
No. 30	9-33
No. 200	0-15

2.3 LOW STRENGTH MORTAR BACKFILL

A. Low Strength Mortar shall comply with ODOT Item 613.

B. Submit test data that demonstrates that the proposed mix has a strength of 50 to 100 PSI at 28 days.

C. Each load shall be tested with 3 cylinders for strength test broken at 3, 7, and 28 days until the Engineer is assured that the mix will be between 50 to 100 PSI at 28 days. Thereafter, one set of strength tests shall be taken every 50 CY.

It is intended that the sand be fine enough to stay in suspension in the mixture to the extent required for proper flow. The Engineer reserves the right to reject the sand if a flowable mixture cannot be produced.

D. Mortar Mix Proportioning

1. The initial trial mixture shall be as follows:

Quantity of Dry Materials per Cubic Yard	
Cement	100 lbs.
Fly Ash	250 lbs.
Sand (SSD)*	2700 lbs.
Water	500 lbs.

* saturated-surface dry

2. These quantities of materials are expected to yield approximately l cubic yard of mortar of the proper consistency. Adjustments of the proportions may be made providing the total absolute volume of the materials is maintained.

2.5 ACCESSORIES

A. Warning Tape
   1. Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility; colored as follows:
      a. Red: Electric.
      b. Yellow: Gas, oil, steam, and dangerous materials.
      c. Orange: Telephone and other communications.
      d. Blue: Water systems.
      e. Green: Sewer systems.

B. Detectable Warning Tape
   1. Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored as follows (per Section - 331113.01):
      a. Red: Electric.
      b. Yellow: Gas, oil, steam, and dangerous materials.
      c. Orange: Telephone and other communications.
      d. Blue: Water systems.
      e. Green: Sewer systems.

PART 3 - EXECUTION

3.1 PROTECTION

A. Excavation; Temporary Sheeting, Shoring, and Bracing
   1. All excavation shall be in accordance with the Occupation Safety and Health Administration (OSHA) regulations.
   2. The Contractor shall furnish and install adequate sheeting, shoring, and bracing to maintain safe working conditions, and to protect newly built work and all adjacent neighboring structures from damage by settlement.
   3. Bracing shall be arranged so as not to place a strain on portions of completed work until construction has proceeded enough to provide ample strength. Sheeting and bracing may be withdrawn and removed at the time of backfilling, but the Contractor shall be responsible for all damage to newly built work and adjacent and neighboring structures.

4. All sheeting shall be removed unless specifically authorized in writing by the Engineer to be left in place.

B. Construction Sheeting Left in Place

1. Any construction sheeting and bracing which the Contractor has placed to facilitate his work may be ordered in writing by the Engineer to be left in place. The right of the Engineer to order sheeting and bracing left in place shall not be construed as creating an obligation on his part to issue such orders. Failure of the Engineer to order sheeting and bracing left in place shall not relieve the Contractor of his responsibility under this Contract.

3.2 REPLACING, MOVING AND REPAIRING OF EXISTING UTILITIES

A. The Contractor shall:

1. replace, move, repair and maintain all utilities and all other structures encountered in the work
2. coordinate and communicate with applicable utility companies
3. repair all damage done to any of the said structures and appurtenances through his acts or neglect and shall keep them in repair during the life of this contract. The Contractor shall in all cases leave them in as good condition as they were previous to the commencement of the work and to the satisfaction of the Engineer.

3.3 DEWATERING

A. Drainage and Removal of Water

1. The Contractor shall dispose of water from the Work in a suitable manner without damage to adjacent property or structures.
2. The Contractor shall, when ordered by the Engineer, construct tight bulkheads across trench and provide pumps suitable for the removal of any water which may be encountered or which may accumulate in the trenches. Unless otherwise provided for in the Contract Documents, drainage water will not be permitted to flow through the conduit.
3. The trench shall be kept free from sewage and storm, surface, and subsurface water to at least 2 feet below the bottom of the excavation.
4. Where open water courses, ditches, or drain pipes are encountered during the progress of the Work, the Contractor shall provide protection and securing of the continuous flow in such courses or drains and shall repair any damage that may be done to them.

3.4 EXCAVATION CLASSIFICATION

A. All excavated materials are unclassified as defined in Article 1.3.

3.5 GENERAL EXCAVATION

A. All necessary excavation for buildings, structures, pavements, and site improvements shall be performed to accommodate the completion of all related Contract Work.

B. The Drawings show the horizontal and the lower limits of structures. The methods and equipment used by the Contractor when approaching the bottom limits of excavation shall be selected to provide a smooth surface and to prevent disturbing the soil below the bottom limits of excavation. All soil loosened during excavation shall be removed from the bottom of the excavation.

C. Conform to elevations and dimensions shown within a tolerance of plus or minus 0.10 feet, and extending a sufficient distance from footings and foundations to permit placing and removal of concrete formwork, installation of services, other construction, and for inspection.

D. Excavation which is carried below the bottom limits of structures shall be classified as Unauthorized Excavation, unless said excavation below bottom limits of structures has been authorized by the Engineer prior to each occurrence.

3.6 TRENCH EXCAVATION

A. Excavation for trenches in which pipelines, sewers, and conduits are to be installed shall provide adequate space for workmen to space and joint pipe properly, but in every case the trench shall be kept to a minimum width. The width of trench shall not exceed the limits shown on the Drawings.

B. Excavation shall be to the depth necessary for placing of granular bedding material under the pipe as shown on the Drawings. If over-excavation occurs, the trench bottom shall be filled to grade with compacted granular bedding material.

C. Trenching operations shall not be performed beyond the distance that will be backfilled and compacted the same day.

D. In general, backfilling shall begin as soon as the conduit is in approved condition to receive it and shall be carried to completion as rapidly as possible. New trenching shall not be started when earlier trenches need backfilling or the surfaces of streets or other areas need to be restored to a safe and proper condition.

3.7 EXCAVATION OF UNSUITABLE MATERIALS

A. Unsuitable materials existing below the Contract bottom limits for excavation shall be removed as directed by the Engineer. Such excavation shall not exceed the vertical and lateral limits as prescribed by the Engineer.

B. In utility trenches, the voids left by removal of unsuitable excavated material shall be filled with AASHTO M 43 No. 1 and No. 2 aggregate conforming to the material requirements of Article 2.1 of this Section.

C. In excavations other than utility trenches, the voids left by removal of unsuitable excavated material shall be filled with material consisting or either: (1) Special Backfill Material; (2) Class B concrete; or (3) Low Strength Mortar Backfill, whichever is ordered by the Engineer.

D. Removal of unsuitable excavated material and its replacement as directed will be paid on basis of Contract Conditions relative to Changes in Work unless specific unit prices have been established for excavation of unsuitable material.

3.8 DISPOSAL OF UNSUITABLE AND SURPLUS MATERIAL

A. It shall be the responsibility of the Contractor to dispose of all surplus material that cannot be used in backfill or embankments at his expense outside the limits of the project. Unsuitable excavated material, including rock or large boulders, shall be disposed of outside the limits of the project.

B. Surplus material may be wasted adjacent to or incorporated in the regular construction only when ordered in writing by the Engineer.

3.9 BACKFILL

A. Pipelines, Sewers and Conduits

1. All pipe shall have bedding extending the width of the trench with depth in conformance with the Drawings. The bedding material shall be thoroughly compacted by tamping until no further densification is possible.
2. Pipe cover material shall be used for filling above the pipe bedding along the sides of the pipe and to a height of twelve (12) inches over the top of the pipe. The pipe cover material shall be brought up evenly on both sides of the pipe to eliminate the possibility of lateral displacement of the pipe and shall be thoroughly compacted by tamping until no further densification is possible. Care shall be taken to spade the aggregate under the pipe haunch below the spring line.
3. All trenches and excavations shall be backfilled immediately after pipe is laid therein, unless otherwise directed by the Engineer.
4. After the pipe cover has been placed and compacted around the pipe as specified above, the remainder of the trench may be backfilled by machine. The backfill material shall be deposited in eight (8) inch horizontal layers, and each layer shall be thoroughly compacted to the specified density by approved methods before a succeeding layer is placed. In no case will backfilling material from a bucket be allowed to fall directly on a pipe and in all cases the bucket must be lowered so that the shock of the falling earth will not cause damage.

B. Structures

1. Backfilling shall not commence before concrete has attained specified strength. Do not use equipment for backfilling and compaction operations against structures that will overload the structure.
2. Backfilling around and over structures shall be carefully placed and tamped with tools of suitable weight to a point one (1) foot above the top of same. Additional backfill may be required to protect the structure from damage from heavy equipment. Backfill shall be placed in uniform layers not exceeding eight (8) inches in depth. Each layer shall be placed, then

carefully and uniformly compacted to the specified density so as to eliminate the possibility of displacement of the structure.

3. After the backfill has been placed and compacted around the structure to the height specified above, the remainder may be backfilled by machine. The backfill material shall be deposited in eight (8) inch horizontal layers, and each layer shall be thoroughly compacted to the specified density by approved methods before a succeeding layer is placed. In no case will backfilling material from a bucket be allowed to fall directly on a structure, and in all cases the bucket must be lowered so that the shock of the falling earth will not cause damage.

C. Where any new, proposed, or future pavement, driveway, parking lot, curb, curb and gutter, or walk is to be placed over a backfilled area, Special Backfill material shall be used for any portion of the trench falling within the pavement prism.

D. Where it is necessary to undercut or replace existing utility conduits and/or service lines, the excavation beneath such lines shall be backfilled the entire length with approved Granular Pipe Embedment Material compacted in place in eight (8) inch layers to the required density. The approved Granular Pipe Embedment Material shall extend outward from the spring line of the conduit a distance of two (2) feet on either side and thence downward at its natural slope.

3.10 SUBGRADE

A. All soil subgrade shall be prepared in accordance with this subsection.

B. Drainage

1. The surface of the subgrade shall be maintained in a smooth condition to prevent ponding of water after rains to insure the thorough drainage of the subgrade surface at all times.

C. Unsuitable Subgrade

1. Where unsuitable subgrade or subgrade not meeting the required bearing capacity is encountered in cuts, due to no fault or neglect of the Contractor, in which satisfactory stability cannot be obtained by moisture control and compaction, the unstable material shall be excavated to the depth required by the Engineer.
2. Suitable material required for the embankment to replace the undercut will be paid on basis of Contract Conditions relative to changes in Work.
3. Where soft subgrade in cuts is due to the failure of the Contractor to maintain adequate surface drainage as required in this article, or is due to any other fault or neglect of the Contractor, the unstable condition shall be corrected as outlined above at no expense to the Owner.

3.11 CONSTRUCTION WITH MOISTURE AND DENSITY CONTROL

A. All backfill and embankments, except rock embankments, shall be constructed using moisture and density control. All subgrade, except rock and shale in cut sections, shall be constructed using moisture and density control.

B. Backfill, embankment and subgrade material which does not contain sufficient moisture to be compacted in accordance with the requirements of Article 3.17 of this Section shall be sprinkled with water as directed by the Engineer to bring the moisture content to within the range of optimum plus or minus three (3) percent. Water shall be thoroughly incorporated into the material by means of discs or other approved equipment.

C. Backfill, embankment and subgrade material containing excess moisture shall be dried, prior to installation, to a moisture content not greater than three (3) percentage points above optimum, except that for material within the moisture content range specified herein that displays pronounced elasticity or deformation under the action of loaded construction equipment, the moisture content shall be reduced to optimum or below if necessary to secure stability. For subgrade material, these requirements for maximum moisture shall apply at the time of compaction of the subgrade and also at the time of placing pavement or subbase. Drying of wet soil shall be expedited by the use of plows, discs, or by other approved methods when so ordered by the Engineer.

3.12 COMPACTION REQUIREMENTS

A. The bottom of excavations upon which concrete foundations or structures are to be placed shall be compacted so as to obtain 100% of maximum dry density per ASTM D-698 in the top twelve (12) inches.

B. The top twelve (12) inches of stripped original subgrade and final subgrade shall be compacted to not less than 100% of maximum dry density per ASTM D-698.
   1. Subgrade under new, proposed, or future pavement shall be compacted 18 inches beyond the edge of pavement, paved shoulders or paved medians.

C. Compaction of subgrade for sidewalks (regardless of paving material) shall be 100% of maximum dry density per ASTM D-698 in the top six (6) inches.

D. Compaction of non-paved areas shall be 90% of maximum dry density per ASTM D-698.

E. Aggregate pipe embedment and aggregate backfill around structures shall be compacted to not less than 100% of maximum dry density per ASTM D-4253 and ASTM D-4254.

F. Final backfill shall be compacted to not less than 100% of maximum dry density per ASTM D-698.

G. Fill placed within the interior of structures shall be compacted to not less than 100% of maximum dry density per ASTM D-698.

H. Embankment shall be placed and compacted in layers until the density is not less than the percentage of maximum dry density indicated in the following table determined by ASTM D-698.

EMBANKMENT SOIL COMPACTION REQUIREMENTS

Maximum Laboratory Dry Weight Pounds/Cubic Foot	Minimum Compaction Requirements Percent Laboratory Maximum
90-104.9	102
105-119.9	100
120 and more	98

I. Test Sections
   1. If it is determined by the Engineer that the composition of the material is such that it cannot be tested for density using a nuclear densometer or other methods; or where, in the opinion of the Engineer, in-place compaction testing is not feasible; and if approved by the Engineer, the Contractor may construct a test section to demonstrate acceptable compactive effort in lieu of in-place compaction testing. Test sections shall be constructed at no additional cost to the Owner.
   2. The test section shall be completed by repeatedly compacting the material until no further density is achieved. This value shall be the Minimum Test Section Density (MTSD). The compaction equipment used to complete the test section shall be of suitable size to compact the material and shall be the same equipment used to compact the in-place material.
   3. The test section shall be constructed with moisture density control as specified in this Section.
   4. The material shall be compacted to at least 98% of the MTSD.
   5. Each lift of in-place fill or backfill shall be densified using a compactive effort equal to or greater than the effort applied to achieve the MTSD; i.e., if six passes were required to achieve MTSD, then each lift of material shall be compacted using six or more passes.
   6. Construct a new test section when, in the opinion of the Engineer, the fill or backfill material has changed character or when the supporting material has changed character.

3.13 GRADING

A. Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
   1. Provide a smooth transition between adjacent existing grades and new grades.
   2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.

B. Site Grading
   1. Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
      a. Lawn or unpaved areas shall be graded to plus or minus 1 inch.

b. Walks shall be graded to plus or minus 1 inch.

END OF SECTION 310000

SECTION 312323.14 – COMPACTED GRANULAR BACKFILL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

A. The Contractor shall furnish, place and compact all the materials needed.

PART 2 - PRODUCTS

2.1 MATERIAL

A. Aggregate shall be ODOT 304 crushed limestone. Crushed gravel or slag products are unacceptable.

B. Contractor shall submit current test reports for the lot(s) of the material to be supplied.

PART 3 - EXECUTION

3.1 PLACING AND COMPACTING

A. Compacted granular backfill shall be properly placed in layers sufficient to meet the compaction requirement of 100% of maximum laboratory dry density per ASTM D 698 throughout the entire layer and thoroughly compacted with mechanical compaction equipment with moisture adjustment as needed. Should after settlement occur, the Contractor must add and compact additional material, and he must maintain the backfill at the required finished grade or sub-grade until the project is satisfactorily completed and during the correction period.

B. Approved mechanical compaction equipment shall be used for tamping backfill. Flooding, jetting or puddling of backfill will not be permitted.

END OF SECTION 312323.14

SECTION 321000- PAVEMENT REPLACEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

A. The Contractor shall furnish all of the equipment, labor and materials necessary to install, replace, and/or restore existing pavement structures together with their respective appurtenances as shown on the plans and as specified herein. This work shall include all of the subgrade preparation, subbase, base, intermediate pavement course(s), and finish pavement courses together with curbing, guttering, tack and/or prime coating, sealing and other pertinent work as necessary to meet the conditions of this contract.

1.3 QUALITY ASSURANCE

A. In addition to requirements of these specifications, comply with manufacturer's instructions and recommendations for work.

1.4 REPAIR OR REPLACEMENT WORK

A. For the repair and/or replacement of all existing pavement structures and their respective appurtenances that are removed and destroyed or otherwise damaged by the Contractor in the course of his performance of the work required under this contract, the Contractor shall furnish all equipment, labor, and materials as necessary to properly restore to a condition equal to that at his entry, and to the satisfaction of the Engineer, the Ohio Department of Transportation, the County Engineer, City Engineer, all cinder, slag, gravel, water-bound macadam, bituminous macadam, asphalt and brick or concrete driveways, curbs, sidewalks and roadways in strict accordance with the drawings and as specified herein.

B. In general, this item will include concrete, steel reinforcement, brick, stone, slag, cinders, gravel, asphalt and other bituminous materials and curbs, gutters, driveway culverts, road and curb drains and the demolition, excavation and removal of existing driveways, sidewalks and roadways.

1.5 REFERENCE TO OTHER PARTS

A. Other sections of these specifications shall apply, as and where applicable to this section and such sections will be the same as though they were included in this section.

B. For all old work where pavement is being repaired and/or replaced as a result of damages occurring thereto during the course of the work of this contract, all clearing and grubbing, removal and storage of topsoil, excavation and/or placing of compacted fill and granular backfill, shall be done as required under other parts of these specifications.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Generally, for all repair and replacement work, all new materials shall match the existing and adjoining work in both composition and quality unless otherwise ordered, specified herein, and/or shown on the drawings. In any stone driveway or roadway, the material used for stone fill shall conform to the existing material.

PART 3 - EXECUTION

3.1 CONSTRUCTION

A. All pavement work shall be done in strict accordance with the specifications of the governmental body concerned and the latest ODOT specifications as applicable or at the direction of the Engineer.

B. All pavements disturbed by the Contractor's operations shall be relaid to the thickness of the adjoining pavement and, in all cases, the restoring of pavements, shall apply both to foundation courses and to the wearing surface.

C. Should cracks or settlements appear in adjoining pavements, the paving shall be removed to the extent necessary to secure firm and undisturbed bearing and shall be replaced in a satisfactory manner.

D. No permanent pavement shall be installed, repaired, and/or restored unless, or until, in the opinion of the Engineer, the condition of the backfill is such as to properly support the pavement.

E. Where new or replacement concrete pavement or base is placed adjacent to existing concrete pavement or base, contraction joints shall be provided in the new or replacement pavement so as to form a continuous joint with that in the existing pavement.

3.2 ROADWAY SUBGRADE

A. The entire area to be occupied by the roadways and parking areas shall be cleared, topsoil removed and stored, and the excavation or compacted fill made as required and brought to the proper cross-sections. Pipe trenches and other excavations shall be backfilled as required, and thoroughly compacted within the limits of the roadways or parking areas.

B. After the surface of the subgrade has been properly shaped and before any stone or slag is placed, the entire subgrade shall be thoroughly rolled and compacted to a depth of 12 inches under this section. Rolling shall be done with an approved type of self-propelled roller, weighing not less than ten (10) tons. All hollows and depressions which develop during the rolling shall be filled with acceptable materials, and the subgrade rerolled. The process of filling and rolling shall be repeated until no depressions develop, and the entire subgrade has been brought to a uniform condition of stability.

C. All places which, in the opinion of the Engineer cannot be properly rolled, shall be tamped with handheld mechanically or pneumatically powered tampers.

D. In making the compacted fill and in doing the final subgrade rolling, the Contractor shall see that the material to be compacted and/or rolled has the proper moisture content to secure maximum compaction. When, in the opinion of the Engineer, the material is too wet, the compacting shall be delayed until the material has dried sufficiently. When, in the opinion of the Engineer, the material is too dry, the material shall be sprinkled with water in an amount to secure the proper moisture content.

END OF SECTION 321000

SECTION 329200.19 – SEEDING AND MULCHING

PART 1 - GENERAL

1.1 SUMMARY

. Installation of seeded areas shall be to the extent shown on Contract Drawings and shall include supplying all seed, topsoil, soil conditioning materials, mulching materials and watering, and the incorporation of these materials into the work as specified.

A. The Contractor shall place topsoil at the depths specified in those areas requiring seeding. Topsoil shall be furnished by the Contractor.

1.2 SUBMITTALS

A. Product Data: For the following:

1. Provide copies of soils tests for both new topsoil (provided) and onsite topsoil for review and approval. This applies to all areas that require seeding, including reconditioned areas.

2. Provide location of properties from which topsoil is to be obtained, names and addresses of owners, depth to be stripped, and crops grown in the past 2 years.

3. Provide the name of the seed supplier, name and phone number, list of the seed, including varieties of seed, labels, and an analysis of the seed for review, 4 weeks prior to the start of seeding.

4. Provide soil amendments information based on soils test requirements.

5. Hydroseed mixture, mulch and application rates prior to performing the work.

1.1 QUALITY ASSURANCE

A. Any subcontracted restoration work shall be performed by a qualified firm specializing in landscape work.

B. The Contractor shall have a soils test done at his expense and analyzed by a state approved testing agency. Soil tests shall be done on both the topsoil stockpiled from the site and new topsoil brought to the site. A minimum of two (2) tests shall be done. The tests shall include percent organic matter, pH, Buffer pH, Phosphorus, Exchangeable Potassium, Calcium, Magnesium, Cation Exchange Capacity and Percent Base Saturation with recommendations for nitrogen, phosphate, potash, magnesium and lime based on plant type and use.

C. Seed: All seed specified shall meet O.D.O.T. specifications as to the percentage purity, weed seed, and germination. All seed shall be approved by the State of Ohio, Department

of Agriculture, Division of Plant Industry, and shall meet the requirements of these specifications.

D. Packaged Materials: Deliver packaged materials in containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery, and while stored at site.

1.4 PROJECT CONDITIONS

A. Utilities: Determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand excavate, as required. Maintain grade stakes set by others until removal is mutually agreed upon by parties concerned.

B. Excavation: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, such conditions shall be rectified by the Contractor before planting, with approval from the Owner's Representative.

C. Soil Stabilization: The Contractor shall provide permanent or temporary soil stabilization to denuded areas within fifteen (15) days after final grade is reached on any portion of the site. Any such area which will not be regraded for longer than fifteen (15) days shall also be stabilized. Soil stabilization includes any measures which protect the soil from the erosive forces of raindrop impact and flowing water. Applications include seeding and/or mulching, or the use of other erosion control measures as directed by the Owner's Representative. If necessary, the Contractor shall coordinate soil stabilization practices with the local Soil and Water Conservation District.

D. Spring-sown work shall be installed between April 1st and May 30th and Fall-sown work shall be installed between September 1st and October 15th. No permanent seeding shall take place between May 30th and September 1st and between October 15th and April 1st. The dates for seeding may be changed at the discretion of the Owner's Representative.

PART 2 - PRODUCTS

2.1 TOPSOIL

A. Topsoil shall be furnished by the Contractor. Stockpiled material, if any, shall be utilized prior to obtaining additional topsoil.

B. All topsoil shall conform to the U.S. Department of Agriculture soil texturing triangle and shall contain between 3% to 8% organic matter. Topsoil shall be loamy and not consist of more than 38% clay. New topsoil shall be screened to remove clay lumps, brush, weeds, litter, roots, stumps, stones larger than ½" in any dimension and any other extraneous or toxic matter harmful to plant growth.

New topsoil shall be obtained only from naturally well drained sites where topsoil occurs in a depth of not less than 4". Do not obtain from bogs or marshes.

C. Soil amendments shall be added according to the soils test requirements. Amendments can

include, but are not limited to fertilizer, lime, compost, sand, and organic matter. Organic matter shall consist of composted leaves or other approved material.

2.2 SEED

A. Seed shall be vendor mixed, delivered in original bags and shall be proportioned as follows:

Common Name	Proportion by Weight
Kentucky Blue Grass	50%
Perennial Rye	50%

2.3 MULCH

A. Mulch shall be clean straw free of seed and weed seed.

1. Anchoring for mulch shall be an ODOT specified SS-1 at 60 gal./ton non-toxic tackifier such as Hydro-stik, or equal, or by securing with a photo degradable netting.

B. If hydroseeding is used, wood fiber mulching material shall be used and shall consist of virgin wood fibers manufactured expressly from whole wood chips and shall conform to the following specifications.

- Moisture content	10.0% $\pm$ 3.0%
- Organic content	99.2% $\pm$ 0.8% O.D. Basis
- pH	4.8 $\pm$ 0.5
- Water holding capacity, minimum (grams of water per 100 grams of fiber)	1,000

Wood fiber mulching material shall be processed in such a manner as to contain no growth or germination inhibiting factors, and must contain a biodegradable green dye to aid in visual metering during application.

PART 3 - EXECUTION

3.1 PREPARATION - GENERAL

A. Rough grading to a depth necessary to accept the specified thickness of topsoil must be approved prior to placing topsoil.

B. Loosen subgrade, remove any stones greater than ½” in any dimension. Remove sticks, roots, rubbish, and other extraneous matter.

C. Spread topsoil to a minimum depth of 4 inches, to meet lines, grades, and elevations shown on plan, after light rolling and natural settlement. Remove sticks, roots, rubbish, stones greater than 1/2" in any dimension, and other extraneous matter. Topsoil shall be tilled thoroughly by plowing, disking, harrowing, or other approved methods. Add specified soil

amendments and mix thoroughly into the topsoil.

D. Preparation of Unchanged Grades: Where seed is to be planted in areas that have not been altered or disturbed by excavating, grading, or stripping operations, prepare soil for planting as follows: Till to a depth of not less than 6 inches. Apply soil amendments and initial fertilizers as specified. Remove high areas and fill in depressions. Till soil to a homogenous mixture of fine texture, free of lumps, clods, stones, roots and other extraneous matter. Soils test requirements apply here as well.

1. Prior to preparation of unchanged areas, remove existing grass, vegetation and turf. Dispose of such material outside of project limits. Do not turn existing vegetation over into soil being prepared for seed.

   If necessary, supply and install topsoil in areas where there is no topsoil left after vegetation has been removed.

2. Apply specified soil amendments at rates specified in the soils test and thoroughly mix into upper 2 inches of topsoil. Add topsoil if existing grade has less than 4" of topsoil. Delay application of amendments if planting will not follow within two (2) days.

E. Fine grade areas to smooth, even surface with loose, uniformly fine texture. Roll, rake, and drag lawn areas, remove ridges and fill depressions, as required to meet finish grades. Remove sticks, roots, rubbish, stones greater than 1/2" in any dimension, and other extraneous matter. Limit fine grading to areas which can be planted immediately after grading.

F. Moisten prepared areas before planting if soil is dry. Water thoroughly and allow surface moisture to dry before planting lawns. Do not create a muddy soil condition.

G. Restore areas to specified condition, if eroded or otherwise disturbed, after fine grading and prior to planting.

3.2 SEEDING

A. Do not use wet seed or seed that is moldy or otherwise damaged in transit or storage. Seed shall not be sown when the ground is frozen, muddy, or when weather conditions prevent proper soil preparation, interference with sowing and/or proper incorporation of seed into the soil.

B. Sow seed using a spreader or hydroseeder. Do not seed when wind velocity exceeds 5 miles per hour. Distribute seed evenly over entire area by sowing 3 lbs. per 1000 S.F. at right angles to each other. Total amount to equal a minimum of 6 lbs. per 1000 S.F.

C. For seed sown with a spreader, mulch shall be spread uniformly to form a continuous blanket at a rate of 100 lbs. per 1,000 S.F. Mulch shall be 1 1/2" loose measurement over seeded areas and shall be anchored.

D. Contractor has the option to hydroseed large lawn areas, using equipment specifically

designed for such application. The rate of application of wood fiber mulching materials is 40 lbs./1,000 S.F. Contractor shall not hydroseed within close proximity to buildings and structures, or when unfavorable wind conditions may blow the hydroseed material onto the structure. Contractor shall clean all areas not to be seeded of overspray.

E. The seeded area shall be watered, as soon as the seed is applied, at the rate of 120 gallons per 1000 square feet. The water shall be applied by means of a hydroseeder or a water tank under pressure with a nozzle that will produce a spray that will not dislodge the mulching material. Cost of this watering shall be included in the cost of seeding and mulching.

3.3 DORMANT SEEDING METHOD

A. Seeding shall not take place from October 15 through November 20. During this period prepare the seed bed, add the required amounts of lime and fertilizer, and other amendments, then mulch and anchor.

B. From November 20 through April 1, when soil conditions permit, prepare the seed bed, lime and fertilize, apply the selected seed mixture, mulch, and anchor. Increase the seeding rate by 50 percent.

3.4 RECONDITIONING EXISTING LAWNS

A. A soils test shall be required for existing lawns prior to any reconditioning.

B. Recondition all existing lawn areas damaged by Contractor’s operations including storage of materials and equipment and movement of vehicles. Also recondition existing lawn areas where minor regrading is required.

C. Provide soil amendments as called for in the soils test.

D. Provide new topsoil, as required, to fill low spots and meet new finish grades.

E. Cultivate bare and compacted areas according to the topsoil specifications.

F. Remove diseased and unsatisfactory lawn areas; do not bury into soil. Remove topsoil containing foreign materials resulting from the Contractor's operations, including oil drippings, stone, gravel, and other loose building materials.

G. All work shall be the same as for new seeding.

H. Water newly planted seed areas. Maintenance of reconditioned lawns shall be the same as maintenance of new lawns.

3.5 ESTABLISHMENT

A. Maintain work areas as long as necessary to establish a uniformly close stand of grass over the entire lawn area. A uniformly close stand of grass is defined as the seeded areas having 90%+ coverage of grass at 60 days after seeding. 90%+ coverage is defined as very little or no dirt showing when seeded area is viewed from directly overhead.

B. Maintain lawns by watering, fertilizing, weeding, mowing, trimming, and other operations such as rolling, regrading and replanting as required to establish a smooth acceptable lawn.

1. Mowing
   a. Mow lawn areas during the period of maintenance to a height of 2 inches whenever the height of the grass becomes 3 inches. A minimum of 3 mowings is required during the period of maintenance.
2. Refertilizing
   a. Distribute fertilizer on the seeded area between August 15 and October 15, during the period when grass is dry, and in accordance with the manufacturer's recommendations. The fertilizer shall be as specified in the soils test.
3. Reseeding
   a. Reseed with the seed specified for the original seeding, at the rate of 4 lbs. per 1,000 S.F. in a manner which will cause minimum disturbance to the existing stand of grass and at an angle of not less than 15 degrees from the direction of rows of prior seeding.
4. Watering

   a. The Contractor shall keep all work areas watered daily to achieve satisfactory growth. Water shall be applied at a rate of 120 gallons per 1,000 square feet. If water is listed as a pay item, it shall be separately paid for based on the actual amount of water used, measured in thousands of gallons.
5. Any mulching which has been displaced shall be repaired immediately. Any seed work which has been disturbed or damaged from the displacement of mulch shall be repaired prior to remulching.

3.6 INSPECTION AND ACCEPTANCE

A. When seeding work is complete and an acceptable stand of growth is attained, the Contractor shall request the Owner's Representative to make an inspection to determine final acceptance.

B. Acceptance shall be based upon achieving a vigorous uniformly stand of the specified grasses. If some areas are satisfactory and some are not, acceptance may be made in blocks, provided they are definable or bounded by readily identified permanent surfaces, structures, or other reference means. Partial acceptance decisions may be made by the Owner's Representative. Excessive fragmentation into accepted and unaccepted areas shall not be allowed. Unaccepted areas shall be maintained by the Contractor until acceptable.

C. No payment shall be made until areas are accepted.

D. All seeded areas shall be guaranteed for one full growing season to commence upon final acceptance of the areas.

END OF SECTION 329200.19

SECTION 330507.23 - HORIZONTAL BORING AND PIPE JACKING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

B. The bore route will be within the Railroad Right of Way. Refer to supplemental specification "*CE-8: Specifications for Pipeline Occupancy of Railroad Property"* for specific details pertaining to the boring work, casing pipe, material specifications and Railroad Standards.

1.2 DESCRIPTION OF WORK

A. The work under this section shall include all underground utility crossings where indicated on the contract drawings by boring a casing and placing the carrier pipe within the casing. It is intended that this section apply to all State highways, railroads, and other facilities or structures designated by the Engineer. This section shall also include all necessary excavation, water removal, casing and carrier pipe, and the furnishing of all labor, material, tools, equipment and accessories to complete the work as specified, shown on the contract drawings, or as directed by the Engineer.

B. The Contractor shall provide all shoring, blocking or other special supports required to maintain uninterrupted traffic flow, together with all watchmen, flagmen and other services necessary to complete the work.

1.3 QUALITY ASSURANCE

A. Boring shall follow the guidelines of "The Horizontal Earth Boring and Pipe Jacking Manual" published by the National Utility Contractor's Association.

1.4 JOB CONDITIONS

A. The Contractor shall provide a safe working condition for his personnel and the public with sheeting, if required, for the receiving and boring pits and include barricades around the pits.

1.5 SUBMITTALS

A. Certificates of compliance shall be submitted for casing pipe.

B. Plans and description of the boring arrangement to be used shall be submitted to the Engineer for approval and no work shall proceed until such approval is obtained.

1.6 ALTERNATIVES

A. The Contractor is not limited to any one method for boring. The following methods can be used:

1. Auger Boring.
2. Slurry Boring.
3. Hand Tunneling.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Casing pipe shall conform to ASTM A139, or API 5L, Grade B, and shall be the size and have wall thickness indicated on the drawings.

B. Carrier pipe shall conform to drawings.

C. Drilling fluid shall consist of a mixture of water and a gel-forming colloidal material such as bentonite or approved equal.

D. Materials used for sheeting, sheet piling, cribbing, bracking, shoring and underpinning shall be in good serviceable condition, and timbers shall be sound, free from large or loose knots and of proper dimensions, as required by the Occupational Safety and Health Administration regulations.

2.2 EQUIPMENT

A. All equipment used in the execution of work covered under the utility permit shall have the built-in capacity, stability and necessary safety features required to fully comply with the specifications and requirements without showing evidence of undue stress or failure.

B. It shall be the responsibility of the Contractor to assure that the equipment to be used in the crossing operation is in sound operating condition. Backup equipment may be required where job site conditions indicate that severe damage to the roadway or a hazardous condition may result in the event of an equipment breakdown and where the condition of the equipment to be used indicated that routine component replacement or repair will likely be necessary during the crossing.

C. Jacks shall be hydraulic, mechanical or manual power units providing horizontal thrust for pushing casing and carrier pipe. Jacks shall have sufficient power to satisfactorily complete the proposed crossing according to manufacturer's recommendations.

D. Dewatering equipment shall be used to evacuate ground and surface water from the boring and receiving pit areas.

1. When water is known or expected to be encountered, pumps of sufficient capacity to handle the flow shall be maintained at the site and they shall be in constantly attended operation on a 24-hour basis until their operation can be safely halted.

When dewatering, close observation shall be maintained to detect any settlement or displacement of the roadway.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Excavation of the receiving and boring pits shall adequately and safely accommodate the boring equipment, materials and workmen.

B. The face and sides of each pit shall be properly sloped or sheeted and care shall be taken to ensure the safety of the workmen, the integrity of the surface being bored and the traveling public.

C. When augers, or similar devices, are used for pipe emplacement, the front of the pipe shall be provided with mechanical arrangements or devices that will positively prevent the auger and cutting head from leading the pipe so that there will be no unsupported excavation ahead of the pipe.

D. The auger and cutting head arrangement shall be removable from within the pipe in the event an obstruction is encountered.

E. The over-cut by the cutting head shall not exceed the outside diameter of the pipe by more than one-half (1/2) inch. The face of the cutting head shall be arranged to provide reasonable obstruction to the free flow of soft or poor material.

F. Preparation of the pit floors, whether of dirt, stone or concrete slab, shall be determined by the job conditions. Dewatering provisions shall be considered and implemented as required.

G. If an obstruction is encountered during installation to stop the forward action of the pipe, and it becomes evident that it is impossible to advance the pipe, operations will cease and the pipe shall be abandoned in place and filled completely with grout at the Contractor's expense. The new boring location, direction and depth shall be chosen by the Owner.

H. The casing shall be bored in a straight line and on a uniform and level grade.

I. After the casing is installed, the carrier pipe shall be pushed through on skids to prevent injury to pipe or joints. Every precaution shall be taken to insure that the joints are and will remain in perfect condition.

J. Bored or jacked installations shall have a bore hole essentially the same as the outside diameter of the pipe. If voids should develop or if the bored hole diameter is greater than the outside of the pipe by more than approximately one (l) inch, grouting or other methods approved by the Engineer shall be employed to fill such voids. The cost of such grouting shall be at the Contractor's expense.

3.2 GROUTING

A. Where grouting is required in accordance with the specifications of the Owner it shall be as follows:

1. A uniform mixture of grout shall be placed under pressure between the casing and carrier pipe. Grouting shall start at the lowest point and proceed upwards simultaneously on both sides of the carrier pipe. A plug shall be installed in each grout hole as the grouting is completed.
2. Grouting shall be kept as close to the heading as possible. Grouting shall proceed as directed by the Engineer.

3.3 BLASTING

A. Blasting will not be permitted.

3.4 PERMITS AND INSURANCE

A. Permits

1. The Owner will obtain all permits necessary for working within the right-of-way. The Contractor shall make, with the proper authority, satisfactory arrangements for the actual work of this Item.

B. Insurance

1. The Contractor shall be responsible for obtaining any and all insurance required by the proper authorities to perform this work at his own expense. The Contractor shall save harmless the Owner, and any all public agencies affected by this Contract for work performed under this Item from any claims, damages or injury and shall immediately make whatever repairs are necessary to correct any damage to any highway facility and/or right-of-way.

3.5 METHOD OF MEASUREMENT

A. Measurement for a horizontal boring shall be along the centerline of the pipe, measured from the face of the boring pit to the face of the receiving pit. Where the boring terminates at a manhole, the measurement shall be the center of manhole.

3.6 BASIS OF PAYMENT

A. The unit price per lineal foot of horizontal boring stipulated in the proposal shall include earth excavation, disposal of soil, pit construction, ventilating, lighting, pumping, and the furnishing and placing of all casing pipe and/or tunnel lining, sheeting, shoring, bracing, blocking, sealing, grout, concrete, the specified carrier pipe, joint materials, sand or grout fill, the concrete cradle required to support the installed carrier pipe for the total width and length of the pits, and the furnishing of all labor, materials, tools and appliances necessary to complete the work as specified or shown.

END OF SECTION 330507.23

SECTION 331113.01 – WATER UTILITY DISTRIBUTION SYSTEM

PART 1 – GENERAL

1.1 SUMMARY

A. Furnishing all labor, materials, tools, equipment, and services for all waterlines as shown on the Drawings.

B. Although such is not specifically indicated, furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a functional and complete installation.

1.2 RELATED DOCUMENTS AND SECTIONS

A. Drawings and general provisions of the Contract, including General Conditions, Supplementary Conditions (if included), and Division 1 Specifications Sections, apply to this Section.

B. Section 013543 – Environmental Protection

C. Section 013319 – Field Testing Reporting

D. Section 016600 – Product Handling and Protection

E. Section 031000 – Earthwork

1.3 PRODUCTS INSTALLED BUT NOT FURNISHED UNDER THIS SECTION

A. Granular pipe bedding and cover material specified in Section 310000 – Earthwork.

B. Special backfill material specified in Section 310000 – Earthwork.

1.4 DEFINITIONS

A. Bedding: Material placed under, beside and directly over pipe for the full width of the trench up to 6 inches over the top of the pipe barrel prior to subsequent backfill operations.

1.5 SUBMITTALS

A. Manufacturer's Affidavit: The manufacturer shall furnish an affidavit indicating that all pipe, fittings, valves, fire hydrants, and appurtenances have been manufactured and tested in accordance with the requirements of the applicable referenced Standards. A copy of the affidavit indicating the Project on which the material is to be used, shall be forwarded to ENGINEER prior to construction.

B. Method of construction with detailed drawings and written descriptions of the entire construction procedure to insert the pipe, and connections to water services, fire hydrants, and intersecting water mains. Drawings shall show, but are not limited to, excavation locations, access pits, dimensions, shoring, method of dewatering, adjacent utilities, and traffic control.

1.6 REFERENCES

A. AWWA C104 - Cement-Mortar Lining for Ductile-Iron Pipe and Fittings

B. AWWA C105 - Polyethylene Encasement for Ductile-Iron Pipe Systems

C. AWWA C111 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings

D. AWWA C213 - Fusion-Bonded Epoxy Coatings and Linings for Steel Water Pipe and Fittings

E. AWWA C301 - Prestressed Concrete Pressure Pipe, Steel-Cylinder Type

F. AWWA C400 - C400-03: AWWA Standard for Asbestos-Cement Pressure Pipe, 4 In. through 16 In. (100 mm through 400 mm), for Water Distribution Systems

G. AWWA C502 - Dry-Barrel Fire Hydrants

H. AWWA C504 - Rubber-Seated Butterfly Valves

I. AWWA C509 - Resilient-Seated Gate Valves for Water Supply Service

J. AWWA C515 - Reduced-Wall, Resilient-Seated Gate Valves for Water Supply Service

K. AWWA C550 - Protective Interior Coatings for Valves and Hydrants

L. AWWA C600 - Installation of Ductile-Iron Mains and Their Appurtenances

M. AWWA C651 - Disinfecting Water Mains

N. AWWA C800 - Underground Service Line Valves & Fittings

O. AWWA C810 – Replacement and Flushing of Lead Service Lines

P. ASTM A36 - Standard Specification for Carbon Structural Steel

Q. ASTM A47 - Standard Specification for Ferritic Malleable Iron Castings

R. ASTM A48 - Standard Specification for Gray Iron Castings

S. ASTM A126 - Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings

T. ASTM A181 - Standard Specification for Carbon Steel Forgings, for General-Purpose Piping

U. ASTM A183 - Standard Specification for Carbon Steel Track Bolts and Nuts

V. ASTM A307 -Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength

W. ASTM B62 - Standard Specification for Composition Bronze or Ounce Metal Castings

X. ASTM B88 - Standard Specification for Seamless Copper Water Tube

Y. ASTM B124 - Standard Specification for Copper and Copper Alloy Forging Rod, Bar, and Shapes

Z. ANSI B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings

AA. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft3 (600 kN-m/m3))

1.7 QUALITY ASSURANCE

A. Comply with all provisions of Section 014323 – Qualifications of Tradesmen.

B. Comply with all provisions of Section 014126 – General Regulations and Permits.

C. Field samples shall comply with Section 013319 – Field Test Reporting and Section 013326 – Product Testing and Certifying.

D. Before and during installation, the Contractor shall comply with provisions under Section 013119 – Project Meetings.

E. All pipes, fittings, valves, fire hydrants and appurtenances shall be appropriately marked for identification purposes. The materials and methods of manufacture, and completed pipes, fittings, valves, and appurtenances shall be subject to inspection and rejection at all times. OWNER and ENGINEER have the right to make inspections.

1.8 PROJECT CONDITIONS

A. Environmental Requirements
   1. Comply with all provisions of Section 013543 – Environmental Protection at all times.

B. Existing Conditions

   1. Verify locations of underground utilities.
   2. Protect existing structures and utilities from damage. Repair if damaged by this work.
   3. Do not change pipe sizes without securing written approval of Engineer.

C. Field Measurements
   1. If it becomes necessary to change location of waterlines due to underground utility interference, secure approval of Engineer.

2. If Contractor initiated, make changes approved by the Engineer without added cost to Owner.

1.9 DELIVERY STORAGE AND HANDLING

A. Deliver products to the site, store and protect under provisions of Section 016600 – Product Handling and Protection.

B. Comply with all provisions of Section 013543 – Environmental Protection

1.10 SEQUENCING AND SCHEDULING

A. Perform no pipe work in fill areas until embankment or fill has been completed to at least two (2) feet above proposed top of pipe and fill has been properly compacted.

PART 2 – PRODUCTS

2.1 WATER MAIN PIPE AND FITTINGS

A. PVC/PVCO Pipe and Ductile Iron Fittings

3. Pipe shall be designed in accordance with AWWA C909, Pressure Class 235 for 6-inch through 12-inch diameter; cast iron equivalent O.D.; integral wall-thickened bell end type incorporating elastomeric gasket; furnished in nominal 20-foot laying lengths.
4. Fittings: AWWA C110 or C153, AWWA C111 rubber gasket joints, with C153 fittings to be polyethylene encased when buried.
5. Joints: Push-on, with joints within the lengths noted on Drawings to be restrained type joints.
    a. Restrained mechanical joints shall be MEGALUG or retainers with Mega-Bond Coating System, as manufactured by EBAA Iron, Inc., or as approved, of ductile iron and with a working pressure at least equal to that of the PVC pipe on which to be installed, and a minimum safety factor of 2:1.
    b. Restrained push-on Joints shall be Certa-Lok restrained joints, PVC C900, DR-18 or Approved equal.

2.2 VALVES

A. Materials

1. Valves bodies shall be of either gray or ductile cast iron and shall have the name, monogram, or initials of the manufacturer cast thereon.
2. Valves shall have nonrising stems, open by turning left or counter-clockwise and be provided with either a 2-inch square nut for buried valves or handwheel for exposed valves unless otherwise noted. The direction of opening shall be indicated by an arrow cast on the body and/or the actuator.
3. All body bolts and nuts shall be bronze or stainless steel for buried, submerged or nonprotected applications and Type 304 stainless steel for exposed or interior applications that will receive protective finish coatings.

B. Tapping sleeves

1. Type: Mechanical joint made in two halves for assembly around main.
2. Branch Flange: Accommodate tapping valve.
3. Materials: Cast iron with gaskets extending entire length of sleeve to form water-tight joints.

C. Butterfly Valves

1. AWWA C504, Class 150B; designed specifically for buried service; stainless steel shafts; mechanical joint ends when buried, flanged ends when in manholes, grooved or shouldered ends to receive mechanical groove type couplings; fully gasketed, grease-packed, water-tight, self-locking actuator with standard AWWA operating nut and mechanical stop limiting devices, and handwheel and extension stem and guides when in a manhole; bolts, nuts, and washers used by manufacturer to assemble valves to be Type 316 stainless steel.
2. Butterfly valves with mechanical joints shall be complete with a long, solid mechanical joint cast iron sleeve and a cast iron filler piece as shown, to permit installation in a manhole such that the sleeve can be slid over the pipe within the manhole and the filler piece and pipe removed to permit removal of the valve without disturbing the manhole.
3. Butterfly valves with grooved or shouldered ends shall be complete with Victaulic Style 44, or as approved, mechanical groove type couplings rated for a working water pressure of 175 psi. Couplings shall be complete with approved gaskets and plated hardware and shall be completely factory-finished.
4. If required, provide an operator with an extension stem such that operating nut is located approximately 4 feet below grade. Center extension stem in the valve box by approved stem guides
5. Valves shall be as manufactured by; Henry Pratt Co., Clow, Kennedy or an approved equivalent.

D. Gate or Tapping Valves

1. AWWA C509 cast iron, bronze-mounted. or AWWA C515 ductile iron, bronze-mounted, polyethylene encased when buried installation; designed for 200 psi working water pressure; mechanical joint ends, AWWA C111, except for tapping valves; non-rising stem type with standard AWWA nut; stem seal consisting of at least two Buna-N rubber O-rings; open by turning left (counterclockwise); bolts, nuts, and washers used by manufacturer to assemble valves to be Type 304 stainless steel.
2. The valve shall have a smooth, unobstructed waterway free from any sedimentation pockets. Valves shall provide a 100% port of nominal pipe size when fully open. Tapping valve port shall be sized to permit a full pipe port tap.
3. Verify direction of valve with OWNER.
4. Body style shall be mechanical joint type for buried service, flange joint type for exposed service and when required, to include special end connections for tapping requirements or otherwise if indicated on the contract drawings.
5. Stuffing boxes shall be O-ring seal type with two (2) rings located in stem above thrust collar.
6. Thrust bearings shall be of the low friction torque reduction type, located both above and below the stem collar.
7. Valves shall be as manufactured by; Mueller Co., American-Darling, Clow, M & H, Stockham, U.S. Pipe or an approved equivalent.

E. Protective Coatings

1. All iron parts of valve assemblies shall be painted before leaving the shop.
2. All exterior and internal waterway ferrous surfaces of each valve, except finished or bearing surfaces shall be shop painted with a liquid or powder epoxy coating of approximately 10 mils dry film thickness conforming to AWWA C550.

F. Extension Stems and Stem Guides
1. When required by drawings, schedule or project details, provide an extension stem made of cold-rolled steel material and the same size as the stem of the valve it operates. If the extension is more than 8 ft. long, intermediate stem guides shall be installed and supported from the wall by suitable brackets at a maximum spacing of 8 ft.
2. Brackets and stem guides shall be made of cast iron and fully adjustable. The guide block shall be bronze bushed where it contacts the extension stem. Stem guides shall be as manufactured by the Eddy Valve Co., Rodney Hunt, or equal. Secure stem guides to walls with stainless steel bolts. In the event of off-set of misalignment, provide off-set extension road with universal end fittings at valve actuator and stem drop connection.
3. Extension stem shall have connecting socket for 2-inch square nut and pin socket to lock on valve operating nut.

G. Valve Boxes

1. Valve boxes shall be cast iron, 5-1/4" shaft, three-piece screw type, adjustable boxes. The top section is to have a drop lid of which to be marked for service which it is used cast thereon. The cover and boxes shall be round pattern.

2. Provide proper base size and shape to straddle the valve bonnet without touching or being supported by the valve mechanism. Use No. 6 base size for 6-inch and 8-inch gate valves or typical butterfly valve operators, No. 160 oval base size for 12-inch and larger gate valves or other size necessary to suit a particular valve manufacturer's requirements.

3. Extension sections shall be provided where the depth of trench is such that they are needed to bring the top of the box to finished grade. The valve box shall be installed so that it is perfectly vertical and centered on the valve operating nut.

2.3 SERVICE CONNECTION ASSEMBLIES

A. Assemblies include a service saddle, meter and meter pit box. The meter and meter pit boxes will be provided to the Contractor by the Village of Antwerp Water Department. The contractor will provide all other necessary piping, fittings, appurtenances, and connections to replace the existing service connections along the roadway. All service connections shall be rated at 150 psi working water pressure.

B. Service saddle shall be designed for type of pipe to be installed on, and to accept the corporation stop; Ford Meter Box Co. 202BS, A.Y. McDonald Mfg. Co., Mueller Co. M-16000, or an approved equivalent.

C. Provide the Vadle Curb Box Lock as supplied by the JRC Supplies LLC to support each service curb box.

D. All piping shall be in accordance with ASTM D2737 ¾" CTS PE plastic pipe and ASTM D2683 fittings.

2.4 FIRE HYDRANT ASSEMBLIES

A. Includes fire hydrant, watch valve and valve box, piping, and appurtenances.

B. Fire Hydrant:
1. Manufacturers: American Flow Control, Kennedy, Mueller A-423, or as approved, to match rest of water system
2. AWWA C502, compression type, 5-1/4-inch valve opening, open by turning left (counterclockwise); traffic model with frangible barrel section and stem coupling; positive operating drain valve installed in open position; 6-inch mechanical joint base, designed so water hammer will be prevented when properly operated. If drain valve, install with drain valve plugged.
3. Two 2-1/2-inch hose nozzles, National Standard Threads (NST), and one 4-1/2 inch connect pumper with 4-inch Storz quick connect port.
4. Suitable for setting in trenches of depths and in locations shown; CONTRACTOR responsible for determining hydrant depth of bury based on locations shown.
5. Verify that the direction of opening, hydrant pumper nozzle, operating nut, outlet nozzle cap nuts and hose threads conform to those in the system before the new hydrants are shipped.
6. All project hydrants shall have a field coat of manufacturers recommended and AWWA approved paint applied by the contractor. Color to be red. Submit a shop drawing indicating paint color prior to ordering for review by the Owner. If the coating on the hydrant is damaged before the installation, then the hydrant shall be touched up and repainted.

C. Watch Valves and Valve Boxes: Watch valves and valve boxes shall be gate valves and valve boxes as specified in Article 2.2, with valves to have ends suitable for receiving the spigot end of 6 inch anchoring pipe.

D. Piping:
1. Ductile Iron Pipe: AWWA C150, AWWA C151; asphaltic material, or AWWA C116 fusion-bonded epoxy exterior coating, AWWA C104 cement mortar with seal coat, or AWWA C116 fusion-bonded epoxy interior lining.
2. AWWA C110 or C153 mainline tees with standard mechanical joint branch for connecting to anchoring pipe and fittings, and mechanical joint anchoring type branch when connecting to a watch valve; coated and lined as specified for pipe. C153 fittings to be polyethylene encased when buried.
3. Anchoring pipe, plain end mechanical joint type incorporating an integral cast shoulder and follower gland.
4. Anchoring Pipe Manufacturers: American Cast Iron Pipe Company, Clow Corporation, United States Pipe and Foundry Company, or as approved.

2.5 POLYETHYLENE ENCASEMENT

A. AWWA C105, 8 mil linear low-density polyethylene tube or 4 mil high density, cross-linked polyethylene tube; 2 inch wide plastic-backed, adhesive tape, bond to both metal surfaces and polyethylene film.

2.6 TRACE TAPE AND WIRE

A. Inert bonded layer plastic with metallized foil core, 6 inches wide, resistant to alkalis, acids and other destructive chemical components encountered in soils; APWA Uniform Color Code, brightly colored; imprinted indicating pipe type; Griffolyn Company Terra Tape "D", Seton Name Plate Corporation, or an approved equivalent.

B. Tracer wire shall be XHHW, No. 6 braided wire for tracing.

C. Use with all water main pipe materials.

2.7 PIPE INSULATION

A. Cellular glass insulation with an aluminum jacket; thickness as required to prevent freezing at 0 degrees F, but in no case less than 1 inch; suitable for burial; Pittsburgh Corning Corporation FOAMGLAS, or as approved.

2.8 JOINT BOLTS AND NUTS

A. Unless otherwise specified or noted, bolts and nuts on buried piping shall be low alloy steel cathodic to pipe with a minimum yield strength of 45,000 psi, and all other bolts and nuts shall be low carbon steel, ASTM A307, Grade B, zinc-plated.

2.9 SPARE PARTS

A. Hydrant Wrenches: Provide 2 spare hydrant wrenches with pentagon hydrant nut operator on handle, constructed of stainless steel, and a minimum length of 36-inches

B. Valve Keys: Provide 2 spare valve keys with standard AWWA valve nut operator. Valve keys shall be 8 feet long and have a 4 ft long turn handle centered at top.

PART 3 – EXECUTION

3.1 ALIGNMENT AND GRADE

A. Horizontal and Vertical Control
   1. All horizontal and vertical control required for the complete layout and performance of the Work under this contract shall be done by a registered surveyor at the Contractor's expense, and any observations by the Engineer of the Contractor's methods will not relieve the Contractor of his responsibility.
   2. The Contractor shall be solely responsible for the accuracy of all horizontal and vertical control.

B. Alignment and grade shall be established by means of a laser beam.

3.2 PREPARATION

A. String pipe sections along the route of the mains so as to interfere least with pedestrian and vehicular traffic and to protect the pipe.

B. Excavate trench for Work of this Section; follow Section 310000.

C. Location of service connections and insertion valves indicated are approximate. Final locations will be established during construction by OWNER.

D. Do not install service connections until new mains have been successfully tested, disinfected, and placed in service.

E. Prior to ordering tapping sleeve assembly, expose existing main and verify circumference of existing pipe.

F. Prior to ordering insertion valve and sleeve assembly, expose existing main at point of installation and verify circumference, actual caliper diameter and roundness of existing pipe. In addition, identify the exterior condition of the pipe with respect to pitting, scaling, electrolysis, or other defects which would affect manufacturing dimensions or exact location of the insertion.

G. For river crossing pipe, inspect trench just prior to laying pipe to ensure that it is in suitable condition.

3.3 BEDDING

A. Place bedding material at trench bottom and shape for accurate placement and proper support of pipe.

B. Place in 6 inch layers, loose measurement, and compact by hand or mechanical tamping to not less than 95 percent of maximum density as determined in accordance with ASTM D698 (Standard Proctor).

C. Carefully place and tamp so as not to damage or displace joints or pipe. Do not drop material directly on pipe.

D. Maintain optimum moisture content of bedding material to attain required compaction density.

E. Construct thrust blocks at fittings, dead ends, and valves as shown. Place against firm, undisturbed soil. Provide straps and anchors as indicated; repair cuts and other damage to galvanized surfaces by applying two coats of cold galvanizing compound. Securely strap or block plugs and caps. Thrust blocks shall meet all applicable requirements of ODOT Item 638:
   1. Concrete: Class C conforming to ODOT 499.
   2. Straps and Anchors for Thrust Blocks: Galvanized steel.
   3. Cold Galvanizing Compound: ZRC Products Company, or as approved.

3.4 PIPE INSTALLATION

A. The Contractor shall furnish all of the proper tools and equipment required for the safe, proper handling and laying of all pipe, fittings, and specials that are to be installed in this work. All storage, handling, laying, and backfill methods shall be performed so as to avoid damaging either the interior or the exterior surfaces of all pipe fittings, specials, joint materials, or other appurtenances, and any such damage shall be remedied at the Contractor's expense.

B. Before any pipe is lowered into the trench, it shall be inspected for damage, and any unsatisfactory lengths shall be rejected. Cast metal pipe and fittings shall be inspected for cracks by ringing with a light hammer while suspended. The interior and exterior of each pipe length used shall be cleaned as necessary to remove all dirt or other foreign material before it is inspected. The interior of the pipe shall be kept clean until the work is accepted.

C. No pipe shall be laid in water, mud or when trench conditions or weather is unsuitable for such work.

D. If mud, surface water, leaves and/or other debris have been permitted to enter the strung-out pipe, the inside shall be cleaned with a strong hypochlorite solution after all such foreign materials are completely cleaned from the pipe and before the pipe is lowered into the trench.

E. Pipe shall not be pushed off the bank nor shall it be permitted to fall into the trench. Each type of pipe, fitting, special or other appurtenances shall be handled in strict accordance with recommendations of its respective manufacturer.

F. No rocks, stones, metal, concrete, bricks, pavement pieces, wood, soil lumps or other hard materials too big to pass through a six (6") inch screen shall be permitted within six (6") inches of the pipe after it is laid in the trench. Any pipe endangered by such debris shall be subject to removal and disposal at the Contractor's expense.

G. When pipe laying is not in progress, the open ends of installed pipe shall be closed by appropriate means to prevent the entrance of dirt and water. In the event ground water, sewage water or other potential contaminants enter any portion of the pipeline, after it is laid, cleaning and preliminary disinfection with a strong hypochlorite solution shall be done.

H. Provide non-conducting dielectric connections wherever jointing dissimilar metals.

I. Use suitable fittings, usually 1/8 bends, when abrupt grade changes of the pipe are necessary to avoid existing utilities or other obstructions, so as to secure and easy flow of liquid and to provide sufficient cover below same unless noted otherwise.

J. Install pipe to allow for expansion and contraction without stressing pipe or joints.

K. Deflect pipe joints in strict accordance with the pipe manufacturer’s instructions. For river crossing pipe, in no case shall joint deflection exceed 15 degrees during installation and 12 degrees after installation unless otherwise approved by manufacturer.

L. With push-on joints, wipe surfaces that contact rubber gasket clean and dry just prior to making joint. Use lubricant in accordance with the manufacturer's instructions when making joint.

M. With mechanical joints, brush surfaces that contact rubber gasket with soapy water to remove all sand and grit just prior to making joint.

3.5 VALVES

A. Installation
   1. Valves shall be carefully handled and placed so as not to permit any damage to the interior coatings, disc or seat. Internal type lifting devices shall not be permitted. Do not use handwheels or stems as lifting of rigging points.
   2. All valves shall be carefully installed in their respective positions free from distortion and stress. Connecting joints shall conform to applicable requirements of the specifications.
   3. Stem guides shall be accurately aligned.
   4. If the valve box is tipped or otherwise not centered on the valve operating nut or not installed at the proper elevation, the Contractor shall, at his own expense, make whatever correction is required to remedy the defect promptly, upon notice to do so by the Engineer.

B. Testing
   1. All valves shall be tested in place by the Contractor as far as practicable under conditions for the pipelines, in which they are placed, and defects revealed in valves or connections under test shall be corrected at the expense of the Contractor to the satisfaction of the Engineer.

C. Operation and Maintenance Manuals
   1. Prior to or with the delivery of equipment, the manufacturer shall provide copies of an operation and maintenance manual including storage, installation, start-up, operating and maintaining instructions, and a complete parts and recommended spare parts list. The O & M Manuals shall be in compliance with the General Requirements of these specifications.

3.6 SERVICE CONNECTION ASSEMBLIES

A. Install assemblies and meter boxes as shown or noted; comply with component manufacturer's instructions.

B. For existing service connections to be abandoned on existing water mains to remain in service, dig up (expose) and turn off the existing corporation stop at the connection to the existing main.

3.7 SERVICE CONNECTION PIPE

A. Installation pipe under street and highway pavements by pushing or boring, with no excavation closer than 5 feet to edge of pavement. No joints permitted within these limits.

B. When boring, if opening exceeds by 2 inches the outside diameter of the pipe installed, the opening around the pipe shall be filled with grout.

C. For existing service connections, intercept or extend as shown or noted to connect to new water mains.

3.8 JOINTING

A. The particular method of making up pipe joints shall be governed by the type of pipe material and type of joint in accordance with the drawings and/or specifications.

3.9 CONNECTION TO AND INSERTIONS INTO EXISTING MAINS

A. Existing mains into which valves are to be inserted cannot be shut down or taken out of service. The entire operation of installing the valves shall be accomplished below 100 psig at the point of installation.

B. Connect new mains to existing mains using proper fittings and in a manner acceptable to OWNER and ENGINEER.

C. Expose existing mains at connection points 10 days prior to making connections to determine elevation, verify type of pipe, confirm outside diameter of pipe, and identify type of restraints existing.

D. No cut-ins or connections to existing mains shall be made unless at least 48 hours notice is given to OWNER and ENGINEER.

E. Plan all connecting work to reduce number of shutoffs.

F. Two days prior to shutting valves on existing lines, notify all affected property owners, local official in charge of the water works system, and ENGINEER of such shutoff.

G. Keep shutoff time to a minimum and do at off-peak hours.

H. A representative of OWNER shall operate existing valves. CONTRACTOR shall not operate existing valves.

I. OWNER and ENGINEER assume no responsibility for any delay occasioned by special requirements or conditions which must be met in making connections.

J. Take extreme care in making connections to prevent contamination of existing mains.

K. Before making cut-ins or connections to existing mains, wash all fittings, valves, and pipe with clean water, and then disinfect by washing with a chlorine solution having a residual chlorine strength of not less than 50 ppm.

L. Plugs removed from existing mains that are not damaged may be reused within the Project, and those remaining after completion of construction shall remain the property of OWNER.

M. Connections to AC pipe shall be made with appropriate fittings specifically designed for AC pipe connections, and shall be acceptable to OWNER. All connections to AC pipe shall be via pad adapters. AC pipe must not be cut with a saw. All cuts shall be accomplished by snap cut.

3.10 ANCHORAGE

A. All hydrants, plugs, caps, tees and bends shall be provided with a reaction backing or shall be restrained by attaching suitable metal rods, clamps, anchored fittings or harnessed joints, as shown on the plans or as specified so as to prevent movement.

B. Reaction backing shall be of concrete, with steel reinforcement as required, unless otherwise shown on the drawings. Backing shall be placed between solid ground and the fitting or other part of the pipeline to be anchored; the area of bearing on the pipe and on the ground in each instance shall be that as indicated on the plans. The backing shall be so placed unless otherwise directed, that the pipe and fitting joints will be accessible for repair.

C. Steel tie rods or clamps of adequate strength to prevent movement may be used instead of concrete backing. Steel tie rods or clamps shall be used to connect the hydrant watch valves to the main and to connect the hydrant to the water valves when shown on the drawings. Steel rods or clamps shall be painted with three coats of an approved bituminous paint or coat tar enamel.

3.11 BACKFILLING

D. Backfilling shall be accomplished in a two-step procedure as follows: 1) partial backfill before leakage tests, and 2) completion of backfill after tests. Departure from this procedure due to traffic or other conditions shall be approved by the Engineer.

3.12 MAINTENANCE OF EXISTING DITCHES

A. The Contractor shall use the utmost care in maintaining ditches and other waterways, and, if either bottoms or banks of such ditches are disturbed, they shall be promptly restored and maintained for the life of the guaranty period. Similar care shall be used in preventing damage to existing pavement by caving of trench walls and undermining such pavement. If pavement is damaged, the Contractor shall repair same at his own expense.

3.13 CLEARING SITE AND RESTORING DAMAGED SURFACES

A. Upon completion of the backfill work, the Contractor shall immediately remove and dispose of all surplus materials including dirt and rubbish.

B. Unless otherwise called for on the plans, the Contractor shall replace all pavement, sidewalks, sod, or other surfaces disturbed to a condition equal to that existing before the work was started, furnishing all materials, labor, equipment, etc., at no additional cost to the Owner.

3.14 LEAKAGE TESTS

A. All pipeline construction shall be subjected to hydrostatic leakage testing of each valve section, as it is completed, unless otherwise directed by the Engineer. All pipes, valves, fittings, etc. shall be laid in such a manner as to leave all joints watertight.

B. Each section of pipe being tested shall be filled slowly with water, and, before applying the specified test pressure, all air shall be expelled from the pipe. The method of obtaining and placing test water(s) into the pipeline shall be approved by the Engineer.

C. The test shall be observed by the Engineer or his designate. The Owner will furnish a pressure gauge for measuring the pressure on the water main. The Contractor shall furnish a suitable pump, pipes, bulkheads and all appliances, labor, fuel, and other appurtenances necessary to make these tests.

D. The test pressure shall be maintained for sufficient length of time to allow for a thorough examination of joints and elimination of leakage where necessary. The pipeline shall be made absolutely tight under the test pressure.

E. The Contractor shall drain each section of the waterline piping after it has been tested. If the drains are connected to valve or drain vaults, then, within a reasonable period of time after the test has been completed, the Contractor shall pump all water out of the vaults.

F. In cold weather, immediately after testing a section of the waterline piping, the Contractor shall open all valves, air cocks, by-passes, and drains; shall drain that section of the pipeline, including the bonnets of all valves contained therein, and shall take all other precautions necessary to prevent injury due to freezing to the water main, piping and appurtenances.

G. Every precaution must be taken to remove, valve-off, or otherwise protect delicate control equipment in or attached to pipelines to prevent damage or injury thereto.

H. Leakage is defined as the quantity of water that must be supplied into the newly laid pipe, or any valved section thereof, as required to maintain the specified leakage test pressure after the pipe has been filled with water and the air expelled as herein required.

I. In calculating leakage, the Engineer will not make allowance for any leakage at the valves, the removable bulkheads, etc.

J. The evaluation of actual leakage to standard pressure leakage is calculated by the application of the ratio determined from the square root of respective pressures, other factors being equal.

K. The test pressure shall be 250 psi unless otherwise specified elsewhere in these specifications. Testing procedure shall be as specified herein for the particular pipe material contained in the section tested and shall be subject to modification as required by a particular pipeline material specification or part thereof, as contained elsewhere in these specifications.

L. For cast iron pipe (CIP) or ductile iron pipe (DIP), AWWA C600 shall govern the test, except that the allowable leakage rate shall be 12 gpd per mile of pipe per inch of diameter.

M. All defective materials and construction found in the pipeline as a result of leakage tests shall be corrected by removal of the defective materials and reconstruction with sound materials and construction. The entire section shall then be retested in accordance with the foregoing.

N. Any testing performed without the knowledge of the Engineer shall not be considered a test for the purpose of this specification.

O. The lack of hydrants, branch shutoff valves, or any other attachments to the line being tested shall not preclude the testing of each valved section as it is completed. In the event that hydrants, branch shutoff valves or any other attached appurtenances are not available for installation prior to testing of each valved section, then plugs or other approved means of containing line pressure must be utilized so as to test each valved section of main line as it is completed. A retest of each valved section will then be necessary after all appurtenances are installed. There will be no additional payment for any such retests.

P. The Contractor shall provide all pressure test equipment. The Owner shall provide all test water required and shall provide test gauges.

3.15 DISINFECTION

A. Prior to disinfection, all pipeline construction shall be flushed to remove any foreign material. Flushing shall be performed after completion and approval of the leakage tests. The minimum requirements for flushing are as follows:

Pipe Size	Minimum GPM Required
6"	220
8"	390
10"	610
12"	880
14"	1,200

Flushing at these rates shall be continued for at least five (5) minutes. In the event the foregoing requirements cannot be met due to the Owner's facilities being inadequate, alternate rate(s) and duration(s) of flushing shall be used.

B. Disinfecting water mains shall be in accordance with AWWA C651 and as specified herein.

C. The following disinfectants may be used: Chlorine or chlorine water; calcium hypochlorite; sodium hypochlorite solution, or chlorinated lime-water mixture. Chlorine shall be applied at one extremity of a pipe section via a corporation stop (installed in the top of the pipe by the Contractor) and bled at the opposite extremity of a properly segregated section. Precautions shall be taken to prevent dosed water from flowing into the potable water supply. All high points on the section treated shall be properly vented for air escape.

D. The rate of applying the disinfectant shall provide at least 25 ppm (mg per liter) chlorine dose at the outlet end of the line section being treated. The disinfecting period shall be twenty-four (24) hours, and, at the end of this period, a chlorine residual of at least 10 mg per liter shall exist at the outlet end of the line.

In the event of unfavorable or unsanitary conditions of installation, poor packing, or high pH, the period of disinfection may be extended. For shorter periods of disinfection, higher dosages shall be required.

E. Sterilizing water shall be disposed of in a satisfactory manner by the Contractor. If the foregoing disinfection procedure fails to provide thorough disinfection of the line, it shall be repeated as necessary in the pipeline for a period of 20 - 30 days after it is placed into operation.

F. Tests for efficacy of sterilization shall be made by the Owner, and repeated sterilization shall be carried out by the Contractor when required.

G. Contractor shall provide all disinfectants and disinfection equipment. Owner shall provide all test waters needed.

END OF SECTION 331113.01

SPECIFICATIONS

FOR

PIPELINE OCCUPANCY

OF

RAILROAD

PROPERTY

INDEX

1.0 GENERAL..... 4

1.1 Scope..... 4
1.2 Definitions..... 4
1.3 Application for Occupancy..... 4
1.4 Right of Entry..... 5
1.5 Site Inspection..... 5
1.6 Information Required for Submission..... 6
1.6.1 Plans and Computations..... 6
1.6.2 Specifications..... 7
1.7 Notification to Proceed with Construction..... 8

2.0 GENERAL REQUIREMENTS..... 8

2.1 Use of Casing Pipe..... 8
2.2 Location of Pipeline on the Right-of-Way..... 8
2.3 Depth of Installation..... 9
2.4 Pipelines Within Limits of a Dedicated Highway..... 9
2.5 Modification of Existing Facilities..... 10
2.6 Abandoned Facilities..... 10
2.7 Conflict of Specifications..... 10
2.8 Insulation..... 10
2.9 Corrosion Protection and Petroleum Leak Prevention.... 10

3.0 SOIL INVESTIGATION..... 10

3.1 General..... 10
3.2 Location..... 11
3.3 Sampling..... 11
3.4 Boring Logs..... 11
3.5 Additional Information..... 12

4.0 DESIGN REQUIREMENTS..... 12

4.1 Design Loads..... 12
4.1.2 Railroad Loads..... 12
4.2 Casing Pipe..... 13
4.2.1 General Requirements..... 13
4.2.2 Steel Pipe..... 14
4.2.3 Ductile Iron Pipe..... 15
4.2.4 Corrugated Steel and Corrugated Structural Steel Plate Pipe..... 16
4.2.5 Steel Tunnel Liner Plates..... 16
4.2.6 Reinforced Concrete Pipe..... 17
4.2.7 Concrete Encasement..... 17
4.3 Carrier Pipe..... 17
4.3.1 Pipelines Carrying Flammable Substances..... 18
4.4 End Seals..... 18

4.5 Vents..... 19
4.6 Signs..... 19
4.7 Shut-off Valves..... 20
4.8 Cathodic Protection..... 20
4.9 Manholes..... 20
4.10 Box Culverts..... 20
4.11 Drainage..... 21
4.12 Pipelines on Bridges..... 21

5.0 CONSTRUCTION REQUIREMENTS..... 22

5.1 Method of Installation..... 22
5.1.1 General Requirements..... 22
5.1.2 Open Cut..... 22
5.1.3 Boring..... 23
5.1.4 Jacking..... 24
5.1.5 Tunneling..... 24
5.2 Grouting..... 25
5.3 Soil Stabilization..... 26
5.4 Dewatering..... 26
5.5 Safety Requirements..... 26
5.6 Blasting..... 27
5.7 Temporary Track Supports..... 27
5.8 Protection of Drainage Facilities..... 27
5.9 Support of Excavation Adjacent to Track..... 28
5.9.1 Launching and Receiving Pits..... 28
5.9.2 Parallel Trenching and Other Excavation..... 28
5.10 Inspection and Testing..... 28
5.11 Reimbursement of Railroad Costs.....
29

APPENDIX

PLATE I Pipe Data Sheet..... 30
PLATE II Plan (crossing)..... 32
PLATE III Profile (crossing)..... 33
PLATE IV Plan & Profile (longitudinal occupancy)..... 34
PLATE V Section (longitudinal occupancy)..... 35
PLATE VI Plan & Sect. (highway crossing under RR bridge)..... 36
PLATE VII Elev. & Sect. (pipe on highway bridge over RR)..... 37
PLATE VIII Test Boring Log..... 38
PLATE IX Lateral Pressure Diagram..... 39
PLATE X Folding of Plans..... 40

Publication Standards Sources..... 41

1.0 GENERAL

1.1 Scope

a. This specification shall apply to the design and construction of pipelines carrying flammable or non-flammable substances and casings containing wires and cables across and along Railroad property and facilities. This specification shall also apply to tracks owned by others (sidings, industry tracks, etc.) over which Railroad operates its equipment.

b. It is to be clearly understood that Railroad owns its right-of-way for the primary purpose of operating a Railroad. All occupancies shall therefore be designed and constructed so that rail operations and facilities are not interfered with, interrupted or endangered. In addition, the proposed facility shall be located to minimize encumbrance to the right-of-way so that the Railroad will have unrestricted use of its property for current and future operations.

1.2 Definitions

a.	Railroad	-	
b.	Chief Engineer	-	Railroad's Roadmaster or his designated representative.
c.	Owner (Applicant)	-	Individual, corporation or municipality desiring occupancy of Railroad property.
d.	Professional Engineer	-	Engineer licensed in the state where the facilities are to be constructed.
e.	Carrier Pipe	-	Pipe used to transport the product.
f.	Casing Pipe	-	Pipe through which the carrier pipe is installed.

1.3 Application for Occupancy

a. Individuals, corporations or municipalities desiring occupancy of Railroad property by pipeline occupations must agree, upon approval of the engineering and construction details by the Chief Engineer, to execute an appropriate Railroad occupational agreement and pay any required fees and/or rentals specified therein.

b. The application for an occupancy shall be by letter giving the following:

(1) Full name of Owner.

(2) Complete mailing address of the applicant.

(3) Name and title of person who will sign the agreement.

(4) The State in which the applicant is incorporated.

c. All applications shall be accompanied with three (3) copies of all design and construction plans and three (3) copies of all specifications and engineering computations for the proposed occupancy. On extensive projects, only those plans involving work on or affecting Railroad property and operations shall be submitted. Included shall be a plan showing the extent of the total project upon which that portion of the work affecting the Railroad is clearly defined.

d. All of the above plans, specifications and computations must be prepared by and bear the seal of a Professional Engineer.

1.4 Right of Entry

a. No entry upon Railroad property for the purpose of conducting surveys, field inspections, obtaining soils information or any other purposes associated with the design and construction for the proposed occupancy, will be permitted without a proper entry permit prepared by the Chief Engineer, or his designated representative. The applicant must pay the associated fees and execute the entry permit.

b. It is to be clearly understood that the issuance of an entry permit does not constitute authority to proceed with any construction. Construction can not begin until a formal agreement is executed by the Railroad and the Owner receives permission, from the designated inspection agency of Railroad, to proceed with the work.

1.5 Site Inspection

a. For longitudinal occupancy of the Railroad property a site inspection along the proposed pipeline route may be required before final design plans are prepared. When a site inspection is required, the applicant and/or his engineer must meet with representatives of the Chief Engineer's Office to view to entire length of the proposed occupancy.

b. Prior to the site inspection the applicant must submit the following information:

(1) A plan view of the proposed route showing all tracks, both Railroad right-of-way lines and all other facilities located on the right-of-way. The distance from the proposed pipeline to the adjacent track and to the right-of-way lines must be shown.

(2) A complete "Pipe Data Sheet". (See Plate I).

(3) Typical cross sections along the proposed route. (See Plate V).

c. Site inspections for pipe crossings are not required unless, in the opinion of the Chief Engineer, the size and location of the facility warrant an inspection.

1.6 Information Required for Submission

1.6.1 Plans and Computations

a. Plans for proposed pipeline occupancies shall be submitted to and approved by the Chief Engineer prior to Railroad's issuance of an agreement and start of construction.

b. Plans are to be prepared in sizes as small as practical and shall be folded, individually, by the applicant to an 8 1/2 inch and 11 inch size, as shown on Plate X, prior to submission. Where more than one plan is involved, the folded plans shall be assembled into complete sets by the applicant before submission. Failure of the applicant to comply with these requirements may be sufficient cause for rejection of the application.

c. Plans shall be drawn to scale and shall include the following (See Plates I to VII):

(1) Plan view of proposed pipeline in relation to all Railroad facilities and facilities immediately adjacent to Railroad including, but not limited to, tracks, buildings, signals, pole lines, other utilities and all other facilities that may affect or influence the pipeline design and construction. (See Plate II).

(2) The location (in feet) of the pipe from the nearest Railroad Milepost and/or from the centerline of a Railroad bridge, giving the Railroad bridge number.

(3) In all cases, the name of the State and County in which the proposed facilities are located must be shown. In States where Townships, Ranges and Sections are used, show the distance in feet to the nearest Section line and identify the Section number, Township and Range.

(4) The profile of the ground above the centerline of the pipe, from field survey, showing relationship of the pipeline and/or casing pipe to the ground levels, the tracks and other facilities. (See Plate III).

For longitudinal occupations, the profile of the adjacent track, or tracks, shall be shown. (See Plate IV).

(5) All Railroad property lines indicated by dimensions, in feet, to the centerline of adjacent track as well as the overall width of the Railroad right-of-way.

If the pipeline is in a public highway, the limits of the dedicated highway right-of-way, as well the limits of any paving, sidewalks etc., shall be defined, by dimensions in feet, from the centerline of the dedicated right-of-way.

(6) The angle of the crossing in relation to the centerline of the track(s).

(7) On pipelines having valves, the distance in feet along the pipeline from the crossing to the nearest valves and/or control stations.

(8) A separate "Pipe Data Sheet" (See Plate I) shall be submitted on 8 1/2 inch by 11 inch sheet size for each crossing.

d. The plan shall be specific, on Railroad property and under tracks that are not on Railroad property, as to:

(1) The method of installation. (See Section 5.1).

(2) The size and material of the casing pipe.

(3) The size and material of the carrier pipe.

These items can not have an alternative and any application that is received that indicates options in any of the above items will not be processed.

e. Once the application has been approved by the Chief Engineer, no variance from the plans, specifications, method of installation, construction, etc., as approved in the occupancy document, will be considered or permitted without the payment to Railroad of additional fees for the re-processing of the application.

f. All plans and computations associated with the work under the agreement shall be prepared by, and bear the seal of, a Professional Engineer. If not so imprinted, the application will be given no further consideration. This requirement also applies to all data submitted by the Owner's contractor. Contractor's plans and computations which are not stamped will be returned and construction will not be permitted to proceed.

1.6.2 Specifications

a. Project specifications, for all work on and affecting the Railroad right-of-way, shall be included with the submission. All pertinent requirements of this document shall be included.

1.7 Notification to Proceed with Construction

a. After approval of the engineering plans and specifications and execution of the occupational agreement, the Owner will be notified of the appropriate Railroad Area Engineer's Office which must be contacted prior to start of construction. The Area Engineer's Office will provide the Railroad's inspection of the project and coordinate all other construction aspects of the project which relate to Railroad (flagging, track work, etc.).

b. The Area Engineer's Office must be notified a minimum of fourteen (14) working days prior to desired start of construction.

2.0 GENERAL REQUIREMENTS

2.1 Use of Casing Pipe

a. A casing pipe will be required for all pipeline crossings carrying oil, gas, petroleum products, or other flammable or highly volatile substances under pressure, and all non-flammable substances which, from their nature or pressure, as determined by the Chief Engineer, might cause damage if escaping on or near Railroad property.

b. Pressure pipelines which do not cross under the track but are located within 25 feet of the centerline of any track or closer than 45 feet to nearest point of any bridge, building or other important structure shall be encased.

c. The casing pipe shall be laid across the entire width of the Railroad's right-of-way, plus three (3) feet on both sides of the Railroad's right of way, except where a greater length is required to comply with Section 4.2.1 f. of this specification, even though such extension is beyond the right-of-way.

2.2 Location of Pipeline on the Right-of-Way

a. Pipelines laid longitudinally on Railroad's right-of-way shall be located as far as practicable from any tracks or other important structures and as close to the Railroad property line as possible. Longitudinal pipelines must not be located in earth embankments or within ditches located on the right-or-way.

b. Pipelines shall be located, where practicable, to cross tracks at approximate right angles to the track, but preferably at not less that 45 degrees.

c. Pipelines shall not be placed within a culvert, under Railroad bridges, nor closer than 45 feet to any portion of any Railroad bridge, building, or other important structure, except in special cases, and then by special design, as approved by the Chief Engineer.

d. Pipelines shall not be located within the limits of a turnout when crossing the track.

e. Where possible, pipelines shall not be located within the limits of a grade crossing when open cut is the method of installation.

f. Pipelines carrying liquefied petroleum gas shall, where practicable, cross the Railroad where tracks are carried on embankment.

2.3 Depth of Installation

a. Pipelines placed under Railroad track(s) and across the Railroad's right-of-way shall be not less than 5-1/2 feet from base of rail to top of pipe at its closest point, except that under sidings or industry tracks this distance may be 4-1/2 feet as approved by the Chief Engineer. On other portions of the right-or-way, where the pipe is not directly beneath any track, the depth from ground surface or from bottom of ditch to top of pipe shall not be less than three (3) feet. Where three (3) feet of cover can not be provided from bottom of ditch, a six (6) inch thick concrete slab shall be provided over the pipeline for protection.

b. Pipelines laid longitudinally on Railroad's right-of-way, 50 feet or less from centerline track, shall be buried not less than five (5) feet from ground surface to top of pipe for pipelines carrying oil, gas, petroleum products, or other flammable or highly volatile substances under pressure and all non-flammable substances which by their nature or pressure, in the judgment of the Chief Engineer, may be hazardous to life or property. For pipelines carrying water, sewage and non-flammable substances, the distance from surface of ground to top of pipe may be four (4) feet.

c. Where the pipeline is laid more than 50 feet from centerline of track, the minimum cover shall be at least three (3) feet.

2.4 Pipelines within Limits of a Dedicated Highway

a. Pipelines within the limits of a dedicated highway are subject to all the requirements of this specification and must be designed and installed in accordance with them.

b. The limits of the dedicated highway (right-of-way) must be clearly shown on the plans.

c. Construction can not begin until an agreement has been executed between Railroad and the Owner and proper notification has been given to the Railroad's Area Engineer. (See Section 1.7).

2.5 Modification of Existing Facilities

a. Any replacement or modification of an existing carrier pipe and/or casing shall be considered as a new installation, subject to the requirements of this specification.

2.6 Abandoned Facilities

a. The owner of all abandoned pipe crossings and other occupancies shall notify the Chief Engineer, in writing, of the intention to abandon.

b. Abandoned pipelines shall be removed or completely filled with cement grout, compacted sand or other methods as approved by the Chief Engineer.

c. Abandoned manholes and other structures shall be removed for a minimum distance of two (2) feet below existing grade and completely filled with cement grout or compacted sand.

2.7 Conflict of Specifications

a. Where laws or orders of public authority prescribe a higher degree of protection than specified herein, then the higher degree so prescribed shall be deemed a part of this specification.

2.8 Insulation

a. Pipelines and casings shall be suitably insulated from underground conduits carrying electric wires on Railroad property.

2.9 Corrosion Protection and Petroleum Leak Prevention

a. Pipelines on the Railroad property that carry petroleum products or hazardous liquids shall be designed in accordance with current federal, state and/or local regulations that mandate leak detection automatic shutoff, leak monitoring, and sacrificial anodes and/or exterior coatings to minimize corrosion and prevent petroleum releases.

3.0 SOIL INVESTIGATION

3.1 General

a. For all pipe crossings sixty (60) inches in diameter and larger under tracks, and at other locations the Chief Engineer may direct, test borings or other soil investigations, approved by Railroad, shall be made to determine the nature of the underlying material. (See Section 1.4 relative to procedures).

b. For pipe crossings less than sixty (60) inches in diameter under tracks, and at other location as the Chief Engineer may direct, test boring or other approved investigations may be required when, in

the judgment of the Chief Engineer, they are necessary to determine the adequacy of the design and construction of the facilities.

3.2 Location

a. Borings shall be made on each side of the tracks, on the centerline of the pipe crossing, and as close to the tracks as practicable. (See Section 1.4 relative to procedures).

b. Test boring logs shall be accompanied with a plan, drawn to scale, showing the location of the borings in relation to the track(s) and the proposed pipe.

3.3 Sampling

a. Test borings shall be made in accordance with current ASTM Designation D 1586 except that sampling must be continuous from the ground surface to five (5) feet below the proposed invert unless rock is encountered before this depth. Where rock is encountered it is to be cored using a Series "M" Double Tube Core Barrel, with a diamond bit, capable of retrieving a rock core at least 1 5/8" in diameter. Individual core runs are not to exceed five (5) feet in length.

3.4 Boring Logs

a. Test boring logs shall comply with Plate VIII and clearly indicate **all** of the following:

(1) Boring number as shown on the required boring location plan.

(2) Ground elevation at each boring using same datum as the pipeline construction plans.

(3) Engineering description of soils or rock encountered.

(4) Depth and percent recovery of all soil samples.

(5) Depth from surface for each change in strata.

(6) Blows for each six (6) inches of penetration for the standard penetration test described in ASTM D 1586.

(7) Percent recovery and Rock Quality Designation (RQD) for all rock cores.

(8) Depth to ground water while sampling and when it has stabilized in the bore hole.

b. The location of the carrier pipe and/or casing pipe shall be superimposed on the boring logs before submission to the Chief Engineer.

c. All borings shall be sealed, for their full depth, with a 4-3-

1 bentonite-cement-sand grout after accurate ground water readings have been taken and recorded.

d. Soil samples taken from auger vanes or return washwater are not acceptable.

3.5 Additional Information

a. When directed by the Chief Engineer, additional borings may be required for the purpose of taking undisturbed thin-wall piston samples or Dennison type samples for laboratory testing to determine the index and engineering properties of certain soil strata.

4.0 DESIGN REQUIREMENTS

4.1 Design Loads

a. The dead load of the earth shall be considered as 120 pounds per cubic foot unless soil conditions warrant the use of a higher value.

4.1.2 Railroad Loads

a. The Railroad live load used shall be a Cooper E-80 loading with 50% added for impact. The values shown in Table 1 shall be used for the vertical pressure on a buried structure for the various heights of cover.

Table 1

Live loads, including impact for various heights of cover for a Cooper E-80 loading.

Height of Cover (FT)	Load (LB/SQ FT)
2	3800
5	2400
8	1600
10	1100
12	800
15	600
20	300
30	100

b. To determined the horizontal pressure caused by the Railroad loading on a sheet pile wall or other structure adjacent to the track the Boussinesq analysis shall be used. The load on the track shall be taken as a strip load with a width equal to the length of the ties, (8'-6"). The vertical surcharge, q (psf), caused by each axle, shall be uniform and equal to the axle weight divided by the tie length and the axle spacing, (5'-0"). for the E-80 loading this results in:

$$q = 80{,}000 / (8.5 \times 5) = 1882 \text{ psf.}$$

The horizontal pressure due to live load surcharge at any point on the wall is p and can be calculated by the following:

$$p = (2q/\pi)(\beta - \sin\beta\,(\cos 2\,))$$ (See PLATE IX)

c. The vertical and horizontal pressures given above shall be used unless an alternate design method is approved by the Chief Engineer. Proposals to use an alternate design method must include acceptable references and a statement explaining the justification for choosing the alternate method.

4.2 Casing Pipe

4.2.1 General Requirements

a. Casing pipe shall be so constructed as to prevent leakage of any substance from the casing throughout its length, except at ends of casing where ends are left open, or through vent pipes when ends of casing are sealed. Casing shall be installed so as to prevent the formation of a waterway under the Railroad, and with an even bearing throughout its length, and shall slope to one end (except for longitudinal occupancy).

b. The casing pipe and joints shall be of metal and of leakproof construction when the pipeline is carrying oil, gas, petroleum products, or other flammable or highly volatile substances under pressure.

c. The inside diameter of the casing pipe shall be such as to allow the carrier pipe to be removed subsequently without disturbing the casing or the roadbed.

For steel pipe casings, the inside diameter of the casing pipe shall be at least two (2) inches greater than the largest outside diameter of the carrier pipe joints or couplings, for carrier pipe less than six (6) inches in diameter; and at least four (4) inches greater for carrier pipe six (6) inches and over in a diameter.

d. For flexible casing pipe, a minimum vertical deflection of the casing pipe of three (3) percent of its diameter, plus 1/2 inches, shall be provided so that no loads from the roadbed, track, traffic or casing pipe itself are transmitted to the carrier pipe. When insulators are used on the carrier pipe, the inside diameter of the flexible casing pipe shall be at least two (2) inches greater than the outside diameter of the carrier pipe for pipe less than eight (8) inches in diameter; at least 3-1/4 inches greater for pipe eight (8) inches to 16 inches, inclusive, in diameter; and at least 4-1/2 inches greater for pipe 18 inches and over in diameter.

e. In no event shall the casing pipe diameter be larger than is necessary to permit the insertion of the carrier pipe.

f. Casing pipe under Railroad tracks and across Railroad's right-

of-way shall extend the **Greater** of the following distances, measured at right angle to centerline of track:

(1) Across the entire width of the Railroad right-of-way and extending not less than 2 1/2 feet beyond said right-of-way.

(2) Three (3) feet beyond ditch line.

(3) Two (2) feet beyond toe of slope.

(4) A minimum distance of 25 feet from each side of centerline of outside track when casing is sealed at both ends, but not less than 2 1/2 feet beyond said right-of-way.

(5) A minimum distance of 45 feet from centerline of outside track when casing is open at both ends.

(6) Beyond the theoretical Railroad embankment line. This line begins at a point, on existing grade, 10'-0" horizontally from centerline track and extends downward on a 1-1/2 (H) to 1(V) slope. (See Plate III).

g. If additional tracks are constructed in the future, the casing shall be extended correspondingly at the Owner's expense.

4.2.2 Steel Pipe

a. Steel pipe may be installed by open cut, boring or jacking.

b. Steel pipe shall have a minimum yield strength of 35,000 psi. The ASTM or API specification and grade for the pipe is to be shown on the Pipe Data Sheet (Plate I).

c. Joints between the sections of pipe shall be fully welded around the complete circumference of the pipe.

d. Steel pipes with a minimum cover of 5'-6" shall have a minimum wall thickness as shown in Table 2, unless computations indicate that a thicker wall is required.

Table 2

Nominal Diameter (Inches)	Coated or Cathodically Protected Nominal Thickness (Inches)	Uncoated and Unprotected Nominal Thickness (Inches)
10 and under	0.188	0.188
12 and 14	0.188	0.250
16	0.219	0.281
18	0.250	0.312
20 and 22	0.281	0.344
24	0.312	0.375
26	0.344	0.406
28	0.375	0.438
30	0.406	0.469
32	0.438	0.500
34 and 36	0.469	0.532
38	0.500	0.562
40	0.531	0.594
42	0.562	0.625
44 and 46	0.594	0.657
48	0.625	0.688
50	0.656	0.719
52	0.688	0.750
54	0.719	0.781
56 and 58	0.750	0.812
60	0.781	0.844
62	0.812	0.875
64	0.844	0.906
66 and 68	0.875	0.938
70	0.906	0.969
72	0.938	1.000

e. Coated steel pipe that is bored or jacked into place shall conform to the wall thickness requirements for uncoated steel pipe since the coating may be damaged during installation.

f. Smooth wall steel pipes with a nominal diameter over 72 inches will not be permitted.

4.2.3 Ductile Iron Pipe

a. Ductile iron pipe shall be installed by open cut only.

b. Ductile iron pipe shall conform to the requirements of ANSI A21.51/AWWA C-151, Class 56.

c. The pipe shall have mechanical or push on type joints.

4.2.4 Corrugated Steel and Corrugated Structural Steel Plate Pipe

a. Corrugated steel pipe and corrugated structural steel plate pipe may be used for a casing only when placed by the open cut method. Jacking or boring through the Railroad embankment is not permitted.

b. Pipe shall be bituminous coated and shall conform to the current American Railway Engineering Association Specifications Chapter 1, Part 4.

c. Corrugated steel pipe shall have a minimum sheet thickness as shown in Table 3. Corrugated structural steel plate pipe shall have a minimum plate thickness of 0.168 inches (8 gage). If computations indicate that a greater thickness is required, the thicker sheet or plate shall be used.

Table 3

Pipe Diameter (inches)	Sheet Thickness (inches)	(gage)
12 to 30	0.079	14
36	0.109	12
42 to 54	0.138	10
60 to 120	0.168	8

4.2.5 Steel Tunnel Liner Plates

a. Liner plates shall be installed by the tunneling method as detailed in Section 5.1.5 in this specification.

b. Tunnel liner plates shall be galvanized and bituminous coated and shall conform to current AREA Specification Chapter 1, Part 4.17. If the tunnel liner plates are used only to maintain a tunneled opening until the carrier pipe is installed, and the annular space between the carrier pipe and the tunnel liner is completely filled with cement grout within a reasonably short time after completion of the tunnel, then the tunnel liner plates need not be galvanized or coated.

c. Tunnel liner plates are to be a minimum of 12 gage and shall be fabricated from structural quality, hot-rolled, carbon-steel sheets or plates conforming to ASTM Specification A 569.

d. The following liner plate information must be shown on the Pipe Data Sheet (Plate I):

(1) Number of flanges (2 or 4).

(2) Width of plate.

(3) Whether plate is smooth or corrugated.

4.2.6 Reinforced Concrete Pipe

a. Reinforced concrete pipe shall be installed by the open cut or jacking method.

b. Reinforced concrete pipe may be used for a casing provided the pressure in the carrier pipe is less than 100 psi.

c. Pipe placed by open cut shall be installed in accordance with AREA Chapter 8, Part 10, Section 10.4 except that backfill and compaction shall be in accordance with Section 5.1.2 of this specification.

d. Pipe jacked into place shall have tongue and groove joints and shall be installed in accordance with Section 5.1.4 of this specification.

e. Reinforced concrete pipe shall conform to the current ASTM Specification C-76, Class V, Wall C.

4.2.7 Concrete Encasement

a. At locations where the installation is by open cut and a casing pipe is required, but can not be installed due to elbows or other obstructions, concrete encasement may be used when approved by the Chief Engineer.

b. The concrete encasement must be a minimum of six (6) inches thick around the pipe. A 6 x 6 - W 2.9 x W 2.9 welded wire fabric shall be placed in the concrete on all sides.

4.3 Carrier Pipe

a. Carrier pipes within a casing shall be designed for Railroad live loads as if they were not encased.

b. The pipe shall be laid with sufficient slack so that it is not in tension.

c. Steel pipe shall not be used to convey sewage, storm water or other liquids which could cause corrosion.

d. The following shall be the minimum requirements for all carrier pipes located on Railroad's right-of-way or under tracks which the Railroad operates:

(1) Ductile Iron Pipe - ANSI A21.51/AWWA C-151, Class 56.

(2) Reinforced Concrete Pipe - ASTM C-76, Class V, Wall C.

(3) Vitrified Clay Pipe - ASTM C-700, Extra Strength.

(4) Corrugated Metal pipe - AREA Chapter 1, Part 4.

(a) Minimum Gage of pipe to be in accordance with Section 4.2.4 (Table 3) of this specification.

(5) Steel Pipe -

(a) Steel pipe must have a minimum yield strength of 35,000 psi. The ASTM or API specification and grade for the pipe is to be shown on the Pipe Data Sheet.

(b) Minimum wall thickness to be in accordance with Section 4.2.2 (Table 2) of this specification.

(6) Others - As approved by the Chief Engineer.

4.3.1 Pipelines Carrying Flammable Substances

a. Pipelines carrying oil, liquefied petroleum gas, natural or manufactured gas and other flammable products shall be of metal and conform to the requirements of the current ANSI B 31.4, with Addenda, Liquefied Petroleum Transportation Piping Systems, ANSI B 31.8, "Gas Transmission and Distribution Piping Systems" and other applicable ANSI Codes, except that the maximum allowable stresses for design of steel pipe shall not exceed the following percentages of the specified minimum yield strength (multiplied by the longitudinal joint factor) of the pipe as defined in the ANSI Codes:

(1) The following percentages apply to hoop stress in steel pipe within a casing under Railroad tracks, across Railroad right-of-way and longitudinally on Railroad right-of-way:

(a) Seventy-two percent on oil pipelines.

(b) Fifty percent for pipelines carrying condensate, natural gasoline, natural gas liquids, liquefied petroleum gas, and other petroleum products.

(c) Forty percent for gas pipelines.

4.4 End Seals

a. Casings for carriers of flammable and hazardous substances shall be suitably sealed to the outside of the carrier pipe. Details of the seals shall be shown on the plans.

b. Casings for carriers of non-flammable substances shall have both ends of the casing blocked up in such a way as to prevent the entrance of foreign material, but allowing leakage to pass in the event of a carrier break.

c. Where ends of casings are at or above ground surface and above high water level, they may be left open, provided drainage is afforded in such a manner that leakage will be conducted away from Railroad tracks and structures.

4.5 Vents

a. Sealed casings for flammable substances shall be properly vented. Vent pipes shall be of sufficient diameter, but in no case less than two (2) inches in diameter, and shall be attached near each end of the casing and project through the ground surface at right-of-way lines or not less than 45 feet (measured at right angles) from centerline of nearest track.

b. Vent pipes shall extend not less than four (4) feet above the ground surface. Top of vent pipe shall have a down-turned elbow, properly screened, or a relief valve. Vents in locations subject to high water shall be extended above the maximum elevation of high water and shall be supported and protected in a manner approved by the Chief Engineer.

c. Vent pipes shall be at least four (4) feet (vertically) from aerial electric wires or greater if required by National Electrical Safety Code (ANSI C2).

d. When the pipeline is in a public highway, street-type vents shall be installed.

4.6 Signs

a. All pipelines (except those in streets where it would not be practical to do so) shall be prominently marked at right-of-way lines (on both sides of track for crossings) by durable, weatherproof signs located over the centerline of the pipe. Signs shall show the following:

(1) Name and address of owner.

(2) Contents of pipe.

(3) Pressure in pipe.

(4) Pipe depth below grade at point of a sign.

(5) Emergency telephone number in event of pipe rupture.

b. For pipelines running longitudinally on Railroad property, signs shall be placed over the pipe (or offset and appropriately marked) at all changes in direction of the pipeline. Such signs should also be located so that when standing at one sign the next adjacent marker in either direction is visible. In no event shall they be placed more than 500 feet apart unless otherwise specified by the Chief Engineer.

c. The Owner must maintain all signs on the Railroad's right-of-way as long as the occupational agreement is in effect.

4.7 Shut-off Valves

a. Accessible emergency shut-off valves shall be installed within effective distances each side of the Railroad at locations selected by the Chief Engineer where hazard to life and property must be guarded against. No additional valves will be required where pipelines are provided with automatic control stations and within distances approved by the Chief Engineer.

4.8 Cathodic Protection

a. Cathodic protection shall be applied to all pipelines carrying flammable substances on Railroad's right-of-way.

b. For crossings and at other locations where the pipeline must be placed within a casing, the casing is to have cathodic protection or the wall thickness is to be increased to the requirements of Section 4.2.2 Table 2.

c. Where casing and/or carrier pipe is cathodically protected by other than anodes, the Chief Engineer shall be notified and a suitable test made to ensure that other Railroad structures and facilities are adequately protected from the cathodic current in accordance with the recommendation of current Reports of Correlating Committee on Cathodic Protection, published by the National Association of Corrosion Engineers.

d. Where sacrificial anodes are used the locations shall be marked with durable signs.

4.9 Manholes

a. Manholes shall not be located on Railroad property where possible. At locations where this is not practical, including longitudinal occupancies, manholes shall be precast concrete sections conforming to ASTM Designation C 478, "Specification for Precast Concrete Manhole Sections".

b. The top of manholes located on Railroad property shall be flush with top of ground.

c. The distance from centerline of adjacent track to centerline of proposed manhole shall be shown on the plans.

4.10 Box Culverts

a. Reinforced concrete box culverts shall conform to the requirements of AREA Chapter 8, Part 16.

4.11 Drainage

a. Occupancies shall be designed, and their construction shall be accomplished, so that adequate and uninterrupted drainage of Railroad's right-of-way is maintained.

b. All pipes, ditches and other structures carrying surface drainage on Railroad property and/or under Railroad tracks shall be designed to carry the run-off from a one hundred (100) year storm. Computations indicating this design and suitable topographic plans, prepared by a Professional Engineer, shall be submitted for the Railroad's approval.

c. If the drainage is to discharge into an existing drainage channel on the Railroad's right-of-way and/or under Railroad tracks, the computations should include the hydraulic analysis of any existing structure.

d. Detention ponds must not be placed on any part of the Railroad's right-of-way. Also, the Railroad embankment must not be used as any part of a detention pond structure.

e. Submitted with the computations shall be formal approval of the proposed design by the appropriate governmental agency having jurisdiction.

4.12 Pipelines on Bridges

a. Pipelines of any type shall not be installed on any bridge carrying Railroad tracks.

b. New overhead pipe bridges shall not be constructed over the Railroad's right-of-way where underground installation of the pipeline is possible. Where the Applicant can show that no practicable alternative is available, this type of structure will be permitted provided the following conditions are met:

(1) The vertical clearance, distance from top of rail to bottom of structure, is shown and is a minimum of 23'-0".

(2) The support bents for the overhead structure are located off of Railroad's right-of-way or a minimum distance of 18'-0" from centerline track, whichever distance is greater.

(3) Support bents within 25'-0" of centerline track have pier protection in accordance with AREA, Chapter 8, Part 2,Section 2.1.5.

(4) Complete structural plans and design computations for the structure and foundations, stamped by a Professional Engineer, are submitted with the application.

c. Pipelines carrying flammable substances or non-flammable substances, which by their nature might cause damage if escaping on or near Railroad facilities or personnel, shall not be installed on bridges over Railroad tracks. In special cases when it can be demonstrated to the Chief Engineer's satisfaction that such an installation is necessary and that no practicable alternative is available, the Chief Engineer may permit the installation and only by special design approved by him.

d. When permitted, pipelines on bridges over Railroad tracks shall be so located as to minimize the possibility of damage from vehicles, Railroad equipment, vandalism and other external causes. They shall be encased in a casing pipe as directed by the Chief Engineer (See Plate VII).

5.0 CONSTRUCTION REQUIREMENTS

5.1 Method of Installation

5.1.1 General Requirements

a. Bored, jacked or tunneled installations shall have a bore hole essentially the same as the outside diameter of the pipe plus the thickness of the protective coating.

b. The use of water or other liquids to facilitate casing emplacement and spoil removal is prohibited.

c. If during installation an obstruction is encountered which prevents installation of the pipe in accordance with this specification, the pipe shall be abandoned in place and immediately filled with grout. A new installation procedure and revised plans must be submitted to, and approved by, the Chief Engineer before work can resume.

5.1.2 Open Cut

a. The Owner must request open cut approval when making application for occupancy.

b. Installations beneath the track by open trench methods will be permitted only with the approval of the Division General Manager of the territory involved.

c. Installations by open cut will not be permitted under mainline track(s), track(s) carrying heavy tonnage or track(s) carrying passenger trains. Also, open cut shall not be used within the limits of a highway/Railroad grade crossing or its approaches (25 feet either side of traveled way) where possible.

d. At locations where open cut is permitted the trench is to be backfilled with crushed stone with a top size of the aggregate to be a maximum of two (2) inches and to have no more than 5% passing the number 200 sieve. The gradation of the material is to be such that a dense

stable mass is produced.

e. The backfill material shall be placed in loose six (6) inch lifts and compacted to at least 95% of its maximum density with a moisture content that is no more than 1% greater than or 2% less than the optimum moisture as determined in accordance with current ASTM Designation D - 1557 (Modified Proctor). When the backfill material is within three (3) feet of the subgrade elevation (the interface of the ballast and the subsoil) a compaction of at least 98% will be required. Compaction test results confirming compliance must be provided to Railroad's Area Engineer by the Owner.

f. All backfilled pipes laid either perpendicular or parallel to the tracks must be designed so that the backfill material will be positively drained. This may require the placement of lateral drains on pipes laid longitudinally to the track and the installation of stub perforated pipes at the edge of the slopes.

g. Unless otherwise agreed upon, all work involving rail, ties and other track material will be performed by Railroad employees at the sole expense of the Owner.

5.1.3 Boring

a. This method consists of pushing the pipe into the earth with a boring auger rotating within the pipe to remove the spoil.

b. The boring operation shall be progressed on a 24-hour basis without stoppage (except for adding lengths of pipe) until the leading edge of the pipe has reached the receiving pit.

c. The front of the pipe shall be provided with mechanical arrangements or devices that will positively prevent the auger from leading the pipe so that there will be no unsupported excavation ahead of the pipe.

d. The auger and cutting head arrangement shall be removable from within the pipe in the event an obstruction is encountered. If the obstruction cannot be removed without excavation in advance of the pipe, procedures as outlined in Section 5.1.1 c. must be implemented immediately.

e. The over-cut by the cutting head shall not exceed the outside diameter of the pipe by more than one-half inch. If voids should develop or if the bored hole diameter is greater than the outside diameter of the pipe (plus coating) by more than approximately one (1) inch, grouting (see Section 5.2) or other methods approved by the Chief Engineer shall be employed to fill such voids.

f. The face of the cutting head shall be arranged to provide a reasonable obstruction to the free flow of soft or poor material.

g. Plans and description of the arrangement to be used shall be submitted to the Chief Engineer for approval and no work shall proceed until such approval is obtained.

h. Any method which employs simultaneous boring and jacking for pipes over eight (8) inches in diameter which does not have the above approved arrangement **will not be permitted**. For pipe eight (8) inches and less in diameter, auguring or boring without this arrangement may be considered for use only as approved by the Chief Engineer.

5.1.4 Jacking

a. This method consists of pushing sections of pipe into position with jacks placed against a backstop and excavation performed by hand from within the jacking shield at the head of the pipe. Ordinarily 36 inch pipe is the least size which should be used, since it is not practical to work within smaller diameter pipes.

b. Jacking shall be in accordance with the current American Railway Engineering Association Specifications, Chapter 1, Part 4, "Jacking Culvert pipe Through Fills". This operation shall be conducted without hand-mining ahead of the pipe and without the use of any type of boring, auguring, or drilling equipment.

c. Bracing and backstops shall be so designed and jacks of sufficient rating used so that the jacking can be progressed on a 24-hour basis without stoppage (except for adding lengths of pipe) until the leading edge of the pipe has reached the receiving pit.

d. When jacking reinforced concrete pipe, a jacking shield shall be fabricated as a special section of reinforced concrete pipe with a steel cutting edge, hood, breasting attachments, etc., cast into the pipe. The wall thickness and reinforcing shall be designed for the jacking stresses.

e. When jacking reinforced concrete pipe, grout holes tapped for no smaller than 1-1/2 inch pipe spaced at approximately three (3) feet around the circumference and four (4) feet longitudinally shall be cast into the pipe at manufacture.

f. Immediately upon completion of jacking operations, the installation shall be pressure grouted as per Section 5.2 of this specification.

5.1.5 Tunneling

a. This method consists of placing rings of liner plates within the tail section of a tunneling shield or tunneling machine. A tunneling shield shall be used for all liner plate installations unless otherwise approved by the Chief Engineer.

b. The shield shall be of steel construction, designed to support

a Railroad track loading as specified in Section 4.1 of this specification, in addition to other loadings it must sustain. The advancing face shall be provided with a hood, extending no less than 20-inches beyond the face and extending around no less than the upper 240 degrees of the total circumference.

It shall be of sufficient length to permit the installation of at least one complete ring of liner plates within the shield before it is advanced for the installation of the next ring of liner plates. The shield shall conform to and not exceed the outside dimensions of the liner plate tunnel being placed by more than one-inch at any point on the periphery unless otherwise approved by the Chief Engineer.

c. The shield shall be adequately braced and provided with necessary appurtenances for completely bulkheading the face with horizontal breastboards, and arranged so that the excavation can be benched as may be necessary. Excavation shall not be advanced beyond the edge of the hood, except in rock.

d. Manufacturer's shop detail plans and manufacturer's computations showing the ability of the tunnel liner plates to resist the jacking stresses shall be submitted to the Chief Engineer for approval.

e. Unless otherwise approved by the Chief Engineer, the tunneling shall be conducted continuously, on a 24-hour basis, until the tunnel liner extends at least beyond the theoretical Railroad embankment line (See Plate III).

f. At any interruption of the tunneling operation,the heading shall be completely bulkheaded.

g. The liner plates shall have tapped grout holds for no smaller than 1-1/2 inch pipe, spaced at approximately three (3) feet around the circumference of the tunnel liner and four (4) feet longitudinally.

h. Grouting behind the liner plates shall be in accordance with Section 5.2 of this specification.

5.2 Grouting

a. For jacked and tunneled installations a uniform mixture of 1:6 (cement:sand) cement grout shall be placed under pressure through the grout holes to fill any voids which exist between the pipe or liner plate and the undisturbed earth.

b. Grouting shall start at the lowest hole in each grout panel and proceed upwards simultaneously on both sides of the pipe.

c. A threaded plug shall be installed in each grout hole as the grouting is completed at that hole.

d. When grouting tunnel liner plates grouting shall be kept as

close to the heading as possible, using grout stops behind the liner plates if necessary. Grouting shall proceed as directed by the Chief Engineer, but in no event shall more than six (6) lineal feet of tunnel be progressed beyond the grouting.

5.3 Soil Stabilization

a. Pressure grouting of the soils or freezing of the soils before jacking, boring, or tunneling may be required at the direction of the Chief Engineer to stabilize the soils, control water, prevent loss of material and prevent settlement or displacement or embankment. Grout shall be cement, chemical or other special injection material selected to accomplish the necessary stabilization.

b. The materials to be used and the method of injection shall be prepared by a Registered Professional Soils Engineer, or by an experienced and qualified company specializing in this work and submitted for approval to the Chief Engineer before the start of work. Proof of experience and competency shall accompany the submission.

5.4 Dewatering

a. When water is known or expected to be encountered, pumps of sufficient capacity to handle the flow shall be maintained at the site and, upon approval of the Chief Engineer to operate them, they shall be in constantly attended operation on a 24-hour basis until, in the sole judgment of the chief Engineer, their operation can be safely halted. When dewatering, close observation shall be maintained to detect any settlement or displacement of Railroad embankment, tracks, and facilities.

5.5 Safety Requirements

a. All operations shall be conducted so as not to interfere with, interrupt, or endanger the operation of trains nor damage, destroy, or endanger the integrity of Railroad facilities. All work on or near Railroad property shall be conducted in accordance with Railroad safety rules and regulations. The contractor shall secure and comply with the Railroad safety rules and shall give written acknowledgment to the Railroad that they have been received, read, and understood by the contractor and his employees. Operations will be subject to Railroad inspection at any and all times.

b. All cranes, lifts, or other equipment that will be operated in the vicinity of the Railroad's electrification and power transmission facilities shall be electrically grounded as directed by the Chief Engineer.

c. At all times when the work is being progressed, a field supervisor for the work with no less than twelve (12) months experience in the operation of the equipment being used shall be present. If boring equipment or similar machines are being used, the machine operator also shall have no less than twelve (12) months experience in

the operation of the equipment being used.

d. Whenever equipment or personnel are working closer than fifteen (15) feet from the centerline of an adjacent track, that track shall be considered as being obstructed. Insofar as possible, all operations shall be conducted no less than this distance.

Operations closer than fifteen (15) feet from the centerline of a track shall be conducted only with the permission of, and as directed by, a duly qualified Railroad employee present at the site of the work.

e. Crossings of tracks at grade by equipment and personnel is prohibited except by prior arrangement with, and as directed by, the Chief Engineer.

5.6 Blasting

a. Blasting will not be permitted under or on Railroad's right-of-way.

5.7 Temporary Track Supports

a. When the jacking, boring or tunneling method of installation is used, and depending upon the size and location of the crossing, temporary track supports shall be installed at the direction of the Chief Engineer.

b. Details of the temporary track supports shall conform to Railroad Standard Plan No. 43380-R1 (Rev. 4-10-90).

c. The Owner's contractor shall supply the track supports with installation and removal performed by Railroad employees.

d. The Owner shall reimburse Railroad for all costs associated with the installation and removal of the track supports.

5.8 Protection of Drainage Facilities

a. If, in the course of construction, it may be necessary to block a ditch, pipe or other drainage facility, temporary pipes, ditches or other drainage facilities shall be installed to maintain adequate drainage, as approved by the Chief Engineer. Upon completion of the work, the temporary facilities shall be removed and the permanent facilities restored.

b. Soil erosion methods shall be used to protect Railroad ditches and other drainage facilities during construction on and adjacent to Railroad's right-of-way.

5.9 Support of Excavation Adjacent to Track

5.9.1 Launching and Receiving Pits

a. The location and dimensions of all pits or excavations shall be shown on the plans with the dimension from centerline of adjacent track to face of pits or excavations clearly labeled. Also, the bottom of pit or excavation must be shown on the profile.

b. The face of all pits shall be located a minimum of twenty-five (25) feet from centerline of adjacent track, measured at right angles to track, unless otherwise approved by the Chief Engineer.

c. If the bottom of the pit excavation intersects the theoretical Railroad embankment line (See Plate III) interlocking steel sheet piling, driven prior to excavation, must be used to protect the track stability. The use of trench boxes or similar devices are not acceptable in this area.

d. Design plans and computations for the pits, stamped by a Professional Engineer, must be submitted by the Owner at time of application or by the contractor prior to start of construction. If the pit design is to be submitted by the contractor, the project specifications must require the contractor to obtain Railroad's approval prior to beginning any work on or which may affect Railroad property.

e. The sheeting shall be designed to support all lateral forces caused by the earth, Railroad and other surcharge loads. See Section 4.1 for Railroad loadings.

f. After construction and backfilling all sheet piling within ten (10) feet of centerline track must be cut off eighteen (18) inches below final grade and left in place.

g. All excavated areas are to be illuminated (flashing warning lights not permitted), fenced and otherwise protected as directed by the Chief Engineer or his designated representative.

5.9.2 Parallel Trenching and Other Excavation.

a. When a pipeline or other structure is to be placed adjacent to a Railroad track within the theoretical Railroad embankment line (See Plate V), interlocking steel sheet piling must be used.

b. The design and construction requirements for this construction shall be in accordance with the requirements of Section 5.9.1.

5.10 Inspection and Testing

a. For pipelines carrying flammable or hazardous materials, ANSI Codes B 31.8 and B 31.4, current at time of constructing the pipeline, shall govern the inspection and testing of the facility on Railroad property, except as follows:

(1) One-hundred percent of all field welds shall be inspected by radiographic examinations, and such field welds shall be inspected for 100 percent of the circumference.

(2) The proof testing of the strength of carrier pipe shall be in accordance with the requirements of ANSI B 31.8 for Class Locations 2, 3, or 4, or ANSI B 31.4, as applicable.

5.11 Reimbursement of RAILROAD Costs

a. All Railroad costs associated with the pipe installation (inspection, flagging, track work, etc.) shall be reimbursed to the Railroad by the Owner of the facility. Reimbursement by the contractor is not acceptable.

PIPE DATA SHEET

(For crossings and longitudinal occupancy)

	Pipe Data	
	Carrier Pipe	Casing Pipe
Contents To Be Handled.....	_____	_____
Normal Operating Pressure.....	_____	_____
Nominal Size of Pipe.....	_____	_____
O. S. Diameter.....	_____	_____
I. S. Diameter.....	_____	_____
Wall Thickness.....	_____	_____
Weight Per Foot.....	_____	_____
Material.....	_____	_____
Process of Manufacture.....	_____	_____
Specification.....	_____	_____
Grade or Class.....	_____	_____
Test Pressure.....	_____	_____
Type of Joint.....	_____	_____
Type of Coating.....	_____	_____
Details of Cathodic Protection.....	_____	_____
Details of Seal or Protection At Ends of Casing.....	_____	_____
Method of Installation.....	_____	_____
Character of Subsurface Material At The Crossing Location.....	_____	_____
Approximate Ground Water Level.....	_____	_____
Source of Information On Subsurface Conditions (Borings, Test Pits or Other)....	_____	_____

NOTE: Any soil investigation made on Railroad property or adjacent to tracks shall be carried on under the supervision of Railroad's Chief Engineer. (See Section 1.4).

PUBLICATION STANDARDS SOURCES

ANSI American National Standards Institute, Inc.
1430 Broadway
New York, NY 10018

AREA American Railway Engineering Association
50 F Street, N. W.
Washington, DC 20001

ASTM American Society for Testing and Materials
1916 Race Street
Philadelphia, PA 19103

AWWA American Water Works Association, Inc.
6666 West Quincy Avenue
Denver, CO 80235

The National Association of Corrosion Engineers
Houston, TX 77026

NOTE: If other than AREA, ASTM or AWWA specifications are referred to for design, materials or workmanship on the plans and specifications for the work, then copies of the applicable sections of such other specifications referred to shall accompany the plans and specifications for the work.

Section 8: Contract Signatory Documents



Maumee Valley
Planning Organization

Section 9: Appendix

- **Davis Bacon Wage Rates**
- **Wage Rate Posters**
- **Bid Opening Sign-In Sheet**
- **Bid Opening Minutes**
- **Bid Tabulation**

Maumee Valley Planning Organization

"General Decision Number: OH20260001 09/17/2026

State: Ohio

Construction Types: Heavy and Highway

Counties: Ohio Counties of
Adams, Allen, Ashland, Ashtabula,
Athens, Auglaize, Belmont, Brown,
Butler, Carroll, Champaign, Clark,
Clermont, Clinton, Columbiana,
Coshocton, Crawford, Cuyahoga, Darke,
Defiance, Delaware, Erie, Fairfield,
Fayette, Franklin, Fulton, Gallia,
Geauga, Greene, Guernsey, Hamilton,
Hancock, Hardin, Harrison, Henry,
Highland, Hocking, Holmes, Huron,
Jackson, Jefferson, Knox, Lake,
Lawrence, Licking, Logan, Lorain, Lucas,
Madison, Mahoning, Marion, Medina,
Meigs, Mercer, Miami, Monroe,
Montgomery, Morgan, Morrow, Muskingum,
Noble, Ottawa, Paulding, Perry,
Pickaway, Pike, Portage, Preble, Putnam,
Richland, Ross, Sandusky, Scioto,
Seneca, Shelby, Stark, Summit, Trumbull,
Tuscarawas, Union, Van Wert, Vinton,
Warren, Washington, Wayne, Williams,
Wood and Wyandot

Heavy Construction

Highway Construction

Modification Number	Publication Date
0	01/02/2026
1	05/18/2026
2	05/20/2026
3	06/25/2026
4	07/30/2026
5	09/17/2026

BROH0001-001 06/01/2024

	Rates	Fringes
BRICKLAYER, STONEMASON (DEFIANCE, FULTON (EXCLUDING FULTON, AMBOY & SWAN CREEK TOWNSHIPS), HENRY (EXCLUDING MONROE, BARTLOW, LIBERTY, WASHINGTON, RICHFIELD, MARION, DAMASCUS & TOWNSHIPS & THAT PART OF HARRISON TOWNSHIP OUTSIDE CORPORATE LIMITS OF CITY OF NAPOLEON), PAULDING, PUTNAM AND WILLIAMS COUNTIES)	$ 33.39	20.06

BROH0001-004 06/01/2023

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 32.40	19.30

BROH0003-002 06/01/2024

	Rates	Fringes
BRICKLAYER, STONEMASON (FULTON (TOWNSHIPS OF AMBOY, SWAN CREEK & FULTON), HENRY (TOWNSHIPS OF WASHINGTON, DAMASCUS, RICHFIELD, BARTLOW, LIBERTY, HARRISON, MONROE, & MARION), LUCAS AND WOOD (TOWNSHIPS OF PERRYSBURG, ROSS, LAKE, TROY, FREEDOM, MONTGOMERY, WEBSTER, CENTER, PORTAGE, MIDDLETON, PLAIN, LIBERTY, HENRY, WASHINGTON, WESTON, MILTON, JACKSON & GRAND RAPIDS) COUNTIES)	$ 33.39	20.06

BROH0005-003 06/01/2020

	Rates	Fringes
BRICKLAYER: BRICKLAYERS; CAULKERS; CLEANERS; POINTERS; & STONEMASONS (CUYAHOGA, LORAIN & MEDINA (HINCKLEY, GRANGER, BRUNSWICK, LIVERPOOL, MONTVILLE, YORK, HOMER, HARRISVILLE, CHATHAM, LITCHFIELD & SPENCER TOWNSHIPS AND THE CITY OF MEDINA))	$ 36.64	17.13
BRICKLAYER: SANDBLASTERS (CUYAHOGA, LORAIN & MEDINA (HINCKLEY, GRANGER, BRUNSWICK, LIVERPOOL, MONTVILLE, YORK, HOMER, HARRISVILLE, CHATHAM, LITCHFIELD & SPENCER TOWNSHIPS AND THE CITY OF MEDINA))	$ 36.39	17.13
BRICKLAYER: SEWER BRICKLAYERS & STACK BUILDERS (CUYAHOGA, LORAIN & MEDINA (HINCKLEY, GRANGER, BRUNSWICK, LIVERPOOL, MONTVILLE, YORK, HOMER, HARRISVILLE, CHATHAM, LITCHFIELD & SPENCER TOWNSHIPS AND THE CITY OF MEDINA))	$ 36.64	17.13
BRICKLAYER: SWING SCAFFOLDS (CUYAHOGA, LORAIN & MEDINA (HINCKLEY, GRANGER, BRUNSWICK, LIVERPOOL, MONTVILLE, YORK, HOMER, HARRISVILLE, CHATHAM, LITCHFIELD & SPENCER TOWNSHIPS AND THE CITY OF MEDINA))	$ 37.14	17.13

BROH0006-005 06/01/2024

	Rates	Fringes
BRICKLAYER, STONEMASON (CARROLL, COLUMBIANA (KNOX, BUTLER, WEST & HANOVER TOWNSHIPS), STARK & TUSCARAWAS)	$ 33.39	20.06

BROH0007-002 06/01/2024

	Rates	Fringes
BRICKLAYER, STONEMASON (LAWRENCE)	$ 33.39	20.06

BROH0007-005 06/01/2023

	Rates	Fringes
BRICKLAYER (PORTAGE & SUMMIT)	$ 32.40	19.30

BROH0007-010 06/01/2024

	Rates	Fringes
MASON - STONE (PORTAGE & SUMMIT)	$ 33.39	20.06

BROH0008-001 06/01/2024

	Rates	Fringes
BRICKLAYER (COLUMBIANA (SALEM, PERRY, FAIRFIELD, CENTER, ELK RUN, MIDDLETON, & UNITY TOWNSHIPS AND		

THE CITY OF NEW WATERFORD), MAHONING & TRUMBULL)....$ 33.39 20.06

BROH0009-002 06/01/2024

	Rates	Fringes
BRICKLAYER, STONEMASON (BELMONT & MONROE COUNTIES AND THE TOWNSHIPS OF WARREN & MT. PLEASANT AND THE VILLAGE OF DILLONVALE IN JEFFERSON COUNTY).....	$ 33.39	20.06
REFRACTORY (BELMONT & MONROE COUNTIES AND THE TOWNSHIPS OF WARREN & MT. PLEASANT AND THE VILLAGE OF DILLONVALE IN JEFFERSON COUNTY).....	$ 31.45	19.01

BROH0010-002 06/01/2024

	Rates	Fringes
BRICKLAYER, STONEMASON (COLUMBIANA (ST. CLAIR, MADISON, WAYNE, FRANKLIN, WASHINGTON, YELLOW CREEK & LIVERPOOL TOWNSHIPS) & JEFFERSON (BRUSH CREEK & SALINE TOWNSHIPS)).....	$ 33.39	20.06

BROH0014-002 06/01/2024

	Rates	Fringes
BRICKLAYER, STONEMASON (HARRISON & JEFFERSON (EXCEPT MT. PLEASANT, WARREN, BRUSH CREEK, SALINE & SALINEVILLE TOWNSHIPS & THE VILLAGE OF DILLONVALE)).	$ 33.39	20.06

BROH0016-002 06/01/2023

	Rates	Fringes
BRICKLAYER, STONEMASON (ASHTABULA, GEAUGA, AND LAKE COUNTIES).....	$ 32.40	19.30

BROH0018-002 06/01/2024

	Rates	Fringes
BRICKLAYER, STONEMASON (BROWN, BUTLER, CLERMONT, HAMILTON, PREBLE (GASPER, DIXON, ISRAEL, LANIER, SOMERS & GRATIS TOWNSHIPS) & WARREN COUNTIES:).....	$ 33.39	20.06

BROH0022-004 06/01/2024

	Rates	Fringes
BRICKLAYER, STONEMASON (CHAMPAIGN, CLARK, CLINTON, DARKE, GREENE, HIGHLAND, LOGAN, MIAMI, MONTGOMERY, PREBLE (JACKSON, MONROE, HARRISON, TWIN, JEFFERSON & WASHINGTON TOWNSHIPS) AND SHELBY COUNTIES).....	$ 33.39	20.06

BROH0032-001 06/01/2024

	Rates	Fringes
BRICKLAYER, STONEMASON (GALLIA & MEIGS).....	$ 33.39	20.06

BROH0035-002 06/01/2024

	Rates	Fringes
BRICKLAYER, STONEMASON (ALLEN, AUGLAIZE, MERCER AND VAN WERT COUNTIES).....	$ 33.39	20.06

BROH0039-002 06/01/2024

	Rates	Fringes
BRICKLAYER, STONEMASON (ADAMS & SCIOTO).....	$ 33.39	20.06

BROH0040-003 06/01/2024

	Rates	Fringes
BRICKLAYER, STONEMASON (ASHLAND, CRAWFORD, HARDIN, HOLMES, MARION, MORROW, RICHLAND, WAYNE AND WYANDOT (EXCEPT CRAWFORD, RIDGE, RICHLAND & TYMOCHTEE TOWNSHIPS) COUNTIES) FOOTNOTE: LAYOUT MAN AND SAWMAN RATE: $1.00 PER HOUR ABOVE JOURNEYMAN RATE. FREE STANDING STACK WORK GROUND LEVEL TO TOP OF STACK; SANDBLASTING AND LAYING OF CARBON MASONRY MATERIAL IN SWING STAGE AND/OR SCAFFOLD; RAMMING AND SPADING OF PLASTICS AND GUNNITING: $1.50 PER HOUR ABOVE JOURNEYMAN RATE. ""HOT"" WORK: $2.50 ABOVE JOURNEYMAN RATE	$ 33.39	20.06

BROH0044-002 06/01/2024

	Rates	Fringes
BRICKLAYER, STONEMASON (COSHOCTON, FAIRFIELD, GUERNSEY, HOCKING, KNOX, KICKING, MORGAN, MUSKINGUM, NOBLE (BEAVER, BUFFALO, SENECA & WAYNE TOWNSHIPS) & PERRY COUNTIES:)	$ 33.39	20.06

BROH0045-002 06/01/2023

	Rates	Fringes
BRICKLAYER, STONEMASON (FAYETTE, JACKSON, PIKE, ROSS AND VINTON COUNTIES)	$ 35.39	17.47

BROH0046-002 06/01/2024

	Rates	Fringes
BRICKLAYER, STONEMASON (ERIE, HANCOCK, HURON, OTTAWA, SANDUSKY, SENECA, WOOD (PERRY & BLOOM TOWNSHIPS) AND WYANDOT (TYMOCHTEE, CRAWFORD, RIDGE & RICHLAND TOWNSHIPS) COUNTIES & THE ISLANDS OF LAKE ERIE NORTH OF SANDUSKY) FOOTNOTE: LAYOUT MAN AND SAWMAN RATE: $1.00 PER HOUR ABOVE JOURNEYMAN RATE. FREE STANDING STACK WORK GROUND LEVEL TO TOP OF STACK; SANDBLASTING AND LAYING OF CARBON MASONRY MATERIAL IN SWING STAGE AND/OR SCAFFOLD; RAMMING AND SPADING OF PLASTICS AND GUNNITING: $1.50 PER HOUR ABOVE JOURNEYMAN RATE. ""HOT"" WORK: $2.50 ABOVE JOURNEYMAN RATE	$ 33.39	20.06

BROH0052-001 06/01/2024

	Rates	Fringes
BRICKLAYER, STONEMASON (ATHENS COUNTY)	$ 33.39	20.06

BROH0052-003 06/01/2024

	Rates	Fringes
BRICKLAYER, STONEMASON (NOBLE (BROOKFIELD, NOBLE, CENTER, SHARON, OLIVE, ENOCH, STOCK, JACKSON, JEFFERSON & ELK TOWNSHIPS) AND WASHINGTON COUNTIES)	$ 33.39	20.06

BROH0055-003 06/01/2024

	Rates	Fringes
BRICKLAYER, STONEMASON (DELAWARE, FRANKLIN, MADISON, PICKAWAY AND UNION COUNTIES)	$ 33.39	20.06

CARP0002-024 05/01/2025

	Rates	Fringes
CARPENTER & PILEDRIVERMEN (BROWN, BUTLER, CHAMPAIGN, CLARK, CLERMONT, CLINTON, DARKE, GREENE, HAMILTON, LOGAN, MIAMI, MONTGOMERY, PREBLE, SHELBY & WARREN)	$ 35.94	23.59
DIVER (BROWN, BUTLER, CHAMPAIGN, CLARK, CLERMONT, CLINTON, DARKE, GREENE, HAMILTON, LOGAN, MIAMI, MONTGOMERY, PREBLE, SHELBY & WARREN)	$ 40.58	9.69

CARP0171-001 05/01/2025

	Rates	Fringes
CARPENTER (MAHONING & TRUMBULL)	$ 33.19	25.02

CARP0171-002 05/01/2025

	Rates	Fringes
CARPENTER (BELMONT, COLUMBIANA, HARRISON, JEFFERSON & MONROE)	$ 32.50	26.19

CARP0200-002 05/01/2025

	Rates	Fringes
CARPENTER (ADAMS, ATHENS, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GALLIA, GUERNSEY, HIGHLAND, HOCKING, JACKSON, LAWRENCE, LICKING, MADISON, MARION, MEIGS, MORGAN, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PIKE, ROSS, SCIOTO, UNION, VINTON AND WASHINGTON COUNTIES)	$ 35.94	23.59
DIVER (ADAMS, ATHENS, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GALLIA, GUERNSEY, HIGHLAND, HOCKING, JACKSON, LAWRENCE, LICKING, MADISON, MARION, MEIGS, MORGAN, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PIKE, ROSS, SCIOTO, UNION, VINTON AND WASHINGTON COUNTIES)	$ 39.41	10.40
PILEDRIVERMAN (ADAMS, ATHENS, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GALLIA, GUERNSEY, HIGHLAND, HOCKING, JACKSON, LAWRENCE, LICKING, MADISON, MARION, MEIGS, MORGAN, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PIKE, ROSS, SCIOTO, UNION, VINTON AND WASHINGTON COUNTIES)	$ 35.94	23.59

CARP0285-001 05/01/2025

	Rates	Fringes
CARPENTER (CARROLL, STARK, TUSCARAWAS AND WAYNE)	$ 34.07	24.28

CARP0285-002 05/01/2025

	Rates	Fringes
CARPENTER (COSHOCTON, HOLMES, KNOX & MORROW)	$ 33.38	24.69

CARP0285-008 05/01/2025

	Rates	Fringes
CARPENTER (MEDINA, PORTAGE & SUMMIT)	$ 37.18	25.07

CARP0351-005 05/01/2025

	Rates	Fringes
CARPENTER (LUCAS & WOOD)	$ 35.44	27.56

CARP0351-006 05/01/2025

	Rates	Fringes

CARPENTER (DEFIANCE, FULTON, HANCOCK, HENRY, PAULDING & WILLIAMS COUNTIES)	$ 32.05	26.13

CARP0372-002 05/01/2025

	Rates	Fringes
CARPENTER (ALLEN, AUGLAIZE, HARDIN, MERCER, PUTNAM & VAN WERT)	$ 31.80	26.33

CARP0435-005 05/01/2025

	Rates	Fringes
CARPENTER (ASHTABULA, CUYAHOGA, GEAUGA & LAKE)	$ 38.57	24.64

CARP0735-001 05/01/2025

	Rates	Fringes
CARPENTER (ASHLAND, HURON & RICHLAND)	$ 34.67	23.57

CARP0735-002 05/01/2025

	Rates	Fringes
CARPENTER (LORAIN)	$ 38.42	24.01

CARP0735-004 05/01/2025

	Rates	Fringes
CARPENTER (ERIE)	$ 36.71	24.14

CARP0744-001 05/01/2025

	Rates	Fringes
CARPENTER (CRAWFORD, OTTAWA, SANDUSKY, SENECA & WYANDOT)	$ 33.74	27.05

CARP1090-002 05/01/2025

	Rates	Fringes
PILEDRIVERMEN & DIVER'S TENDER (ALLEN, AUGLAIZE, HARDIN, MERCER, PUTNAM, VAN WERT & WYANDOT) DIVERS - $250.00 PER DAY	$ 35.94	28.39

CARP1090-003 05/01/2025

	Rates	Fringes
DIVER, WET (BELMONT, HARRISON, & MONROE)	$ 58.52	24.91
PILEDRIVERMEN; DIVER, DRY (BELMONT, HARRISON, & MONROE)	$ 39.01	24.91

CARP1090-004 05/01/2025

	Rates	Fringes
DIVER, WET (CARROLL, STARK, TUSCARAWAS & WAYNE)	$ 49.82	25.40
PILEDRIVERMEN; DIVER, DRY (CARROLL, STARK, TUSCARAWAS & WAYNE)	$ 33.21	25.40

CARP1090-005 05/01/2025

	Rates	Fringes
DIVER, WET (ASHLAND, ASHTABULA, CUYAHOGA, ERIE, GEAUGA, HURON, LAKE, LORAIN, MEDINA, PORTAGE, RICHLAND & SUMMIT)	$ 54.51	27.50
PILEDRIVERMEN; DIVER, DRY (ASHLAND, ASHTABULA, CUYAHOGA, ERIE, GEAUGA, HURON, LAKE, LORAIN, MEDINA, PORTAGE, RICHLAND & SUMMIT)	$ 36.34	27.50

CARP1090-006 05/01/2025

	Rates	Fringes
DIVER, WET (COSHOCTON, HOLMES, KNOX & MORROW)	$ 54.36	22.54
PILEDRIVERMEN; DIVER, DRY (COSHOCTON, HOLMES, KNOX & MORROW)	$ 36.24	22.54

CARP1090-007 05/01/2025

	Rates	Fringes
DIVER, WET (MAHONING & TRUMBULL)	$ 50.85	24.82
PILEDRIVERMEN; DIVER, DRY (MAHONING & TRUMBULL)	$ 33.90	24.82

CARP1090-008 05/01/2025

	Rates	Fringes
PILEDRIVERMAN (COLUMBIANA & JEFFERSON)	$ 39.01	24.91

CARP1090-009 05/01/2025

	Rates	Fringes
PILEDRIVERMEN & DIVER'S TENDER (CRAWFORD, DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA, PAULDING, SANDUSKY, SENECA, WILLIAMS & WOOD) DIVERS - $250.00 PER DAY	$ 37.98	28.63

ELEC0008-002 05/27/2024

	Rates	Fringes
CABLE SPLICER (DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, WILLIAMS & WOOD)	$ 38.98	18.96
ELECTRICIAN (DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, WILLIAMS & WOOD)	$ 48.40	25.24

ELEC0032-003 06/01/2025

	Rates	Fringes
ELECTRICIAN (ALLEN, AUGLAIZE, HARDIN, LOGAN, MERCER, SHELBY, VAN WERT & WYANDOT (CRAWFORD, JACKSON, MARSEILLES, MIFFLIN, RIDGELAND, RIDGE & SALEM TOWNSHIPS))	$ 39.17	23.60

ELEC0038-002 04/28/2025

	Rates	Fringes
ELECTRICIAN, EXCLUDING SOUND & COMMUNICATIONS WORK. FOOTNOTE: A. 6 OBSERVED HOLIDAYS: NEW YEAR'S DAY; MEMORIAL DAY; INDEPENDENCE DAY; LABOR DAY; THANKSGIVING DAY; & CHRISTMAS DAY. EMPLOYEES WHO WORK ON A HOLIDAY SHALL BE PAID AT A RATE OF DOUBLE THEIR APPLICABLE CLASSIFIED STRAIGHT-TIME RATES FOR THE WORK PERFORMED ON SUCH HOLIDAY	$ 46.63	24.92

ELEC0038-008 04/28/2025

	Rates	Fringes
SOUND & COMMUNICATION TECHNICIAN: COMMUNICATIONS TECHNICIAN (CUYAHOGA, GEAUGA (BAINBRIDGE, CHESTER & RUSSELL TOWNSHIPS) & LORAIN (COLUMBIA TOWNSHIP)) FOOTNOTES; A. 6 PAID HOLIDAYS: NEW YEAR'S DAY; MEMORIAL DAY; JULY 4TH; LABOR DAY; THANKSGIVING DAY; & CHRISTMAS DAY B. 1 WEEK'S PAID VACATION		

FOR 1 YEAR'S SERVICE; 2 WEEKS' PAID VACATION FOR 2 OR MORE YEARS' SERVICE.....$ 34.30 14.95
SOUND & COMMUNICATION TECHNICIAN: INSTALLER TECHNICIAN (CUYAHOGA, GEAUGA (BAINBRIDGE, CHESTER & RUSSELL TOWNSHIPS) & LORAIN (COLUMBIA TOWNSHIP))
FOOTNOTES; A. 6 PAID HOLIDAYS: NEW YEAR'S DAY; MEMORIAL DAY; JULY 4TH; LABOR DAY; THANKSGIVING DAY; & CHRISTMAS DAY B. 1 WEEK'S PAID VACATION FOR 1 YEAR'S SERVICE; 2 WEEKS' PAID VACATION FOR 2 OR MORE YEARS' SERVICE.....$ 33.05 14.91

ELEC0064-003 11/30/2025

	Rates	Fringes
ELECTRICIAN (COLUMBIANA (BUTLER, FAIRFIELD, PERRY, SALEM & UNITY TOWNSHIPS) MAHONING (AUSTINTOWN, BEAVER, BERLIN, BOARDMAN, CANFIELD, ELLSWORTH, COITSVILLE, GOSHEN, GREEN, JACKSON, POLAND, SPRINGFIELD & YOUNGSTOWN TOWNSHIPS), & TRUMBULL (HUBBARD & LIBERTY TOWNSHIPS))	$ 41.49	21.81

ELEC0071-005 01/06/2025

	Rates	Fringes
LINE CONSTRUCTION: EQUIPMENT OPERATOR: DOT/TRAFFIC SIGNAL & HIGHWAY LIGHTING PROJECTS (ASHTABULA, CUYAHOGA, GEAUGA, LAKE & LORAIN)	$ 39.97	18.79
LINE CONSTRUCTION: EQUIPMENT OPERATOR: MUNICIPAL POWER/TRANSIT PROJECTS (ASHTABULA, CUYAHOGA, GEAUGA, LAKE & LORAIN)	$ 49.46	21.60
LINE CONSTRUCTION: GROUNDMAN: DOT/TRAFFIC SIGNAL & HIGHWAY LIGHTING PROJECTS (ASHTABULA, CUYAHOGA, GEAUGA, LAKE & LORAIN)	$ 31.10	16.40
LINE CONSTRUCTION: GROUNDMAN: MUNICIPAL POWER/TRANSIT PROJECTS (ASHTABULA, CUYAHOGA, GEAUGA, LAKE & LORAIN)	$ 38.47	18.64
LINE CONSTRUCTION: LINEMEN/CABLE SPLICER: DOT/TRAFFIC SIGNAL & HIGHWAY LIGHTING PROJECTS (ASHTABULA, CUYAHOGA, GEAUGA, LAKE & LORAIN)	$ 43.89	19.85
LINE CONSTRUCTION: LINEMEN/CABLE SPLICER: MUNICIPAL POWER/TRANSIT PROJECTS (ASHTABULA, CUYAHOGA, GEAUGA, LAKE & LORAIN)	$ 54.96	23.09

ELEC0071-010 01/06/2025

	Rates	Fringes
LINE CONSTRUCTION: EQUIPMENT OPERATOR (STATEWIDE)	$ 40.44	17.71
LINE CONSTRUCTION: GROUNDMAN (STATEWIDE)	$ 29.07	14.97
LINE CONSTRUCTION: LINEMAN & CABLE SPLICERS (STATEWIDE)	$ 46.02	19.04

ELEC0082-002 12/02/2024

	Rates	Fringes
ELECTRICIAN (CLINTON, DARKE, GREENE, MIAMI, MONTGOMERY, PREBLE & WARREN (WAYNE, CLEAR CREEK & FRANKLIN TOWNSHIPS))	$ 38.00	22.49

ELEC0082-006 11/25/2024

	Rates	Fringes
SOUND & COMMUNICATION TECHNICIAN: CABLE PULLER (CLINTON, DARKE, GREENE, MIAMI, MONTGOMERY, PREBLE & WARREN (WAYNE, CLEAR CREEK & FRANKLIN TOWNSHIPS))	$ 13.85	5.30
SOUND & COMMUNICATION TECHNICIAN:		

INSTALLER/TECHNICIAN (CLINTON, DARKE, GREENE, MIAMI, MONTGOMERY, PREBLE & WARREN (WAYNE, CLEAR CREEK & FRANKLIN TOWNSHIPS))..... $ 27.70 15.71

ELEC0129-003 02/24/2025

	Rates	Fringes
ELECTRICIAN (LORAIN (EXCEPT COLUMBIA TOWNSHIP) & MEDINA (LITCHFIELD & LIVERPOOL TOWNSHIPS)).....	$ 42.95	18.81

ELEC0129-004 02/24/2025

	Rates	Fringes
ELECTRICIAN (ERIE & HURON (LYME, RIDGEFIELD, NORWALK, TOWNSEND, WAKEMAN, SHERMAN, PERU, BRONSON, HARTLAND, CLARKSFIELD, NORWICH, GREENFIELD, FAIRFIELD, FITCHVILLE & NEW LONDON TOWNSHIPS)).....	$ 42.95	18.81

ELEC0141-003 06/02/2025

	Rates	Fringes
CABLE SPLICER (BELMONT COUNTY).....	$ 42.94	27.74
ELECTRICIAN (BELMONT COUNTY).....	$ 39.25	31.23

ELEC0212-003 11/26/2018

	Rates	Fringes
SOUND & COMMUNICATION TECHNICIAN (BROWN, CLERMONT & HAMILTON).....	$ 24.35	10.99

ELEC0212-005 06/02/2025

	Rates	Fringes
ELECTRICIAN (BROWN, CLERMONT, AND HAMILTON COUNTIES).....	$ 38.05	22.97

ELEC0245-001 08/26/2024

	Rates	Fringes
LINE CONSTRUCTION: EQUIPMENT OPERATOR (ALLEN, HARDIN, VAN WERT & WYANDOT (CRAWFORD, JACKSON, MARSEILLES, MIFFLIN, RICHLAND, RIDGE & SALEM TOWNSHIPS)) FOOTNOTE: A. HALF DAY'S PAID HOLIDAY: THE LAST 4 HOURS OF THE WORKDAY PRIOR TO CHRISTMAS OR NEW YEAR'S DAY.....	$ 32.95	17.08
LINE CONSTRUCTION: GROUNDMAN TRUCK DRIVER (ALLEN, HARDIN, VAN WERT & WYANDOT (CRAWFORD, JACKSON, MARSEILLES, MIFFLIN, RICHLAND, RIDGE & SALEM TOWNSHIPS)): FOOTNOTE: A. HALF DAY'S PAID HOLIDAY: THE LAST 4 HOURS OF THE WORKDAY PRIOR TO CHRISTMAS OR NEW YEAR'S DAY.....	$ 20.59	13.62
LINE CONSTRUCTION: LINEMAN (ALLEN, HARDIN, VAN WERT & WYANDOT (CRAWFORD, JACKSON, MARSEILLES, MIFFLIN, RICHLAND, RIDGE & SALEM TOWNSHIPS)) FOOTNOTE: A. HALF DAY'S PAID HOLIDAY: THE LAST 4 HOURS OF THE WORKDAY PRIOR TO CHRISTMAS OR NEW YEAR'S DAY.....	$ 47.07	21.03

ELEC0245-003 01/01/2025

	Rates	Fringes
LINE CONSTRUCTION: CABLE SPLICER (DEFIANCE, FULTON, HANCOCK, HENRY, HURON, LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, WILLIAMS, AND WOOD COUNTIES) : FOOTNOTE: A. 6 OBSERVED HOLIDAYS: NEW YEAR'S DAY; MEMORIAL DAY; INDEPENDENCE DAY;		

LABOR DAY; THANKSGIVING DAY; & CHRISTMAS DAY. EMPLOYEES WHO WORK ON A HOLIDAY SHALL BE PAID AT A RATE OF DOUBLE THEIR APPLICABLE CLASSIFIED STRAIGHT-TIME RATES FOR THE WORK PERFORMED ON SUCH HOLIDAY.....$ 53.90 23.19

LINE CONSTRUCTION: GROUNDMAN/TRUCK DRIVER (DEFIANCE, FULTON, HANCOCK, HENRY, HURON, LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, WILLIAMS, AND WOOD COUNTIES) FOOTNOTE: A. 6 OBSERVED HOLIDAYS: NEW YEAR'S DAY; MEMORIAL DAY; INDEPENDENCE DAY; LABOR DAY; THANKSGIVING DAY; & CHRISTMAS DAY. EMPLOYEES WHO WORK ON A HOLIDAY SHALL BE PAID AT A RATE OF DOUBLE THEIR APPLICABLE CLASSIFIED STRAIGHT-TIME RATES FOR THE WORK PERFORMED ON SUCH HOLIDAY.....$ 20.51 13.84

LINE CONSTRUCTION: HELI-ARC WELDING (DEFIANCE, FULTON, HANCOCK, HENRY, HURON, LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, WILLIAMS, AND WOOD COUNTIES) FOOTNOTE: A. 6 OBSERVED HOLIDAYS: NEW YEAR'S DAY; MEMORIAL DAY; INDEPENDENCE DAY; LABOR DAY; THANKSGIVING DAY; & CHRISTMAS DAY. EMPLOYEES WHO WORK ON A HOLIDAY SHALL BE PAID AT A RATE OF DOUBLE THEIR APPLICABLE CLASSIFIED STRAIGHT-TIME RATES FOR THE WORK PERFORMED ON SUCH HOLIDAY.....$ 47.17 21.31

LINE CONSTRUCTION: LINEMAN (DEFIANCE, FULTON, HANCOCK, HENRY, HURON, LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, WILLIAMS, AND WOOD COUNTIES) FOOTNOTE: A. 6 OBSERVED HOLIDAYS: NEW YEAR'S DAY; MEMORIAL DAY; INDEPENDENCE DAY; LABOR DAY; THANKSGIVING DAY; & CHRISTMAS DAY. EMPLOYEES WHO WORK ON A HOLIDAY SHALL BE PAID AT A RATE OF DOUBLE THEIR APPLICABLE CLASSIFIED STRAIGHT-TIME RATES FOR THE WORK PERFORMED ON SUCH HOLIDAY.....$ 46.87 21.22

LINE CONSTRUCTION: OPERATOR - CLASS 1 (DEFIANCE, FULTON, HANCOCK, HENRY, HURON, LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, WILLIAMS, AND WOOD COUNTIES) FOOTNOTE: A. 6 OBSERVED HOLIDAYS: NEW YEAR'S DAY; MEMORIAL DAY; INDEPENDENCE DAY; LABOR DAY; THANKSGIVING DAY; & CHRISTMAS DAY. EMPLOYEES WHO WORK ON A HOLIDAY SHALL BE PAID AT A RATE OF DOUBLE THEIR APPLICABLE CLASSIFIED STRAIGHT-TIME RATES FOR THE WORK PERFORMED ON SUCH HOLIDAY.....$ 37.50 18.60

LINE CONSTRUCTION: OPERATOR - CLASS 2 (DEFIANCE, FULTON, HANCOCK, HENRY, HURON, LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, WILLIAMS, AND WOOD COUNTIES) FOOTNOTE: A. 6 OBSERVED HOLIDAYS: NEW YEAR'S DAY; MEMORIAL DAY; INDEPENDENCE DAY; LABOR DAY; THANKSGIVING DAY; & CHRISTMAS DAY. EMPLOYEES WHO WORK ON A HOLIDAY SHALL BE PAID AT A RATE OF DOUBLE THEIR APPLICABLE CLASSIFIED STRAIGHT-TIME RATES FOR THE WORK PERFORMED ON SUCH HOLIDAY.....$ 32.81 17.29

LINE CONSTRUCTION: TRAFFIC SIGNAL & LIGHTING TECHNICIAN (DEFIANCE, FULTON, HANCOCK, HENRY, HURON, LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, WILLIAMS, AND WOOD COUNTIES) FOOTNOTE: A. 6 OBSERVED HOLIDAYS: NEW YEAR'S DAY; MEMORIAL DAY; INDEPENDENCE DAY; LABOR DAY; THANKSGIVING DAY; & CHRISTMAS DAY. EMPLOYEES WHO WORK ON A HOLIDAY SHALL BE PAID AT A RATE OF DOUBLE THEIR APPLICABLE CLASSIFIED STRAIGHT-TIME RATES FOR THE WORK PERFORMED ON SUCH HOLIDAY.....$ 42.18 19.91

ELEC0245-004 01/01/2025

	Rates	Fringes
LINE CONSTRUCTION: CABLE SPLICER (ERIE COUNTY) FOOTNOTE: A. 6 OBSERVED HOLIDAYS: NEW YEAR'S DAY; MEMORIAL DAY; INDEPENDENCE DAY; LABOR DAY; THANKSGIVING DAY; & CHRISTMAS DAY. EMPLOYEES WHO WORK ON A HOLIDAY SHALL BE PAID AT A RATE OF DOUBLE THEIR APPLICABLE CLASSIFIED STRAIGHT-TIME RATES FOR THE WORK PERFORMED ON SUCH HOLIDAY.....	$ 53.90	23.19
LINE CONSTRUCTION: GROUNDMAN/TRUCK DRIVER (ERIE COUNTY) FOOTNOTE: A. 6 OBSERVED HOLIDAYS: NEW YEAR'S DAY; MEMORIAL DAY; INDEPENDENCE DAY; LABOR DAY; THANKSGIVING DAY; & CHRISTMAS DAY. EMPLOYEES WHO WORK ON A HOLIDAY SHALL BE PAID AT A RATE OF DOUBLE THEIR APPLICABLE CLASSIFIED STRAIGHT-TIME RATES FOR THE WORK PERFORMED ON SUCH HOLIDAY.....	$ 20.51	13.84
LINE CONSTRUCTION: LINEMAN (ERIE COUNTY) FOOTNOTE: A. 6 OBSERVED HOLIDAYS: NEW YEAR'S DAY; MEMORIAL DAY; INDEPENDENCE DAY; LABOR DAY; THANKSGIVING DAY; & CHRISTMAS DAY. EMPLOYEES WHO WORK ON A HOLIDAY SHALL BE PAID AT A RATE OF DOUBLE THEIR APPLICABLE CLASSIFIED STRAIGHT-TIME RATES FOR THE WORK PERFORMED ON SUCH HOLIDAY.....	$ 46.87	21.22
LINE CONSTRUCTION: OPERATOR - CLASS 1 (ERIE COUNTY) FOOTNOTE: A. 6 OBSERVED HOLIDAYS: NEW YEAR'S DAY; MEMORIAL DAY; INDEPENDENCE DAY; LABOR DAY; THANKSGIVING DAY; & CHRISTMAS DAY. EMPLOYEES WHO WORK ON A HOLIDAY SHALL BE PAID AT A RATE OF DOUBLE THEIR APPLICABLE CLASSIFIED STRAIGHT-TIME RATES FOR THE WORK PERFORMED ON SUCH HOLIDAY.....	$ 37.50	18.60
LINE CONSTRUCTION: OPERATOR - CLASS 2 (ERIE COUNTY) FOOTNOTE: A. 6 OBSERVED HOLIDAYS: NEW YEAR'S DAY; MEMORIAL DAY; INDEPENDENCE DAY; LABOR DAY; THANKSGIVING DAY; & CHRISTMAS DAY. EMPLOYEES WHO WORK ON A HOLIDAY SHALL BE PAID AT A RATE OF DOUBLE THEIR APPLICABLE CLASSIFIED STRAIGHT-TIME RATES FOR THE WORK PERFORMED ON SUCH HOLIDAY.....	$ 32.81	17.29

ELEC0246-001 10/28/2024

	Rates	Fringes
ELECTRICIAN (CARROLL, COLUMBIANA, HARRISON AND JEFFERSON COUNTIES IN OHIO; BROOKE AND HANCOCK COUNTIES IN WEST VIRGINIA.) FOOTNOTE: A. 1 1/2 PAID HOLIDAYS: THE LAST SCHEDULED WORKDAY PRIOR TO CHRISTMAS & 4 HOURS ON GOOD FRIDAY.....	$ 44.00	37.68

ELEC0306-005 05/27/2024

	Rates	Fringes
CABLE SPLICER (MEDINA (BRUNSWICK, CHATHAM, GRANGER, GUILFORD, HARRISVILLE, HINCKLEY, HOMER, LAFAYETTE, MEDINA, MONTVILLE, SHARON, SPENCER, WADSWORTH, WESTFIELD & YORK TOWNSHIPS), PORTAGE (ATWATER, AURORA, BRIMFIELD, DEERFIELD, FRANKLIN, MANTUA, RANDOLPH, RAVENNA, ROOTSTOWN, SHALERSVILLE, STREETSBORO & SUFFIELD TOWNSHIPS), SUMMIT & WAYNE (BAUGHMAN, CANAAN, CHESTER, CHIPPEWA, CONGRESS, GREEN, MILTON, & WAYNE TOWNSHIPS)).....	$ 46.81	20.95
ELECTRICIAN (MEDINA (BRUNSWICK, CHATHAM, GRANGER, GUILFORD, HARRISVILLE, HINCKLEY, HOMER, LAFAYETTE, MEDINA, MONTVILLE, SHARON, SPENCER, WADSWORTH, WESTFIELD & YORK TOWNSHIPS), PORTAGE (ATWATER, AURORA, BRIMFIELD, DEERFIELD, FRANKLIN, MANTUA,		

RANDOLPH, RAVENNA, ROOTSTOWN, SHALERSVILLE, STREETSBORO & SUFFIELD TOWNSHIPS), SUMMIT & WAYNE (BAUGHMAN, CANAAN, CHESTER, CHIPPEWA, CONGRESS, GREEN, MILTON, & WAYNE TOWNSHIPS))..... $ 42.55 20.95

ELEC0317-002 06/02/2025

	Rates	Fringes
CABLE SPLICER (GALLIA & LAWRENCE).....	$ 32.68	18.13
ELECTRICIAN (GALLIA & LAWRENCE).....	$ 41.15	29.35

ELEC0540-005 06/30/2025

	Rates	Fringes
ELECTRICIAN (CARROLL (NORTHERN HALF, INCLUDING FOX, HARRISON, ROSE & WASHINGTON TOWNHSHIPS), COLUMBIANA (KNOX TOWNSHIP), HOLMES, MAHONING (SMITH TOWNSHIP), STARK, TUSCARAWAS (NORTH OF AUBURN, CLAY, RUSH & YORK TOWNSHIPS), AND WAYNE (SOUTH OF BAUGHMAN, CHESTER, GREEN & WAYNE TOWNSHIPS) COUNTIES).....	$ 39.86	29.19

ELEC0573-003 06/01/2025

	Rates	Fringes
ELECTRICIAN (ASHTABULA (COLEBROOK, WAYNE, WILLIAMSFIELD, ORWELL & WINDSOR TOWNSHIPS), GEAUGA (AUBURN, MIDDLEFIELD, PARKMAN & TROY TOWNSHIPS), MAHONING (MILTON TOWNSHIP), PORTAGE (CHARLESTOWN, EDINBURG, FREEDOM, HIRAM, NELSON, PALMYRA, PARIS & WINDHAM TOWNSHIPS), AND TRUMBULL (EXCEPT LIBERTY & HUBBARD TOWNSHIPS)).....	$ 42.20	23.37

ELEC0575-001 05/29/2023

	Rates	Fringes
ELECTRICIAN (ADAMS, FAYETTE, HIGHLAND, HOCKING, JACKSON (BLOOMFIELD, FRANKLIN, HAMILTON, JEFFERSON, LICK, MADISON, SCIOTO, COAL, JACKSON, LIBERTY, MILTON & WASHINGTON TOWNSHIPS), PICKAWAY (DEER CREEK, PERRY, PICKAWAY, SALT CREEK & WAYNE TOWNSHIPS), PIKE (BEAVER, BENTON, JACKSON, MIFFLIN, PEBBLE, PEEPEE, PERRY, SEAL, CAMP CREEK, NEWTON, SCIOTO, SUNFISH, UNION & MARION TOWNSHIPS), ROSS, SCIOTO & VINTON (CLINTON, EAGLE, ELK, HARRISON, JACKSON, RICHLAND & SWAN TOWNSHIPS)).....	$ 37.00	22.26

ELEC0648-001 09/01/2025

	Rates	Fringes
CABLE SPLICER (BUTLER AND WARREN COUNTIES (DEERFIELD, HAMILTON, HARLAN, MASSIE, SALEM, TURTLE CREEK, UNION & WASHINGTON TOWNSHIPS)).....	$ 30.50	18.23
ELECTRICIAN (BUTLER AND WARREN COUNTIES (DEERFIELD, HAMILTON, HARLAN, MASSIE, SALEM, TURTLE CREEK, UNION & WASHINGTON TOWNSHIPS)).....	$ 38.00	24.16

ELEC0673-004 05/26/2025

	Rates	Fringes
CABLE SPLICER (ASHTABULA (EXCLUDING ORWELL, COLEBROOK, WILLIAMSFIELD, WAYNE & WINDSOR TOWNSHIPS), GEAUGA (BURTON, CHARDON, CLARIDON, HAMBDEN, HUNTSBURG, MONTVILLE, MUNSON, NEWBURY & THOMPSON TOWNSHIPS) AND LAKE COUNTIES).....	$ 33.81	21.47

ELECTRICIAN (ASHTABULA (EXCLUDING ORWELL, COLEBROOK, WILLIAMSFIELD, WAYNE & WINDSOR TOWNSHIPS), GEAUGA (BURTON, CHARDON, CLARIDON, HAMBDEN, HUNTSBURG, MONTVILLE, MUNSON, NEWBURY & THOMPSON TOWNSHIPS) AND LAKE COUNTIES).....$ 41.17 24.58

ELEC0683-002 06/02/2025

	Rates	Fringes
CABLE SPLICER (CHAMPAIGN, CLARK, DELAWARE, FAIRFIELD, FRANKLIN, MADISON, PICKAWAY (CIRCLEVILLE, DARBY, HARRISON, JACKSON, MADISON, MONROE, MUHLENBERG, SCIOTO, WALNUT & WASHINGTON TOWNSHIPS), AND UNION COUNTIES)	$ 44.00	26.40
ELECTRICIAN (CHAMPAIGN, CLARK, DELAWARE, FAIRFIELD, FRANKLIN, MADISON, PICKAWAY (CIRCLEVILLE, DARBY, HARRISON, JACKSON, MADISON, MONROE, MUHLENBERG, SCIOTO, WALNUT & WASHINGTON TOWNSHIPS), AND UNION COUNTIES)	$ 43.00	26.37

ELEC0688-003 05/30/2022

	Rates	Fringes
ELECTRICIAN (ASHLAND, CRAWFORD, HURON (RICHMOND, NEW HAVEN, RIPLEY & GREENWICH TOWNSHIPS), KNOX (LIBERTY, CLINTON, UNION, HOWARD, MONROE, MIDDLEBERRY, MORRIS, WAYNE, BERLIN, PIKE, BROWN & JEFFERSON TOWNSHIPS), MARION, MORROW, RICHLAND AND WYANDOT (SYCAMORE, CRANE, EDEN, PITT, ANTRIM & TYMOCHTEE TOWNSHIPS) COUNTIES)	$ 32.30	21.83

ELEC0972-002 06/01/2024

	Rates	Fringes
CABLE SPLICER (ATHENS, MEIGS, MONROE, MORGAN, NOBLE, VINTON (BROWN, KNOX, MADISON, VINTON & WILKESVILLE TOWNSHIPS), AND WASHINGTON COUNITES)	$ 40.25	33.33
ELECTRICIAN (ATHENS, MEIGS, MONROE, MORGAN, NOBLE, VINTON (BROWN, KNOX, MADISON, VINTON & WILKESVILLE TOWNSHIPS), AND WASHINGTON COUNITES)	$ 40.00	33.32

ELEC1105-001 05/27/2024

	Rates	Fringes
ELECTRICIAN (COSHOCTON, GUERNSEY, KNOX (JACKSON, CLAY, MORGAN, MILLER, MILFORD, HILLIAR, BUTLER, HARRISON, PLEASANT & COLLEGE TOWNSHIPS), LICKING, MUSKINGUM, PERRY, AND TUSCARAWAS (AUBURN, YORK, CLAY, JEFFERSON, RUSH, OXFORD, WASHINGTON, SALEM, PERRY & BUCKS TOWNSHIPS) COUNTIES)	$ 39.60	24.41

ENGI0018-003 05/01/2024

	Rates	Fringes
POWER EQUIPMENT OPERATOR: GROUP 1- AIR COMPRESSOR ON STEEL ERECTION; BARRIER MOVING MACHINE; BOILER OPERATOR ON COMPRESSOR OR GENERATOR WHEN MOUNTED ON A RIG; CABLEWAY; COMBINATION CONCRETE MIXER & TOWER; CONCRETE PLANT (OVER 4 YD. CAPACITY); CONCRETE PUMP; CRANE (ALL TYPES, INCLUDING BOOM TRUCK, CHERRY PICKER); CRANE-COMPACT, TRACK OR RUBBER OVER 4,000 LBS. CAPACITY; CRANES-SELF ERECTING, STATIONARY, TRACK OR TRUCK (ALL CONFIGURATIONS); DERRICK; DRAGLINE; DREDGE (DIPPER, CLAM OR SUCTION); ELEVATING GRADER OR EUCLID		

LOADER; FLOATING EQUIPMENT (ALL TYPES); GRADALL; HELICOPTER CREW (OPERATOR-HOIST OR WINCH); HOE (ALL TYPES); HOISTING ENGINE ON SHAFT OR TUNNEL WORK; HYDRAULIC GANTRY (LIFTING SYSTEM); INDUSTRIAL-TYPE TRACTOR; JET ENGINE DRYER (D8 OR D9) DIESEL TRACTOR; LOCOMOTIVE (STANDARD GAUGE); MAINTENANCE OPERATOR CLASS A; MIXER, PAVING (SINGLE OR DOUBLE DRUM); MUCKING MACHINE; MULTIPLE SCRAPER; PILEDRIVING MACHINE (ALL TYPES); POWER SHOVEL; PRENTICE LOADER; QUAD 9 (DOUBLE PUSHER); RAIL TAMPER (WITH AUTO LIFTING & ALIGNING DEVICE); REFRIGERATING MACHINE (FREEZER OPERATION); ROTARY DRILL, ON CAISSON WORK; ROUGH TERRAIN FORK LIFT WITH WINCH/HOIST; SIDE-BOOM; SLIP-FORM PAVER; TOWER DERRICK; TREE SHREDDER; TRENCH MACHINE (OVER 24"" WIDE); TRUCK MOUNTED CONCRETE PUMP; TUG BOAT; TUNNEL MACHINE AND/OR MINING MACHINE; WHEEL EXCAVATOR; AND ASPHALT PLANT ENGINEER (CLEVELAND DISTRICT ONLY). (ASHTABULA, CUYAHOGA, ERIE, GEAUGA, LAKE, LORAIN, MEDINA, PORTAGE, AND SUMMIT COUNTIES).....$ 45.63 16.41

POWER EQUIPMENT OPERATOR: GROUP 2- ASPHALT PAVER; AUTOMATIC SUBGRADER MACHINE, SELF-PROPELLED (CMI TYPE); BOBCAT TYPE AND/OR SKID STEER LOADER WITH HOE ATTACHMENT GREATER THAN 7,000 LBS.; BORING MACHINE MORE THAN 48""; BULLDOZER; ENDLOADER; HORIZONTAL DIRECTIONAL DRILL (OVER 50,000 FT LBS THRUST); HYDRO MILLING MACHINE; KOLMAN-TYPE LOADER (PRODUCTION TYPE-DIRT); LEAD GREASEMAN; LIGHTING & TRAFFIC SIGNAL INSTALLATION EQUIPMENT (INCLUDES ALL GROUPS OR CLASSIFICATIONS); MATERIAL TRANSFER EQUIPMENT (SHUTTLE BUGGY) ASPHALT; PETTIBONE-RAIL EQUIPMENT; POWER GRADER; POWER SCRAPER; PUSH CAT; ROTOMILL (ALL), GRINDERS & PLANERS OF ALL TYPES; TRENCH MACHINE (24"" WIDE & UNDER); VERMEER TYPE CONCRETE SAW; AND MAINTENANCE OPERATORS (PORTAGE AND SUMMIT COUNTIES ONLY). (ASHTABULA, CUYAHOGA, ERIE, GEAUGA, LAKE, LORAIN, MEDINA, PORTAGE, AND SUMMIT COUNTIES).....$ 45.53 16.41

POWER EQUIPMENT OPERATOR: GROUP 3- A-FRAME; AIR COMPRESSOR ON TUNNEL WORK (LOW PRESSURE); ASPHALT PLANT ENGINEER (PORTAGE AND SUMMIT COUNTIES ONLY); BOBCAT-TYPE AND/OR SKID STEER LOADER WITH OR WITHOUT ATTACHMENTS; HIGHWAY DRILLS (ALL TYPES); LOCOMOTIVE (NARROW GAUGE); MATERIAL HOIST/ELEVATOR; MIXER, CONCRETE (MORE THAN ONE BAG CAPACITY); MIXER, ONE BAG CAPACITY (SIDE LOADER); POWER BOILER (OVER 15 LBS. PRESSURE) PUMP OPERATOR INSTALLING & OPERATING WELL POINTS; PUMP (4"" & OVER DISCHARGE); ROLLER, ASPHALT; ROTOVATOR (LIME SOIL STABILIZER); SWITCH & TIE TAMPERS (WITHOUT LIFTING & ALIGNING DEVICE); UTILITY OPERATOR (SMALL EQUIPMENT); WELDING MACHINES; AND RAILROAD TIE INSERTER/REMOVER; ARTICULATING/STRAIGHT BED END DUMPS IF ASSIGNED (MINUS $4.00 PER HOUR. (ASHTABULA, CUYAHOGA, ERIE, GEAUGA, LAKE, LORAIN, MEDINA, PORTAGE, AND SUMMIT COUNTIES).....$ 44.49 16.41

POWER EQUIPMENT OPERATOR: GROUP 4- BACKFILLER; BALLAST RE-LOCATOR; BARS, JOINT & MESH INSTALLING MACHINE; BATCH PLANT; BORING MACHINE OPERATOR (48"" OR LESS); BULL FLOATS; BURLAP & CURING MACHINE; CONCRETE PLANT (CAPACITY 4 YD. & UNDER); CONCRETE SAW (MULTIPLE); CONVEYOR (HIGHWAY); CRUSHER; DECKHAND; FARM-TYPE TRACTOR WITH ATTACHMENTS (HIGHWAY); FINISHING MACHINE; FIREPERSON, FLOATING

EQUIPMENT (ALL TYPES); FORKLIFT; FORM TRENCHER; HYDRO HAMMER EXPECT MASONARY; HYDRO SEEDER; PAVEMENT BREAKER; PLANT MIXER; POST DRIVER; POST HOLE DIGGER (POWER AUGER); POWER BRUSH BURNER; POWER FORM HANDLING EQUIPMENT; ROAD WIDENING TRENCHER; ROLLER (BRICK, GRADE & MACADAM); SELF-PROPELLED POWER SPREADER; SELF-PROPELLED POWER SUBGRADER; STEAM FIREPERSON; TRACTOR (PULLING SHEEPFOOT, ROLLER OR GRADER); AND VIBRATORY COMPACTOR WITH INTEGRAL POWER. (ASHTABULA, CUYAHOGA, ERIE, GEAUGA, LAKE, LORAIN, MEDINA, PORTAGE, AND SUMMIT COUNTIES).....$ 43.27 16.41

POWER EQUIPMENT OPERATOR: GROUP 5- COMPRESSOR (PORTABLE, SEWER, HEAVY & HIGHWAY); DRUM FIREPERSON (ASPHALT PLANT); GENERATOR; MASONRY FORK LIFT; INBOARD-OUTBOARD MOTOR BOAT LAUNCH; OIL HEATER (ASPHALT PLANT); OILER/HELPER; POWER DRIVEN HEATER; POWER SWEEPER & SCRUBBER; PUMP (UNDER 4"" DISCHARGE); SIGNALPERSON; TIRE REPAIRPERSON; VAC/ALLS; CRANES - COMPACT, TRACK OR RUBBER UNDER 4,000 POUND CAPACITY; FUELING AND GREASING; AND CHAINMEN. (ASHTABULA, CUYAHOGA, ERIE, GEAUGA, LAKE, LORAIN, MEDINA, PORTAGE, AND SUMMIT COUNTIES).$ 37.98 16.41

POWER EQUIPMENT OPERATOR: GROUP 6- MASTER MECHANIC & BOOM FROM 150 TO 180. (ASHTABULA, CUYAHOGA, ERIE, GEAUGA, LAKE, LORAIN, MEDINA, PORTAGE, AND SUMMIT COUNTIES).....$ 46.63 16.41

POWER EQUIPMENT OPERATOR: GROUP 7- BOOM FROM 180 AND OVER. (ASHTABULA, CUYAHOGA, ERIE, GEAUGA, LAKE, LORAIN, MEDINA, PORTAGE, AND SUMMIT COUNTIES).$ 46.63 16.41

ENGI0018-004 05/01/2024

	Rates	Fringes

POWER EQUIPMENT OPERATOR: GROUP 1- AIR COMPRESSOR ON STEEL ERECTION; BARRIER MOVING MACHINE; BOILER OPERATOR ON COMPRESSOR OR GENERATOR WHEN MOUNTED ON A RIG; CABLEWAY; COMBINATION CONCRETE MIXER & TOWER; CONCRETE PLANT (OVER 4 YD. CAPACITY); CONCRETE PUMP; CRANE (ALL TYPES, INCLUDING BOOM TRUCK, CHERRY PICKER); CRANE-COMPACT, TRACK OR RUBBER OVER 4,000 LBS. CAPACITY; CRANES-SELF-ERECTING, STATIONARY, TRACK OR TRUCK (ALL CONFIGURATIONS); DERRICK; DRAGLINE; DREDGE (DIPPER, CLAM OR SUCTION); ELEVATING GRADER OR EUCLID LOADER; FLOATING EQUIPMENT (ALL TYPES); GRADALL; HELICOPTER CREW (OPERATOR-HOIST OR WINCH); HOE (ALL TYPES); HOISTING ENGINE ON SHAFT OR TUNNEL WORK; HYDRAULIC GANTRY (LIFTING SYSTEM); INDUSTRIAL-TYPE TRACTOR; JET ENGINE DRYER (D8 OR D9) DIESEL TRACTOR; LOCOMOTIVE (STANDARD GAUGE); MAINTENANCE OPERATOR CLASS A; MIXER, PAVING 9SINGLE OR DOUBLE DRUM); MUCKING MACHINE; MULTIPLE SCRAPER; PILEDRIVING MACHINE (ALL TYPES); POWER SHOVEL; PRENTICE LOADER; QUAD 9 (DOUBLE PUSHER); RAIL TAMPER (WITH AUTO LIFTING & ALIGNING DEVICE); REFRIGERATING MACHINE (FREEZER OPERATORON); ROTARY DRILL, ON CAISSON WORK; ROUGH TERRAIN FORK LIFT WITH WINCH/HOIST; SIDE-BOOM; SLIP-FORM PAVER; TOWER DERRICK; TREE SHREDDER; TRENCH MACHINE (OVER 24' WIDE); TRUCK MOUNTED CONCRETE PUMP; TUG BOAT; TUNNEL MACHINE AND/OR MINING MACHINE; AND WHEEL EXCAVATOR. (ADAMS, ALLEN, ASHLAND, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COSHOCTON,

CRAWFORD, DARKE, DEFIANCE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, AND YANDOT COUNTIES).....$ 44.14 16.41

POWER EQUIPMENT OPERATOR: GROUP 2- ASPHALT PAVER; AUTOMATIC SUBGRADER MACHINE, SELF-PROPELLED (CMI TYPE); BOBCAT TYPE AND/OR SKID STEER LOADER WITH HOE ATTACHMENT GREATER THAN 7,000 LBS.; BORING MACHINE MRE THAN 48""; BULLDOZER; ENDLOADER; HYDRO MILLING MACHINE; HORIZONTAL DIRECTIONAL DRILL (OVER 50,000 FT. LBS. THURUST); KOLMAN-TYPE LOADER (PRODUCTION TYPE-DIRT); LEAD GREASEMAN; LIGHTING & TRAFFIC SIGNAL INSTALLATION EQUIPMENT (INCLUDES ALL GROUPS OR CLASSIFICATIONS); MATERIAL TRANSFER EQUIPMENT (SHUTTLE BUGGY); ASHPHALT; PETTIBONE-RAIL EQUIPMENT; POWER GRADER; POWER SCRAPER; PUSH CAT; ROTOMILL (ALL), GRINDERS & PLANERS OF ALL TYPES; TRENCH MACHINE (24' WIDE & UNDER); AND VERMEER TYPE CONCRETE SAW. (ADAMS, ALLEN, ASHLAND, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, AND YANDOT COUNTIES).....$ 44.02 16.41

POWER EQUIPMENT OPERATOR: GROUP 3- A-FRAME; AIR COMPRESSOR ON TUNNEL WORK (LOW PRESSURE); ASPHALT PLANT ENGINEER; BOBCAT-TYPE AND/OR SKID STEER LOADER WITH OR WITHOUT ATTACHMENTS; HIGHWAY DRILLS (ALL TYPES); LOCOMOTIVE (NARROW GAUGE); MATERIAL HOIST/ELEVATOR; MIXER, CONCRETE (MORE THAN ONE BAG CAPACITY); MIXER, ONE BAG CAPACITY (SIDE LOADER); POWER BOILER (OVER 15 LBS. PRESSURE) PUMP OPERATOR INSTALLING & OPERATING WELL POINTS; PUMP (4' & OVER DISCHARGE); RAILROAD TIE INSERTER/REMOVER; ROLLER, ASPHALT; ROTOVATOR (LIME SOIL STABILIZER); SWITCH & TIE TAMPERS (WITHOUT LIFTING & ALIGNING DEVICE); UTILITY OPERATOR (SMALL EQUIPMENT); AND WELDING MACHINES: ARTICULATING/STRAIGHT BED END DUMPS IF ASSIGNED (MINUS $4.00 PER HOUR). (ADAMS, ALLEN, ASHLAND, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM,

NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, AND YANDOT COUNTIES).....$ 42.98 16.41

POWER EQUIPMENT OPERATOR: GROUP 4- BACKFILLER; BALLAST RE-LOCATOR; BARS, JOINT & MESH INSTALLING MACHINE; BATCH PLANT; BORING MACHINE OPERATOR (48' OR LESS); BULL FLOATS; BURLAP & CURING MACHINE; CONCRETE PLANT (CAPACITY 4 YD. & UNDER); CONCRETE SAW (MULTIPLE); CONVEYOR (HIGHWAY); CRUSHER; DECKHAND; FARM-TYPE TRACTOR WITH ATTACHMENTS (HIGHWAY); FINISHING MACHINE; FIREPERSON, FLOATING EQUIPMENT (ALL TYPES); FORK LIFT; FORM TRENCHER; HYDRO HAMMER EXCEPT MASONARY; HYDRO SEEDER; PAVEMENT BREAKER; PLANT MIXER; POST DRIVER; POST HOLE DIGGER (POWER AUGER); POWER BRUSH BURNER; POWER FORM HANDLING EQUIPMENT; ROAD WIDENING TRENCHER; ROLLER (BRICK, GRADE, & MACADAM); SELF-PROPELLED POWER SPREADER; SELF-PROPELLED POWER SUBGRADER; STEAM FIREPERSON; TRACTOR (PULLING SHEEPFOOT, ROLLER OR GRADER); AND VIBRATORY COMPACTOR WITH INTEGRAL POWER. (ADAMS, ALLEN, ASHLAND, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, AND YANDOT COUNTIES).....$ 41.80 16.41

POWER EQUIPMENT OPERATOR: GROUP 5- COMPRESSOR (PORTABLE, SEWER, HEAVY & HIGHWAY); DRUM FIREPERSON (ASPHALT PLANT); GENERATOR; MASONARY FORKLIFT; INBOARD-OUTBOARD MOTOR BOAT LAUNCH; OIL HEATER (ASPHALT PLANT); OILER/HELPER; POWER DRIVEN HEATER; POWER SWEEPER & SCRUBBER; PUMP (UNDER 4' DISCHARGE); SIGNALPERSON; TIRE REPAIRPERSON; VAC/ALLS; CRANES-COMPACT, TRACK OR RUBBER UNDER 4,000 POUND CAPACITY; FUELING AND GREASING; AND CHAINMEN. (ADAMS, ALLEN, ASHLAND, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, AND YANDOT COUNTIES).....$ 36.34 16.41

POWER EQUIPMENT OPERATOR: GROUP 6- MASTER MECHANIC & BOOM FROM 150 TO 180. (ADAMS, ALLEN, ASHLAND, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COSHOCTON,

CRAWFORD, DARKE, DEFIANCE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, AND YANDOT COUNTIES).....$ 45.14 16.41

POWER EQUIPMENT OPERATOR: GROUP 7- BOOM FROM 180 AND OVER. (ADAMS, ALLEN, ASHLAND, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, AND YANDOT COUNTIES).....$ 45.14 16.41

ENGI0066-023 06/01/2023

	Rates	Fringes
POWER EQUIPMENT OPERATOR: ALL OTHER WORK GROUP 1- RIG, PILE DRIVER OR CAISSON TYPE; & RIG, PILE HYDRAULIC UNIT ATTACHED. (COLUMBIANA, MAHONING & TRUMBULL COUNTIES)	$ 37.19	24.30

POWER EQUIPMENT OPERATOR: ALL OTHER WORK GROUP 2 - ASPHALT HEATER PLANER; BACKFILLER WITH DRAG ATTACHMENT; BACKHOE; BACKHOE WITH SHEAR ATTACHED; BACKHOE-REAR PIVOTAL SWING; BATCH PLANT-CENTRAL MIX CONCRETE; BATCH PLANT, PORTABLE CONCRETE; BERM BUILDER-AUTOMATIC; BOAT DERRICK; BOAT-TUG; BORING MACHINE ATTACHED TO TRACTOR; BULLCLAM; VULLDOZER; C.M.I. ROAD BUILDER & SIMILAR TYPE; CABLE PLACER &LATYER; CARRIER-STRADDLE; CARRYALL-SCRAPER OR SCOPP; CHICAGO BOOM; COMPACTOR WITH BLAD ATTACHED; CONCRETE SAW (VERMEER OR SIMILAR TYPE); CONCRETE SPREADER FINISHER; COMBINATION, BIDWELL MACHINE; CRANE; CRANE-ELECTRIC OVERHEAD; CRANE-ROUGH TERRAIN; CRANE-SIDE BOOM; CRANE-TRUCK; CRANE-TOWER; DERRICK-BOOM; DERRICK-CAR; DIGGER -WHEEL (NOT TRENCHER OR ROAD WIDENER); DOUBLE NINE; DRAG LINE; DREDGE; DRILL-KENNY OR SIMILAR TYPE; EASY POUR MEDIAN BARRIER MACHINE (OR SIMILAR TYPE); ELECTROMATIC; FRANKIE PILE; GRADALL; GRADER; GURRY; SELF-PROPELLED; HEAVY EQUIPMENT ROBOTICS OPERATOR/MECHANIC; HOIST-MONORAIL; HOIST-STATIONARY & MOBILE TRACTOR; HOIST, 2 OR 3 DRUM; HORIZONTAL DIRECTIONAL DRILL OPERATOR; JACKALL; JUMBO MACHINE; KOCAL & KUHLMAN; LAND-SEAGOING VEHICLE; LOADER, ELEVATING; LOADER, FRONT END; LOADER, SKID STEER; LOCOMOTIVE; MECHANIC/WELDER; METRO CHIP HARVESTER WITH BOO; MUCKING MACHINE; PAVER-ASPHALT FINISHING MACHINE; PAVER-ROAD CONCRETE; PAVER-SLIP FORM (C.M.I. OR SIMILAR); PLACE CRETE MACHINE WITH BOOM;

POST DRIVER (CARRIER MOUNTED); POWER DRIVEN HYDRAULIC PUMP & JACK (WHEN USED IN SLIP FORM OR LIFT SLAB CONSTRUCTION); PUMP CRETE MACHINE; REGULATOR-BALLAST; HYRAULIC POWER UNIT NOT ATTACHED TO RIG FOR PILE DRILLINGS; RIGS-DRILLING; ROTO MILL OR SIMILAR FULL LANE (8' WIDE & OVER); ROTO MILL OR SIMILAR TYPE (UNDER 8'); SHOVEL; SLIP FORM CURB MACHINE; SPEEDWING; SPIKEMASTER; STONECRUSHER; TIE PULLER & LOADER; TIE TAMPER; TRACTOR-DOUBLE BOOM; TRACTOR WITH ATTACHMENTS; TRUCK-BOOM; TRUCK-TIRE; TRENCH MACHINE; TUNNEL MACHINE (MARK 21 JAVA OR SIMILAR) & WHIRLEY (OR SIMILAR TYPE) (COLUMBIANA, MAHONING & TRUMBULL COUNTIES).....$ 36.92 24.30

POWER EQUIPMENT OPERATOR: ALL OTHER WORK GROUP 3 - ASPHALT PLANT; BENDING MACHINE (PIPELINE OR TYPE); BORING MACHINE, MOTOR DRIVEN; CHIP HARVESTER WITHOUT BOOM; CLEANING MACHINE, PIPELINE TYPE; COATING MACHINE, PIPELINE TYPE; COMPACTOR; CONCRETE BELT PLACER; CONCRETE FINISHER; CONCRETE PLANER OR ASPHALT; CONCRETE SPREADER; ELEVATOR; FORK LIFT (HOME BUILDING ONLY); FORK LIFT & LULLS; FORK LIFT WALK BEHIND (HOISTING OVER 1 BUCK HIGH); FORM LINE MACHINE; GREASE TRUCK OPERATOR; GROUT PUMP; GUNNITE MACHINE; HORIZONTAL DIRECTIONAL DRILL LOCATOR; SINGLE DRUM HOIST WITH OR WITHOUT TOWER; HUCK BOLTING MACHINE; HYDRAULIC SCAFFOLD (HOISTING BUILDING MATERIALS); PAVING BREAKER (SELF=PROPELLED OR RIDDEN); PIPE DREAM; POT FIREPERSON (POWER AGITATED); REFRIGERATION PLANT; ROAD WIDENER; ROLLER; SASGEN DERRICK; SEEDING MACHINE; SOIL STABILIZER (PUMP TYPE); SPRAY CURE MACHINE, SELF-PROPELLED; STRAW BLOWER MACHINE; SUB-GRADER; TUBE FINISHER OR BROOM C.M.I. OR SIMILAR TYPE; & TUGGER HOIST. (COLUMBIANA, MAHONING & TRUMBULL COUNTIES).....$ 32.06 24.30

POWER EQUIPMENT OPERATOR: ALL OTHER WORK GROUP 4 - AIR CURTAIN DESTRUCTOR & SIMILAR TYPE; BATCH PLANT-JOB RELATED; BOILER OPERATOR; COMPRESSOR; CONVEYOR; CURB BUILDER, SELF-PROPELLED; DRILL WAGON; GENERATOR SET; GENERATOR-STEAM; HEATER-PORTABLE POWER; HYDRAULIC MANIUPLATOR CRANE; JACK-HYDRAULIC POWER DRIVEN; JACK-HYARAULIC (RAILROAD); LADAVATOR; MINOR MACHINE OPERATOR; MIXER-CONCRETE; MULCHING MACHINE; PIN PULLER; POWER BROOM; PULVERIZER; PUMP; ROAD FINISHING MAHINC (PULL TYPE); SAW-CONCRETE-SELF-PROPELLED (HIGHWAY WORK); SIGNAL PERSON; SPRAY CURE MACHINE-MOTOR POWERED; STUMP CUTTER; TRACTOR; TRENCHER FORM; WATER BLASTER; STEAM JENNY; SYPHON; VIBRATOR-GASOLINE; & WELDING MACHINE. (COLUMBIANA, MAHONING & TRUMBULL COUNTIES).....$ 28.77 24.30

POWER EQUIPMENT OPERATOR: ALL OTHER WORK GROUP 5 - BRAKEPERSON; FIREPERSON; & OILER. (COLUMBIANA, MAHONING & TRUMBULL COUNTIES).....$ 25.94 24.30

POWER EQUIPMENT OPERATOR: ASBESTOS; HAZARDOUS/TOXIC WASTE PROJECTS GROUP 1 - A & B - RIG, PILE DRIVER OR CAISSON TYPE; & RIG, PILE HYDRAULIC UNIT ATTACHED. (COLUMBIANA, MAHONING & TRUMBULL COUNTIES).....$ 44.63 24.30

POWER EQUIPMENT OPERATOR: ASBESTOS; HAZARDOUS/TOXIC WASTE PROJECTS GROUP 2 - A & B - ASPHALT HEATER PLANER; BACKFILLER WITH DRAG ATTACHMENT; BACKHOE; BACKHOE WITH SHEAR ATTACHED; BACKHOE-REAR PIVOTAL SWING; BATCH PLANT-CENTRAL MIX CONCRETE; BATCH PLANT, PORTABLE CONCRETE; BERM BUILDER-AUTOMATIC;

BOAT DERRICK; BOAT-TUG; BORING MACHINE ATTACHED TO TRACTOR; BULLCLAM; VULLDOZER; C.M.I. ROAD BUILDER & SIMILAR TYPE; CABLE PLACER &LATYER; CARRIER-STRADDLE; CARRYALL-SCRAPER OR SCOPP; CHICAGO BOOM; COMPACTOR WITH BLAD ATTACHED; CONCRETE SAW (VERMEER OR SIMILAR TYPE); CONCRETE SPREADER FINISHER; COMBINATION, BIDWELL MACHINE; CRANE; CRANE-ELECTRIC OVERHEAD; CRANE-ROUGH TERRAIN; CRANE-SIDE BOOM; CRANE-TRUCK; CRANE-TOWER; DERRICK-BOOM; DERRICK-CAR; DIGGER -WHEEL (NOT TRENCHER OR ROAD WIDENER); DOUBLE NINE; DRAG LINE; DREDGE; DRILL-KENNY OR SIMILAR TYPE; EASY POUR MEDIAN BARRIER MACHINE (OR SIMILAR TYPE); ELECTROMATIC; FRANKIE PILE; GRADALL; GRADER; GURRY; SELF-PROPELLED; HEAVY EQUIPMENT ROBOTICS OPERATOR/MECHANIC; HOIST-MONORAIL; HOIST-STATIONARY & MOBILE TRACTOR; HOIST, 2 OR 3 DRUM; HORIZONTAL DIRECTIONAL DRILL OPERATOR; JACKALL; JUMBO MACHINE; KOCAL & KUHLMAN; LAND-SEAGOING VEHICLE; LOADER, ELEVATING; LOADER, FRONT END; LOADER, SKID STEER; LOCOMOTIVE; MECHANIC/WELDER; METRO CHIP HARVESTER WITH BOO; MUCKING MACHINE; PAVER-ASPHALT FINISHING MACHINE; PAVER-ROAD CONCRETE; PAVER-SLIP FORM (C.M.I. OR SIMILAR); PLACE CRETE MACHINE WITH BOOM; POST DRIVER (CARRIER MOUNTED); POWER DRIVEN HYDRAULIC PUMP & JACK (WHEN USED IN SLIP FORM OR LIFT SLAB CONSTRUCTION); PUMP CRETE MACHINE; REGULATOR-BALLAST; HYRAULIC POWER UNIT NOT ATTACHED TO RIG FOR PILE DRILLINGS; RIGS-DRILLING; ROTO MILL OR SIMILAR FULL LANE (8' WIDE & OVER); ROTO MILL OR SIMILAR TYPE (UNDER 8'); SHOVEL; SLIP FORM CURB MACHINE; SPEEDWING; SPIKEMASTER; STONECRUSHER; TIE PULLER & LOADER; TIE TAMPER; TRACTOR-DOUBLE BOOM; TRACTOR WITH ATTACHMENTS; TRUCK-BOOM; TRUCK-TIRE; TRENCH MACHINE; TUNNEL MACHINE (MARK 21 JAVA OR SIMILAR) & WHIRLEY (OR SIMILAR TYPE) (COLUMBIANA, MAHONING & TRUMBULL COUNTIES).....$ 44.30 24.30

POWER EQUIPMENT OPERATOR: ASBESTOS; HAZARDOUS/TOXIC WASTE PROJECTS GROUP 3 - A & B - ASPHALT PLANT; BENDING MACHINE (PIPELINE OR TYPE); BORING MACHINE, MOTOR DRIVEN; CHIP HARVESTER WITHOUT BOOM; CLEANING MACHINE, PIPELINE TYPE; COATING MACHINE, PIPELINE TYPE; COMPACTOR; CONCRETE BELT PLACER; CONCRETE FINISHER; CONCRETE PLANER OR ASPHALT; CONCRETE SPREADER; ELEVATOR; FORK LIFT (HOME BUILDING ONLY); FORK LIFT & LULLS; FORK LIFT WALK BEHIND (HOISTING OVER 1 BUCK HIGH); FORM LINE MACHINE; GREASE TRUCK OPERATOR; GROUT PUMP; GUNNITE MACHINE; HORIZONTAL DIRECTIONAL DRILL LOCATOR; SINGLE DRUM HOIST WITH OR WITHOUT TOWER; HUCK BOLTING MACHINE; HYDRAULIC SCAFFOLD (HOISTING BUILDING MATERIALS); PAVING BREAKER (SELF=PROPELLED OR RIDDEN); PIPE DREAM; POT FIREPERSON (POWER AGITATED); REFRIGERATION PLANT; ROAD WIDENER; ROLLER; SASGEN DERRICK; SEEDING MACHINE; SOIL STABILIZER (PUMP TYPE); SPRAY CURE MACHINE, SELF-PROPELLED; STRAW BLOWER MACHINE; SUB-GRADER; TUBE FINISHER OR BROOM C.M.I. OR SIMILAR TYPE; & TUGGER HOIST(COLUMBIANA, MAHONING & TRUMBULL COUNTIES).....$ 38.47 24.30

POWER EQUIPMENT OPERATOR: ASBESTOS; HAZARDOUS/TOXIC WASTE PROJECTS GROUP 4 - A & B - AIR CURTAIN DESTRUCTOR & SIMILAR TYPE; BATCH PLANT-JOB RELATED; BOILER OPERATOR; COMPRESSOR; CONVEYOR; CURB BUILDER, SELF-PROPELLED; DRILL WAGON; GENERATOR SET; GENERATOR-STEAM; HEATER-PORTABLE POWER;

HYDRAULIC MANIUPLATOR CRANE; JACK-HYDRAULIC POWER DRIVEN; JACK-HYARAULIC (RAILROAD); LADAVATOR; MINOR MACHINE OPERATOR; MIXER-CONCRETE; MULCHING MACHINE; PIN PULLER; POWER BROOM; PULVERIZER; PUMP; ROAD FINISHING MAHINC (PULL TYPE); SAW-CONCRETE-SELF-PROPELLED (HIGHWAY WORK); SIGNAL PERSON; SPRAY CURE MACHINE-MOTOR POWERED; STUMP CUTTER; TRACTOR; TRENCHER FORM; WATER BLASTER; STEAM JENNY; SYPHON; VIBRATOR-GASOLINE; & WELDING MACHINE. (COLUMBIANA, MAHONING & TRUMBULL COUNTIES).$ 34.52 24.30

POWER EQUIPMENT OPERATOR: ASBESTOS; HAZARDOUS/TOXIC WASTE PROJECTS GROUP 5 - A & B - BRAKEPERSON; FIREPERSON; & OILER. (COLUMBIANA, MAHONING & TRUMBULL COUNTIES).....$ 31.13 24.30

POWER EQUIPMENT OPERATOR: HAZARDOUS/TOXIC WASTE PROJECTS GROUP 1 - C & D - RIG, PILE DRIVER OR CAISSON TYPE; & RIG, PILE HYDRAULIC UNIT ATTACHED. (COLUMBIANA, MAHONING & TRUMBULL COUNTIES).....$ 40.91 24.30

POWER EQUIPMENT OPERATOR: HAZARDOUS/TOXIC WASTE PROJECTS GROUP 2 - C & D - ASPHALT HEATER PLANER; BACKFILLER WITH DRAG ATTACHMENT; BACKHOE; BACKHOE WITH SHEAR ATTACHED; BACKHOE-REAR PIVOTAL SWING; BATCH PLANT-CENTRAL MIX CONCRETE; BATCH PLANT, PORTABLE CONCRETE; BERM BUILDER-AUTOMATIC; BOAT DERRICK; BOAT-TUG; BORING MACHINE ATTACHED TO TRACTOR; BULLCLAM; VULLDOZER; C.M.I. ROAD BUILDER & SIMILAR TYPE; CABLE PLACER &LATYER; CARRIER-STRADDLE; CARRYALL-SCRAPER OR SCOPP; CHICAGO BOOM; COMPACTOR WITH BLAD ATTACHED; CONCRETE SAW (VERMEER OR SIMILAR TYPE); CONCRETE SPREADER FINISHER; COMBINATION, BIDWELL MACHINE; CRANE; CRANE-ELECTRIC OVERHEAD; CRANE-ROUGH TERRAIN; CRANE-SIDE BOOM; CRANE-TRUCK; CRANE-TOWER; DERRICK-BOOM; DERRICK-CAR; DIGGER -WHEEL (NOT TRENCHER OR ROAD WIDENER); DOUBLE NINE; DRAG LINE; DREDGE; DRILL-KENNY OR SIMILAR TYPE; EASY POUR MEDIAN BARRIER MACHINE (OR SIMILAR TYPE); ELECTROMATIC; FRANKIE PILE; GRADALL; GRADER; GURRY; SELF-PROPELLED; HEAVY EQUIPMENT ROBOTICS OPERATOR/MECHANIC; HOIST-MONORAIL; HOIST-STATIONARY & MOBILE TRACTOR; HOIST, 2 OR 3 DRUM; HORIZONTAL DIRECTIONAL DRILL OPERATOR; JACKALL; JUMBO MACHINE; KOCAL & KUHLMAN; LAND-SEAGOING VEHICLE; LOADER, ELEVATING; LOADER, FRONT END; LOADER, SKID STEER; LOCOMOTIVE; MECHANIC/WELDER; METRO CHIP HARVESTER WITH BOO; MUCKING MACHINE; PAVER-ASPHALT FINISHING MACHINE; PAVER-ROAD CONCRETE; PAVER-SLIP FORM (C.M.I. OR SIMILAR); PLACE CRETE MACHINE WITH BOOM; POST DRIVER (CARRIER MOUNTED); POWER DRIVEN HYDRAULIC PUMP & JACK (WHEN USED IN SLIP FORM OR LIFT SLAB CONSTRUCTION); PUMP CRETE MACHINE; REGULATOR-BALLAST; HYRAULIC POWER UNIT NOT ATTACHED TO RIG FOR PILE DRILLINGS; RIGS-DRILLING; ROTO MILL OR SIMILAR FULL LANE (8' WIDE & OVER); ROTO MILL OR SIMILAR TYPE (UNDER 8'); SHOVEL; SLIP FORM CURB MACHINE; SPEEDWING; SPIKEMASTER; STONECRUSHER; TIE PULLER & LOADER; TIE TAMPER; TRACTOR-DOUBLE BOOM; TRACTOR WITH ATTACHMENTS; TRUCK-BOOM; TRUCK-TIRE; TRENCH MACHINE; TUNNEL MACHINE (MARK 21 JAVA OR SIMILAR) & WHIRLEY (OR SIMILAR TYPE) (COLUMBIANA, MAHONING & TRUMBULL COUNTIES).....$ 40.61 24.30

POWER EQUIPMENT OPERATOR: HAZARDOUS/TOXIC WASTE PROJECTS GROUP 3 - C & D - ASPHALT PLANT; BENDING MACHINE (PIPELINE OR TYPE); BORING MACHINE, MOTOR DRIVEN; CHIP HARVESTER WITHOUT BOOM; CLEANING

MACHINE, PIPELINE TYPE; COATING MACHINE, PIPELINE TYPE; COMPACTOR; CONCRETE BELT PLACER; CONCRETE FINISHER; CONCRETE PLANER OR ASPHALT; CONCRETE SPREADER; ELEVATOR; FORK LIFT (HOME BUILDING ONLY); FORK LIFT & LULLS; FORK LIFT WALK BEHIND (HOISTING OVER 1 BUCK HIGH); FORM LINE MACHINE; GREASE TRUCK OPERATOR; GROUT PUMP; GUNNITE MACHINE; HORIZONTAL DIRECTIONAL DRILL LOCATOR; SINGLE DRUM HOIST WITH OR WITHOUT TOWER; HUCK BOLTING MACHINE; HYDRAULIC SCAFFOLD (HOISTING BUILDING MATERIALS); PAVING BREAKER (SELF=PROPELLED OR RIDDEN); PIPE DREAM; POT FIREPERSON (POWER AGITATED); REFRIGERATION PLANT; ROAD WIDENER; ROLLER; SASGEN DERRICK; SEEDING MACHINE; SOIL STABILIZER (PUMP TYPE); SPRAY CURE MACHINE, SELF-PROPELLED; STRAW BLOWER MACHINE; SUB-GRADER; TUBE FINISHER OR BROOM C.M.I. OR SIMILAR TYPE; & TUGGER HOIST(COLUMBIANA, MAHONING & TRUMBULL COUNTIES).....$ 35.27 24.30

POWER EQUIPMENT OPERATOR: HAZARDOUS/TOXIC WASTE PROJECTS GROUP 4 - C & D - AIR CURTAIN DESTRUCTOR & SIMILAR TYPE; BATCH PLANT-JOB RELATED; BOILER OPERATOR; COMPRESSOR; CONVEYOR; CURB BUILDER, SELF-PROPELLED; DRILL WAGON; GENERATOR SET; GENERATOR-STEAM; HEATER-PORTABLE POWER; HYDRAULIC MANIUPLATOR CRANE; JACK-HYDRAULIC POWER DRIVEN; JACK-HYARAULIC (RAILROAD); LADAVATOR; MINOR MACHINE OPERATOR; MIXER-CONCRETE; MULCHING MACHINE; PIN PULLER; POWER BROOM; PULVERIZER; PUMP; ROAD FINISHING MAHINC (PULL TYPE); SAW-CONCRETE-SELF-PROPELLED (HIGHWAY WORK); SIGNAL PERSON; SPRAY CURE MACHINE-MOTOR POWERED; STUMP CUTTER; TRACTOR; TRENCHER FORM; WATER BLASTER; STEAM JENNY; SYPHON; VIBRATOR-GASOLINE; & WELDING MACHINE. (COLUMBIANA, MAHONING & TRUMBULL COUNTIES).$ 31.65 24.30

POWER EQUIPMENT OPERATOR: HAZARDOUS/TOXIC WASTE PROJECTS GROUP 5 - C & D - BRAKEPERSON; FIREPERSON; & OILER. (COLUMBIANA, MAHONING & TRUMBULL COUNTIES).....$ 28.53 24.30

IRON0017-002 05/01/2024

	Rates	Fringes
IRONWORKER: ORNAMENTAL, REINFORCING, & STRUCTURAL (ASHTABULA (NORTH OF ROUTE 6, STARTING AT THE GEAUGA COUNTY LINE, PROCEEDING EAST TO STATE ROUTE 45), CUYAHOGA, ERIE (EASTERN 2/3), GEAUGA, HURON (EAST OF A LINE DRAWN FROM THE NORTH BORDER THROUGH MONROEVILLE & WILLARD), LAKE, LORAIN, MEDINA (NORTH OF OLD RTE. #224), PORTAGE (WEST OF A LINE FROM MIDDLEFIELD TO SHALERSVILLE TO DEERFIELD), AND SUMMIT (NORTH OF OLD RTE. #224, INCLUDING CITY LIMITS OF BARBERTON) COUNTIES).....	$ 36.83	29.01

IRON0017-010 05/01/2024

	Rates	Fringes
IRONWORKER: STRUCTURAL, INCLUDING METAL BUILDING ERECTION & REINFORCING (ASHTABULA (EASTERN PART FROM LAKE ERIE ON THE NORTH TO ROUTE #322 ON THE SOUTH TO INCLUDE CONNEAUT, KINGSVILLE, SHEFFIELD, DENMARK, DORSET, CHERRY VALLEY, WAYNE, MONROE, PIERPONT, RICHMOND, ANDOVER & WILLIAMSFIELD TOWNSHIPS)).....	$ 36.83	29.01

IRON0044-001 06/01/2025

	Rates	Fringes
IRONWORKER, REINFORCING (ADAMS (WESTERN PART), BROWN, BUTLER (SOUTHERN PART), CLERMONT, CLINTON (SOUTH OF A LINE DRAWN FROM BLANCHESTER TO LYNCHBURG), HAMILTON, HIGHLAND (EXCLUDING EASTERN ONE-FIFTH & PORTION OF COUNTY INSIDE LINES DRAWN FROM MARSHALL TO LYNCHBURG FROM THE NORTHERN COUNTY LINE THROUGH E. MONROE TO MARSHALL) AND WARREN (SOUTH OF A LINE DRAWN FROM BLANCHESTER THROUGH MORROW TO THE WEST COUNTY LINE) COUNTIES)	$ 38.27	23.90

IRON0044-002 06/01/2025

	Rates	Fringes
IRONWORKER: FENCE ERECTOR (CLINTON (SOUTH OF A LINE DRAWN FROM BLANCHESTER TO LYNCHBURG), HAMILTON, HIGHLAND (EXCLUDING EASTERN ONE-FIFTH & PORTION OF COUNTY INSIDE LINES DRAWN FROM MARSHALL TO LYNCHBURG FROM THE NORTHERN COUNTY LINE THROUGH E. MONROE TO MARSHALL) & WARREN (SOUTH OF A LINE DRAWN FROM BLANCHESTER THROUGH MORROW TO THE WEST COUNTY LINE))	$ 35.88	23.90
IRONWORKER: ORNAMENTAL; STRUCTURAL (CLINTON (SOUTH OF A LINE DRAWN FROM BLANCHESTER TO LYNCHBURG), HAMILTON, HIGHLAND (EXCLUDING EASTERN ONE-FIFTH & PORTION OF COUNTY INSIDE LINES DRAWN FROM MARSHALL TO LYNCHBURG FROM THE NORTHERN COUNTY LINE THROUGH E. MONROE TO MARSHALL) & WARREN (SOUTH OF A LINE DRAWN FROM BLANCHESTER THROUGH MORROW TO THE WEST COUNTY LINE))	$ 37.77	23.90

IRON0055-003 07/01/2024

	Rates	Fringes
IRONWORKER: ALL OTHER WORK (CRAWFORD (AREA BETWEEN LINES DRAWN FROM WHERE HWY #598 & #30 MEET THROUGH N. LIBERTY TO THE NORTHERN BORDER & FROM SAID HWY JUNCTION POINT DUE WEST TO THE BORDER), DEFIANCE (S. OF A LINE DRAWN FROM WHERE RTE. #66 MEETS THE NORTHERN LINE THROUGH INDEPENDENCE TO THE EASTERN COUNTY BORDER), ERIE (WESTERN 1/3), FULTON, HANCOCK, HARDIN (NORTH OF A LINE DRAWN FROM MAYSVILLE TO A POINT 4 MILES SOUTH OF THE NORTHERN LINE ON THE EASTERN LINE), HENRY, HURON (WEST OF A LINE DRAWN FROM MAYSVILLE TO A POINT 4 MILES SOUTH OF THE NORTHEN LINE OF THE EASTERN LINE), HENRY, HURON (WEST OF A LINE DRAWN FROM THE NORTHERN BORDER THROUGH MONROEVILLE & WILLARD), LUCAS, OTTAWA, PUTNAM (EAST OF A LINE DRAWN FROM THE NORTHERN BORDER DOWN THROUGH MILLER CITY TO WHERE #696 MEETS THE SOURTHERN BORDER), SANDUSKY, SENECA, WILLIAMS (EAST OF A LINE DRAWN FROM PIONEER THROUGH STRYKER TO THE SOUTHERN BORDER), WOOD & WYANDOT (NORTH OF RTE. #30))	$ 29.77	21.30
IRONWORKER: FENCE ERECTOR (CRAWFORD (AREA BETWEEN LINES DRAWN FROM WHERE HWY #598 & #30 MEET THROUGH N. LIBERTY TO THE NORTHERN BORDER & FROM SAID HWY JUNCTION POINT DUE WEST TO THE BORDER), DEFIANCE (S. OF A LINE DRAWN FROM WHERE RTE. #66 MEETS THE NORTHERN LINE THROUGH INDEPENDENCE TO THE EASTERN COUNTY BORDER), ERIE (WESTERN 1/3), FULTON, HANCOCK, HARDIN (NORTH OF A LINE DRAWN FROM MAYSVILLE TO A POINT 4 MILES SOUTH OF THE NORTHERN LINE ON THE EASTERN LINE), HENRY, HURON (WEST OF A		

LINE DRAWN FROM MAYSVILLE TO A POINT 4 MILES SOUTH OF THE NORTHEN LINE OF THE EASTERN LINE), HENRY, HURON (WEST OF A LINE DRAWN FROM THE NORTHERN BORDER THROUGH MONROEVILLE & WILLARD), LUCAS, OTTAWA, PUTNAM (EAST OF A LINE DRAWN FROM THE NORTHERN BORDER DOWN THROUGH MILLER CITY TO WHERE #696 MEETS THE SOURTHERN BORDER), SANDUSKY, SENECA, WILLIAMS (EAST OF A LINE DRAWN FROM PIONEER THROUGH STRYKER TO THE SOUTHERN BORDER), WOOD & WYANDOT (NORTH OF RTE. #30))..... $ 29.77 21.30

IRONWORKER: FLAT ROAD MESH (CRAWFORD (AREA BETWEEN LINES DRAWN FROM WHERE HWY #598 & #30 MEET THROUGH N. LIBERTY TO THE NORTHERN BORDER & FROM SAID HWY JUNCTION POINT DUE WEST TO THE BORDER), DEFIANCE (S. OF A LINE DRAWN FROM WHERE RTE. #66 MEETS THE NORTHERN LINE THROUGH INDEPENDENCE TO THE EASTERN COUNTY BORDER), ERIE (WESTERN 1/3), FULTON, HANCOCK, HARDIN (NORTH OF A LINE DRAWN FROM MAYSVILLE TO A POINT 4 MILES SOUTH OF THE NORTHERN LINE ON THE EASTERN LINE), HENRY, HURON (WEST OF A LINE DRAWN FROM MAYSVILLE TO A POINT 4 MILES SOUTH OF THE NORTHEN LINE OF THE EASTERN LINE), HENRY, HURON (WEST OF A LINE DRAWN FROM THE NORTHERN BORDER THROUGH MONROEVILLE & WILLARD), LUCAS, OTTAWA, PUTNAM (EAST OF A LINE DRAWN FROM THE NORTHERN BORDER DOWN THROUGH MILLER CITY TO WHERE #696 MEETS THE SOURTHERN BORDER), SANDUSKY, SENECA, WILLIAMS (EAST OF A LINE DRAWN FROM PIONEER THROUGH STRYKER TO THE SOUTHERN BORDER), WOOD & WYANDOT (NORTH OF RTE. #30))..... $ 26.40 24.62

IRONWORKER: TUNNES & CAISSONS UNDER PRESSURE (CRAWFORD (AREA BETWEEN LINES DRAWN FROM WHERE HWY #598 & #30 MEET THROUGH N. LIBERTY TO THE NORTHERN BORDER & FROM SAID HWY JUNCTION POINT DUE WEST TO THE BORDER), DEFIANCE (S. OF A LINE DRAWN FROM WHERE RTE. #66 MEETS THE NORTHERN LINE THROUGH INDEPENDENCE TO THE EASTERN COUNTY BORDER), ERIE (WESTERN 1/3), FULTON, HANCOCK, HARDIN (NORTH OF A LINE DRAWN FROM MAYSVILLE TO A POINT 4 MILES SOUTH OF THE NORTHERN LINE ON THE EASTERN LINE), HENRY, HURON (WEST OF A LINE DRAWN FROM MAYSVILLE TO A POINT 4 MILES SOUTH OF THE NORTHEN LINE OF THE EASTERN LINE), HENRY, HURON (WEST OF A LINE DRAWN FROM THE NORTHERN BORDER THROUGH MONROEVILLE & WILLARD), LUCAS, OTTAWA, PUTNAM (EAST OF A LINE DRAWN FROM THE NORTHERN BORDER DOWN THROUGH MILLER CITY TO WHERE #696 MEETS THE SOURTHERN BORDER), SANDUSKY, SENECA, WILLIAMS (EAST OF A LINE DRAWN FROM PIONEER THROUGH STRYKER TO THE SOUTHERN BORDER), WOOD & WYANDOT (NORTH OF RTE. #30))..... $ 35.50 29.20

IRON0147-002 06/01/2025

	Rates	Fringes
IRONWORKER (ALLEN (NORTHERN HALF), DEFIANCE (NORTHERN PART, EXCLUDING SOUTH OF A LINE DRAWN FROM WHERE RTE. #66 MEETS THE NORTHERN LINE THROUGH INDEPENDENCE TO THE EASTERN COUNTY BORDER), MERCER (NORTHERN HALF), PAULDING, PUTNAM (WESTERN PART, EXCLUDING EAST OF A LINE DRAWN FROM THE NORTHERN BORDER DOWN THROUGH MILLER CITY TO WHERE #696 MEETS THE SOUTHERN BORDER), VAN WERT, AND WILLIAMS (WESTERN PART, EXCLUDING EAST OF A LINE DRAWN FROM PIONEER THROUGH STRYKER TO THE SOUTHERN BORDER) COUNTIES).....	$ 38.00	26.39

IRON0172-002 06/01/2025

	Rates	Fringes
IRONWORKER (CHAMPAIGN (EASTERN ONE-THIRD), CLARK (EASTERN ONE-FOURTH), COSHOCTON (WEST OF A LINE BEGINNING AT THE NORTHWESTERN COUNTY LINE GOING THROUGH WALHONDING & TUNNEL HILL TO THE SOUTHERN COUNTY LINE), CRAWFORD (SOUTH OF RTE. #30), DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, HARDIN (EXCLUDING A LINE DRAWN FROM ROUNDHEAD TO MAYSVILLE), HIGHLAND (EASTERN ONE-FIFTH), HOCKING, JACKSON (NORTHERN HALF), KNOX, LICKING, LOGAN (EASTERN ONE-THIRD), MADISON, MARION, MORROW, MUSKINGUM (WEST OF A LINE	$ 40.87	23.15

IRON0207-004 06/01/2025

	Rates	Fringes
IRONWORKER: LAYOUT; SHEETER (ASHTABULA (SOUTHERN PART STARTING AT THE GEAUGA COUNTY LINE), COLUMBIANA (E. OF A LINE FROM DAMASCUS TO HIGHLANDTOWN), MAHONING (N. OF OLD ROUTE #224), PORTAGE (E. OF A LINE FROM MIDDLEFIELD TO SHALERSVILLE TO DEERFIELD) & TRUMBULL)	$ 37.26	28.16
IRONWORKER: ORNAMENTAL; REINFORCING; STRUCTURAL (ASHTABULA (SOUTHERN PART STARTING AT THE GEAUGA COUNTY LINE), COLUMBIANA (E. OF A LINE FROM DAMASCUS TO HIGHLANDTOWN), MAHONING (N. OF OLD ROUTE #224), PORTAGE (E. OF A LINE FROM MIDDLEFIELD TO SHALERSVILLE TO DEERFIELD) & TRUMBULL)	$ 36.26	28.16

IRON0290-002 06/01/2025

	Rates	Fringes
IRONWORKER (ALLEN (SOUTHERN HALF), AUGLAIZE, BUTLER (NORTH OF A LINE DRAWN FROM EAST TO THE WEST COUNTY LINE GOING THROUGH OXFORD, DARRTOWN & WOODSDALE), CHAMPAIGN (EXCLUDING EAST OF A LINE DRAWN FROM CATAWLA TO THE POINT WHERE #68 INTERSECTS THE NORTHERN COUNTY LINE), CLARK (WESTERN TWO-THIRDS), CLINTON (EXCLUDING SOUTH OF A LINE DRAWN FROM BLANCHESTER TO LYNCHBURG), DARKE, GREENE, HIGHLAND (INSIDE LINES DRAWN FROM MARSHALL TO LYNCHBURG & FROM THE NORTHERN COUNTY LINE THROUGH EAST MONROE TO MARSHALL), LOGAN (WEST OF A LINE DRAWN FROM WEST LIBERTY TO WHERE THE NORTHERN COUNTY LINE MEETS THE WESTERN COUNTY LINE OF HARDIN), MERCER (SOUTHERN HALF), MIAMI, MONTGOMERY, PREBLE, SHELBY, & WARREN (EXCLUDING SOUTH OF A LINE DRAWN FROM BLANCHESTER THROUGH MORROW TO THE WESTERN COUNTY LINE) COUNTIES)	$ 37.39	25.35

IRON0549-003 12/01/2022

	Rates	Fringes
IRONWORKER (BELMONT, GUERNSEY, HARRISON, JEFFERSON, MONROE & MUSKINGUM (EXCLUDING PORTION WEST OF A LINE STARTING AT ADAMS MILL GOING TO ADAMSVILLE AND GOING FROM ADAMSVILLE THROUGH BLUE ROCK TO THE SOUTH BORDER))	$ 35.19	25.66

IRON0550-004 05/01/2024

	Rates	Fringes

IRONWORKERS: STRUCTURAL, ORNAMENTAL AND REINFORCING (ASHLAND, CARROLL, COLUMBIANA (W. OF A LINE FROM DAMASCUS TO HIGHLANDTOWN), COSHOCTON (E. OF A LINE BEGINNING AT NW CO. LINE GOING THROUGH WALHONDING & TUNNEL HILL TO THE SOUTH CO. LINE), HOLMES, HURON (S. OF OLD RTE. #224), MAHONING (S. OF OLD RTE. #224), MEDINA (S. OF OLD RTE. #224), PORTAGE (S. OF OLD RTE. #224), RICHLAND, STARK, SUMMIT (S. OF OLD RTE. #224, EXCLUDING CITY LIMITS OF BARBERTON), TUSCARAWAS, & WAYNE).....$ 34.70 22.88

IRON0769-004 06/01/2025

	Rates	Fringes
IRONWORKER (ADAMS (EASTERN HALF), GALLIA, JACKSON (SOUTHERN HALF), LAWRENCE & SCIOTO).....	$ 39.70	29.59

IRON0787-003 06/01/2025

	Rates	Fringes
IRONWORKER (ATHENS, MEIGS, MORGAN, NOBLE, AND WASHINGTON COUNTIES).....	$ 36.10	24.65

LABO0265-008 05/01/2024

	Rates	Fringes
LABORER GROUP 1- ASPHALT LABORER; CARPENTER TENDER; CONCRETE CURING APPLICATOR; DUMP MAN (BATCH TRUCK); GUARDRAIL AND FENCE INSTALLER; JOINT SETTER; LABORER (CONSTRUCTION); LANDSCAPE LABORER; MESH HANDLERS & PLACER; RIGHT-OF-WAY LABORER; RIPRAP LABORER & GROUTER; SCAFFOLD ERECTOR; SEAL COATING; SURFACE TREATMENT OR ROAD MIX LABORER; SIGN INSTALLER; SLURRY SEAL; UTILITY MAN; BRIDGE MAN; HANDYMAN; WATERPROOFING LABORER; FLAGPERSON; HAZARDOUS WASTE (LEVEL D); DIVER TENDER; ZONE PERSON & TRAFFIC CONTROL. TUNNEL LABORER WITH AIR-PRESSURIZED ADD $1.00 TO BASE RATE SIGNAL PERSON WILL RECEIVE THE RATE EQUAL TO THE RATE PAID THE LABORER CLASSIFICATION FOR WHICH HE OR SHE IS SIGNALING. (REMAINING COUNTIES OF OHIO).....	$ 35.52	14.45
LABORER GROUP 1- ASPHALT LABORER; CARPENTER TENDER; CONCRETE CURING APPLICATOR; DUMP MAN (BATCH TRUCK); GUARDRAIL AND FENCE INSTALLER; JOINT SETTER; LABORER (CONSTRUCTION); LANDSCAPE LABORER; MESH HANDLERS & PLACER; RIGHT-OF-WAY LABORER; RIPRAP LABORER & GROUTER; SCAFFOLD ERECTOR; SEAL COATING; SURFACE TREATMENT OR ROAD MIX LABORER; SIGN INSTALLER; SLURRY SEAL; UTILITY MAN; BRIDGE MAN; HANDYMAN; WATERPROOFING LABORER; FLAGPERSON; HAZARDOUS WASTE (LEVEL D); DIVER TENDER; ZONE PERSON & TRAFFIC CONTROL. TUNNEL LABORER WITH AIR-PRESSURIZED ADD $1.00 TO BASE RATE SIGNAL PERSON WILL RECEIVE THE RATE EQUAL TO THE RATE PAID THE LABORER CLASSIFICATION FOR WHICH HE OR SHE IS SIGNALING. (CUYAHOGA, GEAUGA & LAKE COUNTIES).....	$ 37.18	14.45
LABORER GROUP 1- ASPHALT LABORER; CARPENTER TENDER; CONCRETE CURING APPLICATOR; DUMP MAN (BATCH TRUCK); GUARDRAIL AND FENCE INSTALLER; JOINT SETTER; LABORER (CONSTRUCTION); LANDSCAPE LABORER; MESH HANDLERS & PLACER; RIGHT-OF-WAY LABORER; RIPRAP LABORER & GROUTER; SCAFFOLD ERECTOR; SEAL COATING; SURFACE TREATMENT OR ROAD MIX LABORER; SIGN INSTALLER; SLURRY SEAL; UTILITY MAN; BRIDGE MAN; HANDYMAN; WATERPROOFING LABORER; FLAGPERSON;		

HAZARDOUS WASTE (LEVEL D); DIVER TENDER; ZONE PERSON & TRAFFIC CONTROL. TUNNEL LABORER WITH AIR-PRESSURIZED ADD $1.00 TO BASE RATE SIGNAL PERSON WILL RECEIVE THE RATE EQUAL TO THE RATE PAID THE LABORER CLASSIFICATION FOR WHICH HE OR SHE IS SIGNALING. (ASHTABULA, ERIE, HURON, LORAIN, LUCAS, MAHONING, MEDINA, OTTAWA, PORTAGE, SANDUSKY, STARK, SUMMIT, TRUMBULL & WOOD COUNTIES).....$ 35.95 14.45

LABORER GROUP 2- ASPHALT RAKER; CONCRETE PUDDLER; KETTLE MAN PIPELINE); MACHINE DRIVEN TOOLS (GAS, ELECTRIC, AIR); MASON TENDER; BRICK PAVER; MORTAR MIXER; POWER BUGGY OR POWER WHEELBARROW; PAINT STRIPER; SHEETING & SHORING MAN; SURFACE GRINDER MAN; PLASTIC FUSING MACHINE OPERATOR; PUG MILL OPERATOR; & VACUUM DEVICES (WET OR DRY); RODDING MACHINE OPERATOR; DIVER; SCREWMAN OR PAVER; SCREED PERSON; WATER BLAST, HAND HELD WAND; PUMPS 4"" & UNDER (GAS, AIR OR ELECTRIC) & HAZARDOUS WASTE (LEVEL C); AIR TRACK AND WAGON DRILL; BOTTOM PERSON; COFFERDAM (BELOW 25 FT. DEEP); CONCRETE SAW PERSON; CUTTING WITH BURNING TORCH; FORM SETTER; HAND SPIKER (RAILROAD); PIPELAYER; TUNNEL LABORER (WITHOUT AIR) & CAISSON; UNDERGROUND PERSON (WORKING IN SEWER AND WATERLINE, CLEANING, REPAIRING & RECONDITIONING); SANDBLASTER NOZZLE PERSON; & HAZARDOUS WASTE (LEVEL B). TUNNEL LABORER WITH AIR-PRESSURIZED ADD $1.00 TO BASE RATE SIGNAL PERSON WILL RECEIVE THE RATE EQUAL TO THE RATE PAID THE LABORER CLASSIFICATION FOR WHICH HE OR SHE IS SIGNALING. (REMAINING COUNTIES OF OHIO)..$ 35.69 14.45

LABORER GROUP 2- ASPHALT RAKER; CONCRETE PUDDLER; KETTLE MAN PIPELINE); MACHINE DRIVEN TOOLS (GAS, ELECTRIC, AIR); MASON TENDER; BRICK PAVER; MORTAR MIXER; POWER BUGGY OR POWER WHEELBARROW; PAINT STRIPER; SHEETING & SHORING MAN; SURFACE GRINDER MAN; PLASTIC FUSING MACHINE OPERATOR; PUG MILL OPERATOR; & VACUUM DEVICES (WET OR DRY); RODDING MACHINE OPERATOR; DIVER; SCREWMAN OR PAVER; SCREED PERSON; WATER BLAST, HAND HELD WAND; PUMPS 4"" & UNDER (GAS, AIR OR ELECTRIC) & HAZARDOUS WASTE (LEVEL C); AIR TRACK AND WAGON DRILL; BOTTOM PERSON; COFFERDAM (BELOW 25 FT. DEEP); CONCRETE SAW PERSON; CUTTING WITH BURNING TORCH; FORM SETTER; HAND SPIKER (RAILROAD); PIPELAYER; TUNNEL LABORER (WITHOUT AIR) & CAISSON; UNDERGROUND PERSON (WORKING IN SEWER AND WATERLINE, CLEANING, REPAIRING & RECONDITIONING); SANDBLASTER NOZZLE PERSON; & HAZARDOUS WASTE (LEVEL B). TUNNEL LABORER WITH AIR-PRESSURIZED ADD $1.00 TO BASE RATE SIGNAL PERSON WILL RECEIVE THE RATE EQUAL TO THE RATE PAID THE LABORER CLASSIFICATION FOR WHICH HE OR SHE IS SIGNALING. (CUYAHOGA, GEAUGA & LAKE COUNTIES).....$ 37.35 14.45

LABORER GROUP 2- ASPHALT RAKER; CONCRETE PUDDLER; KETTLE MAN PIPELINE); MACHINE DRIVEN TOOLS (GAS, ELECTRIC, AIR); MASON TENDER; BRICK PAVER; MORTAR MIXER; POWER BUGGY OR POWER WHEELBARROW; PAINT STRIPER; SHEETING & SHORING MAN; SURFACE GRINDER MAN; PLASTIC FUSING MACHINE OPERATOR; PUG MILL OPERATOR; & VACUUM DEVICES (WET OR DRY); RODDING MACHINE OPERATOR; DIVER; SCREWMAN OR PAVER; SCREED PERSON; WATER BLAST, HAND HELD WAND; PUMPS 4"" & UNDER (GAS, AIR OR ELECTRIC) & HAZARDOUS WASTE (LEVEL C); AIR TRACK AND WAGON DRILL; BOTTOM PERSON; COFFERDAM (BELOW 25 FT. DEEP); CONCRETE SAW

PERSON; CUTTING WITH BURNING TORCH; FORM SETTER; HAND SPIKER (RAILROAD); PIPELAYER; TUNNEL LABORER (WITHOUT AIR) & CAISSON; UNDERGROUND PERSON (WORKING IN SEWER AND WATERLINE, CLEANING, REPAIRING & RECONDITIONING); SANDBLASTER NOZZLE PERSON; & HAZARDOUS WASTE (LEVEL B). TUNNEL LABORER WITH AIR-PRESSURIZED ADD $1.00 TO BASE RATE SIGNAL PERSON WILL RECEIVE THE RATE EQUAL TO THE RATE PAID THE LABORER CLASSIFICATION FOR WHICH HE OR SHE IS SIGNALING. (ASHTABULA, ERIE, HURON, LORAIN, LUCAS, MAHONING, MEDINA, OTTAWA, PORTAGE, SANDUSKY, STARK, SUMMIT, TRUMBULL & WOOD COUNTIES)..$ 36.12 14.45

LABORER GROUP 3- BLASTER; MUCKER; POWDER PERSON; TOP LANDER; WRENCHER (MECHANICAL JOINTS & UTILITY PIPELINE); YARNER; HAZARDOUS WASTE (LEVEL A); CONCRETE SPECIALIST; CONCRETE CREW IN TUNNELS (WITH AIR-PRESSURIZED - $1.00 PREMIUM); CURB SETTER & CUTTER; GRADE CHECKER; UTILITY PIPELINE TAPPER; WATERLINE; AND CAULKER. TUNNEL LABORER WITH AIR-PRESSURIZED ADD $1.00 TO BASE RATE SIGNAL PERSON WILL RECEIVE THE RATE EQUAL TO THE RATE PAID THE LABORER CLASSIFICATION FOR WHICH HE OR SHE IS SIGNALING. (REMAINING COUNTIES OF OHIO) .....$ 36.02 14.45

LABORER GROUP 3- BLASTER; MUCKER; POWDER PERSON; TOP LANDER; WRENCHER (MECHANICAL JOINTS & UTILITY PIPELINE); YARNER; HAZARDOUS WASTE (LEVEL A); CONCRETE SPECIALIST; CONCRETE CREW IN TUNNELS (WITH AIR-PRESSURIZED - $1.00 PREMIUM); CURB SETTER & CUTTER; GRADE CHECKER; UTILITY PIPELINE TAPPER; WATERLINE; AND CAULKER. TUNNEL LABORER WITH AIR-PRESSURIZED ADD $1.00 TO BASE RATE SIGNAL PERSON WILL RECEIVE THE RATE EQUAL TO THE RATE PAID THE LABORER CLASSIFICATION FOR WHICH HE OR SHE IS SIGNALING. (CUYAHOGA, GEAUGA & LAKE COUNTIES) ....$ 37.68 14.45

LABORER GROUP 3- BLASTER; MUCKER; POWDER PERSON; TOP LANDER; WRENCHER (MECHANICAL JOINTS & UTILITY PIPELINE); YARNER; HAZARDOUS WASTE (LEVEL A); CONCRETE SPECIALIST; CONCRETE CREW IN TUNNELS (WITH AIR-PRESSURIZED - $1.00 PREMIUM); CURB SETTER & CUTTER; GRADE CHECKER; UTILITY PIPELINE TAPPER; WATERLINE; AND CAULKER. TUNNEL LABORER WITH AIR-PRESSURIZED ADD $1.00 TO BASE RATE SIGNAL PERSON WILL RECEIVE THE RATE EQUAL TO THE RATE PAID THE LABORER CLASSIFICATION FOR WHICH HE OR SHE IS SIGNALING. (ASHTABULA, ERIE, HURON, LORAIN, LUCAS, MAHONING, MEDINA, OTTAWA, PORTAGE, SANDUSKY, STARK, SUMMIT, TRUMBULL & WOOD COUNTIES).....$ 36.45 14.45

LABORER GROUP 4- MINER (WITH AIR-PRESSURIZED - $1.00 PREMIUM); & GUNITE NOZZLE PERSON. TUNNEL LABORER WITH AIR-PRESSURIZED ADD $1.00 TO BASE RATE SIGNAL PERSON WILL RECEIVE THE RATE EQUAL TO THE RATE PAID THE LABORER CLASSIFICATION FOR WHICH HE OR SHE IS SIGNALING. (ASHTABULA, ERIE, HURON, LORAIN, LUCAS, MAHONING, MEDINA, OTTAWA, PORTAGE, SANDUSKY, STARK, SUMMIT, TRUMBULL & WOOD COUNTIES)..$ 36.90 14.45

LABORER GROUP 4- MINER (WITH AIR-PRESSURIZED - $1.00 PREMIUM); & GUNITE NOZZLE PERSON. TUNNEL LABORER WITH AIR-PRESSURIZED ADD $1.00 TO BASE RATE SIGNAL PERSON WILL RECEIVE THE RATE EQUAL TO THE RATE PAID THE LABORER CLASSIFICATION FOR WHICH HE OR SHE IS SIGNALING. (REMAINING COUNTIES OF OHIO) ..$ 36.47 14.45

LABORER GROUP 4- MINER (WITH AIR-PRESSURIZED - $1.00 PREMIUM); & GUNITE NOZZLE PERSON. TUNNEL LABORER WITH AIR-PRESSURIZED ADD $1.00 TO BASE RATE SIGNAL PERSON WILL RECEIVE THE RATE EQUAL TO THE

RATE PAID THE LABORER CLASSIFICATION FOR WHICH HE OR SHE IS SIGNALING. (CUYAHOGA, GEAUGA & LAKE COUNTIES).....$ 38.13 14.45
LABORER: SEWAGE PLANTS, WASTE PLANTS, WATER TREATMENT FACILITIES, PUMPING STATIONS, & ETHANOL PLANTS CONSTRUCTION. (CUYAHOGA AND GEAUGA COUNTIES ONLY).....$ 38.56 14.45

PAIN0006-002 05/01/2023

	Rates	Fringes
PAINTER- COMMERCIAL NEW WORK; REMODELING; & RENOVATIONS: GROUP 1- BRUSH; & ROLLER (ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN, PORTAGE (N. OF THE EAST-WEST TURNPIKE) & SUMMIT (N. OF THE EAST-WEST TURNPIKE))	$ 30.75	18.95
PAINTER- COMMERCIAL NEW WORK; REMODELING; & RENOVATIONS: GROUP 2- SANDBLASTING & BUFFING (ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN, PORTAGE (N. OF THE EAST-WEST TURNPIKE) & SUMMIT (N. OF THE EAST-WEST TURNPIKE))	$ 31.15	18.95
PAINTER- COMMERCIAL NEW WORK; REMODELING; & RENOVATIONS: GROUP 3- SPRAY PAINTING; CLOSED STEEL ABOVE 55 FEET; BRIDGES & OPEN STRUCTURAL STEEL; TANKS - WATER TOWERS; BRIDGE PAINTERS; BRIDGE RIGGERS; CONTAINMENT BUILDERS (ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN, PORTAGE (N. OF THE EAST-WEST TURNPIKE) & SUMMIT (N. OF THE EAST-WEST TURNPIKE))	$ 31.45	18.95
PAINTER- COMMERCIAL NEW WORK; REMODELING; & RENOVATIONS: GROUP 4- BRIDGE BLASTER (ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN, PORTAGE (N. OF THE EAST-WEST TURNPIKE) & SUMMIT (N. OF THE EAST-WEST TURNPIKE))	$ 37.01	18.95
PAINTER- COMMERCIAL REPAINT GROUP 1- BRUSH; & ROLLER (ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN, PORTAGE (N. OF THE EAST-WEST TURNPIKE) & SUMMIT (N. OF THE EAST-WEST TURNPIKE))	$ 29.25	18.95
PAINTER- COMMERCIAL REPAINT GROUP 2- SANDBLASTING & BUFFING (ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN, PORTAGE (N. OF THE EAST-WEST TURNPIKE) & SUMMIT (N. OF THE EAST-WEST TURNPIKE))	$ 29.65	18.95
PAINTER- COMMERCIAL REPAINT GROUP 3- SPRAY PAINTING.	$ 29.95	18.95

PAIN0007-002 07/01/2025

	Rates	Fringes
PAINTER: NEW COMMERCIAL WORK: GROUP 1- BRUSH; SPRAY & SANDBLASTING POT TENDER. (REPAINT IS 90% OF GROUP RATE) (FULTON, HENRY, LUCAS, OTTAWA (EXCLUDING ALLEN, BAY, BONO, CATAWBA ISLAND, CLAY CENTER, CURTICE, DANBURY, EAGLE BEACH, ELLISTON, ELMORE, ERIE, FISHBACK, GEM BEACH, & GENOVA) & WOOD COUNTIES)	$ 33.66	23.88
PAINTER: NEW COMMERCIAL WORK: GROUP 2- REFINERIES & REFINERY TANKS; SURFACES 30 FT. OR OVER WHERE MATERIAL IS APPLIED TO OR LABOR PERFORMED ON ABOVE GROUND LEVEL (EXTERIOR), FLOOR LEVEL (INTERIOR) (REPAINT IS 90% OF GROUP RATE) (FULTON, HENRY, LUCAS, OTTAWA (EXCLUDING ALLEN, BAY, BONO, CATAWBA ISLAND, CLAY CENTER, CURTICE, DANBURY, EAGLE BEACH, ELLISTON, ELMORE, ERIE, FISHBACK, GEM BEACH, & GENOVA) & WOOD COUNTIES)	$ 34.66	23.88
PAINTER: NEW COMMERCIAL WORK: GROUP 3- SWING STAGE & CHAIR (REPAINT IS 90% OF GROUP RATE) (FULTON,		

HENRY, LUCAS, OTTAWA (EXCLUDING ALLEN, BAY, BONO, CATAWBA ISLAND, CLAY CENTER, CURTICE, DANBURY, EAGLE BEACH, ELLISTON, ELMORE, ERIE, FISHBACK, GEM BEACH, & GENOVA) & WOOD COUNTIES).....$ 34.66 23.88
PAINTER: NEW COMMERCIAL WORK: GROUP 4- LEAD ABATEMENT (REPAINT IS 90% OF GROUP RATE) (FULTON, HENRY, LUCAS, OTTAWA (EXCLUDING ALLEN, BAY, BONO, CATAWBA ISLAND, CLAY CENTER, CURTICE, DANBURY, EAGLE BEACH, ELLISTON, ELMORE, ERIE, FISHBACK, GEM BEACH, & GENOVA) & WOOD COUNTIES).....$ 34.66 23.88
PAINTER: NEW COMMERCIAL WORK: GROUP 5- ALL METHODS OF SPRAY (REPAINT IS 90% OF GROUP RATE) (FULTON, HENRY, LUCAS, OTTAWA (EXCLUDING ALLEN, BAY, BONO, CATAWBA ISLAND, CLAY CENTER, CURTICE, DANBURY, EAGLE BEACH, ELLISTON, ELMORE, ERIE, FISHBACK, GEM BEACH, & GENOVA) & WOOD COUNTIES).....$ 34.66 23.88
PAINTER: NEW COMMERCIAL WORK: GROUP 6- SOLVENT-BASED CATALIZED EPOXY MATERIALS OF 2 OR MORE COMPONENT MATERIALS, TO INCLUDE SOLVENT-BASED CONVERSION VARNISH (EXCLUDING WATER BASED) (REPAINT IS 90% OF GROUP RATE) (FULTON, HENRY, LUCAS, OTTAWA (EXCLUDING ALLEN, BAY, BONO, CATAWBA ISLAND, CLAY CENTER, CURTICE, DANBURY, EAGLE BEACH, ELLISTON, ELMORE, ERIE, FISHBACK, GEM BEACH, & GENOVA) & WOOD COUNTIES).....$ 34.66 23.88
PAINTER: NEW COMMERCIAL WORK: GROUP 7- SPRAY SOLVENT BASED MATERIAL; SAND & ABRASIVE BLASTING (REPAINT IS 90% OF GROUP RATE) (FULTON, HENRY, LUCAS, OTTAWA (EXCLUDING ALLEN, BAY, BONO, CATAWBA ISLAND, CLAY CENTER, CURTICE, DANBURY, EAGLE BEACH, ELLISTON, ELMORE, ERIE, FISHBACK, GEM BEACH, & GENOVA) & WOOD COUNTIES).....$ 34.66 23.88
PAINTER: NEW COMMERCIAL WORK: GROUP 8- TOWERS; TANKS; BRIDGES; STACKS OVER 30 FEET (REPAINT IS 90% OF GROUP RATE) (FULTON, HENRY, LUCAS, OTTAWA (EXCLUDING ALLEN, BAY, BONO, CATAWBA ISLAND, CLAY CENTER, CURTICE, DANBURY, EAGLE BEACH, ELLISTON, ELMORE, ERIE, FISHBACK, GEM BEACH, & GENOVA) & WOOD COUNTIES).....$ 34.66 23.88
PAINTER: NEW COMMERCIAL WORK: GROUP 9- EPOXY SPRAY (EXCLUDING WATER BASED) (REPAINT IS 90% OF GROUP RATE) (FULTON, HENRY, LUCAS, OTTAWA (EXCLUDING ALLEN, BAY, BONO, CATAWBA ISLAND, CLAY CENTER, CURTICE, DANBURY, EAGLE BEACH, ELLISTON, ELMORE, ERIE, FISHBACK, GEM BEACH, & GENOVA) & WOOD COUNTIES).....$ 34.66 23.88

PAIN0012-008 05/01/2019

	Rates	Fringes
PAINTER: GROUP 1- BRIDGE EQUIPMENT TENDER; BRIDGE/CONTAINMENT BUILDER (BUTLER COUNTY)	$ 21.95	10.20
PAINTER: GROUP 2- BRUSH & ROLLER (BUTLER COUNTY)	$ 25.30	10.20
PAINTER: GROUP 3- SPRAY (BUTLER COUNTY)	$ 25.80	10.20
PAINTER: GROUP 4- SANDBLASTING; & WATERBLASTING (BUTLER COUNTY)	$ 26.05	10.20
PAINTER: GROUP 5- ELEVATED TANKS; STEEPLEJACK WORK; BRIDGE; & LEAD ABATEMENT (BUTLER COUNTY)	$ 26.30	10.20

PAIN0012-010 05/01/2019

	Rates	Fringes
PAINTER HEAVY & HIGHWAY BRIDGES- GUARDRAILS-LIGHTPOLES- STRIPING BRIDGE EQUIPMENT TENDER AND CONTAINMENT BUILDER (BROWN, CLERMONT,		

HAMILTON & WARREN).....$ 21.95 10.20
PAINTER HEAVY & HIGHWAY BRIDGES-
GUARDRAILS-LIGHTPOLES- STRIPING BRIDGES WHEN
HIGHEST POINT OF CLEARANCE IS 60 FEET OR MORE; &
LEAD ABATEMENT PROJECTS (BROWN, CLERMONT, HAMILTON
& WARREN).....$ 26.30 10.20
PAINTER HEAVY & HIGHWAY BRIDGES-
GUARDRAILS-LIGHTPOLES- STRIPING BRUSH & ROLLER
(BROWN, CLERMONT, HAMILTON & WARREN).....$ 25.30 10.20
PAINTER HEAVY & HIGHWAY BRIDGES-
GUARDRAILS-LIGHTPOLES- STRIPING SANDBLASTING &
HOPPER TENDER; WATER BLASTING (BROWN, CLERMONT,
HAMILTON & WARREN).....$ 26.05 10.20
PAINTER HEAVY & HIGHWAY BRIDGES-
GUARDRAILS-LIGHTPOLES- STRIPING SPRAY (BROWN,
CLERMONT, HAMILTON & WARREN).....$ 25.80 10.20

PAIN0093-001 12/01/2024

	Rates	Fringes
PAINTER: BRIDGES; LOCKS; DAMS; TENSION TOWERS; & ENERGIZED SUBSTATIONS (ATHENS, GUERNSEY, HOCKING, MONROE, MORGAN, NOBLE AND WASHINGTON COUNTIES)	$ 36.44	24.46
PAINTER: POWER GENERATING FACILITIES (ATHENS, GUERNSEY, HOCKING, MONROE, MORGAN, NOBLE AND WASHINGTON COUNTIES)	$ 33.29	24.46

PAIN0249-002 05/01/2025

	Rates	Fringes
PAINTER: GROUP 1: BRUSH & ROLLER (CLARK, DARKE, GREENE, MIAMI, MONTGOMERY & PREBLE)	$ 29.15	13.97
PAINTER: GROUP 2: SWING, SCAFFOLD BRIDGES; STRUCTURAL STEEL; OPEN ACID TANK; HIGH TENSION ELECTRICAL EQUIPMENT; & HOT PIPES (CLARK, DARKE, GREENE, MIAMI, MONTGOMERY & PREBLE)	$ 33.09	13.97
PAINTER: GROUP 3: SPRAY; SANDBLAST; STEAMCLEAN; LEAD ABATEMENT (CLARK, DARKE, GREENE, MIAMI, MONTGOMERY & PREBLE)	$ 29.90	13.97
PAINTER: GROUP 4: STEEPLEJACK WORK (CLARK, DARKE, GREENE, MIAMI, MONTGOMERY & PREBLE)	$ 30.10	13.97
PAINTER: GROUP 5: COAL TAR (CLARK, DARKE, GREENE, MIAMI, MONTGOMERY & PREBLE)	$ 30.65	13.97
PAINTER: GROUP 6: BRIDGE EQUIPMENT TENDER & OR CONTAINMENT BUILDER (CLARK, DARKE, GREENE, MIAMI, MONTGOMERY & PREBLE)	$ 37.86	13.97
PAINTER: GROUP 7: TANKS, STACKS & TOWERS (CLARK, DARKE, GREENE, MIAMI, MONTGOMERY & PREBLE)	$ 33.86	13.97
PAINTER: GROUP 8: BRIDGE BLASTER, RIGGER (CLARK, DARKE, GREENE, MIAMI, MONTGOMERY & PREBLE)	$ 40.86	13.97

PAIN0356-002 09/01/2009

	Rates	Fringes
PAINTER: BRIDGE EQUIPMENT TENDERS AND CONTAINMENT BUILDERS (KNOX, LICKING, MUSKINGUM, AND PERRY)	$ 27.93	7.25
PAINTER: BRIDGES; BLASTERS; AND RIGGERS (KNOX, LICKING, MUSKINGUM, AND PERRY)	$ 34.60	7.25
PAINTER: BRUSH AND ROLLER (KNOX, LICKING, MUSKINGUM, AND PERRY)	$ 20.93	7.25
PAINTER: SANDBLASTING; STEAM CLEANING; WATERBLASTING; AND HAZARDOUS WORK (KNOX, LICKING, MUSKINGUM, AND PERRY)	$ 25.82	7.25
PAINTER: SPRAY (KNOX, LICKING, MUSKINGUM, AND PERRY)	$ 21.40	7.25

PAINTER: STRUCTURAL STEEL AND SWING STAGE (KNOX, LICKING, MUSKINGUM, AND PERRY).....$ 25.42 7.25
PAINTER: TANKS; STACKS; AND TOWERS (KNOX, LICKING, MUSKINGUM, AND PERRY).....$ 28.63 7.25

PAIN0438-002 12/01/2023

	Rates	Fringes
PAINTER: BRIDGES, LOCKS, DAMS, TENSION TOWERS & ENERGIZED SUBSTATIONS (BELMONT, HARRISON AND JEFFERSON COUNTIES)	$ 36.09	19.49
PAINTER: POWER GENERATING FACILITIES (BELMONT, HARRISON AND JEFFERSON COUNTIES)	$ 32.94	19.49

PAIN0476-001 06/01/2025

	Rates	Fringes
PAINTER: GROUP 1- PAINTERS, BRUSH & ROLLER (COLUMBIANA, MAHONING, AND TRUMBULL COUNITES)	$ 30.64	18.36
PAINTER: GROUP 2- BRIDGES (COLUMBIANA, MAHONING, AND TRUMBULL COUNITES)	$ 40.27	18.36
PAINTER: GROUP 3- STRUCTURAL STEEL (COLUMBIANA, MAHONING, AND TRUMBULL COUNITES)	$ 40.27	18.36
PAINTER: GROUP 4- SPRAY, EXCEPT BAR JOIST/DECK (COLUMBIANA, MAHONING, AND TRUMBULL COUNITES)	$ 31.14	18.36
PAINTER: GROUP 5- EPOXY/MASTIC; SPRAY- BAR JOIST/DECK; WORKING ABOVE 50 FEET; AND SWINGSTAGES (COLUMBIANA, MAHONING, AND TRUMBULL COUNITES)	$ 31.29	18.36
PAINTER: GROUP 6- TANKS; SANDBLASTING (COLUMBIANA, MAHONING, AND TRUMBULL COUNITES)	$ 35.27	18.36
PAINTER: GROUP 7- TOWERS; STACKS (COLUMBIANA, MAHONING, AND TRUMBULL COUNITES)	$ 32.64	18.36

PAIN0555-002 01/01/2025

	Rates	Fringes
PAINTER: GROUP 1- CONTAINMENT BUILDER (ADAMS, HIGHLAND, JACKSON, PIKE & SCIOTO)	$ 33.32	21.54
PAINTER: GROUP 2- BRUSH; ROLLER; POWER TOOLS, UNDER 40 FEET (ADAMS, HIGHLAND, JACKSON, PIKE & SCIOTO)	$ 35.02	21.54
PAINTER: GROUP 3- SAND BLASTING; SPRAY; STEAM CLEANING; PRESSURE WASHING; EPOXY & TWO COMPONENT MATERIALS; LEAD ABATEMENT; HAZARDOUS WASTE; TOXIC MATERIALS; BULK & STORAGE TANKS OF 25,000 GALLON CAPACITY OR MORE; ELEVATED TANKS (ADAMS, HIGHLAND, JACKSON, PIKE & SCIOTO)	$ 36.72	21.54
PAINTER: GROUP 4- STACKS; BRIDGES (ADAMS, HIGHLAND, JACKSON, PIKE & SCIOTO)	$ 40.03	21.54

PAIN0639-001 05/01/2011

	Rates	Fringes
SIGN PAINTER & ERECTOR FOOTNOTES: A. 7 PAID HOLIDAYS: NEW YEAR'S DAY; MEMORIAL DAY; JULY 4TH; LABOR DAY; THANKSGIVING DAY; CHRISTMAS DAY & 1 FLOATING DAY B. VACATION PAY: AFTER 1 YEAR'S SERVICE - 5 DAYS' PAID VACATION; AFTER 2, BUT LESS THAN 10 YEARS' SERVICE - 10 DAYS' PAID VACATION; AFTER 10, BUT LESS THAN 20 YEARS' SERVICE - 15 DAYS' PAID VACATION; AFTER 20 YEARS' SERVICE - 20 DAYS' PAID VACATION C. FUNERAL LEAVE UP TO 3 DAYS MAXIMUM PAID LEAVE FOR DEATH OF MOTHER, FATHER, BROTHER, SISTER, SPOUSE, CHILD, MOTHER-IN-LAW, FATHER-IN-LAW, GRANDPARENT AND INLAW PROVIDED EMPLOYEE ATTENDS FUNERAL	$ 20.61	3.50

PAIN0788-002 06/01/2024

	Rates	Fringes
PAINTER: BRUSH & ROLLER (ASHLAND, CRAWFORD, ERIE, HANCOCK, HURON, MARION, MORROW, OTTAWA (ALLEN, BAY, BONO, CATAWBA ISLAND, CLAY CENTER, CURTICE, DANBURY, EAGLE BEACH, ELLISTON, ELMORE, ERIE, FISHBACK, GEM BEACH & GENOA), RICHLAND, SANDUSKY, SENECA & WYANDOT) WINTER REPAINT: BETWEEN DECEMBER 1 TO MARCH 31 - 90%JR $.50 PER HOUR SHALL BE ADDED TO THE RATE OF PAY FOR THE CLASSIFICATION OF WORK: WHILE WORKING SWINGSTAGE, BOATSWAIN CHAIR, NEEDLE BEAM AND HORIZONTAL CABLE. WHILE OPERATING SPRAYGUNS, SANDBLASTING, COBBLASTING AND HIGH PRESSURE WATERBLASTING (4000PSI). $1.00 PER HOUR SHALL BE ADDED TO THE RATE OF PAY FOR THE CLASSIFICATION OF WORK: FOR THE APPLICATION OF CATALIZED EPOXY, INCLUDING LATEX EPOXY THAT IS DEEMED HAZARDOUS, LEAD ABATEMENT, OR FOR WORK OR MATERIAL WHERE SPECIAL PRECAUTIONS BEYOND NORMAL WORK DUTIES MUST BE TAKEN. FOR WORKING ON STACKS, TANKS, AND TOWERS OVER 40 FEET IN HEIGHT	$ 29.13	17.52
PAINTER: STRUCTURAL STEEL (ASHLAND, CRAWFORD, ERIE, HANCOCK, HURON, MARION, MORROW, OTTAWA (ALLEN, BAY, BONO, CATAWBA ISLAND, CLAY CENTER, CURTICE, DANBURY, EAGLE BEACH, ELLISTON, ELMORE, ERIE, FISHBACK, GEM BEACH & GENOA), RICHLAND, SANDUSKY, SENECA & WYANDOT) WINTER REPAINT: BETWEEN DECEMBER 1 TO MARCH 31 - 90%JR $.50 PER HOUR SHALL BE ADDED TO THE RATE OF PAY FOR THE CLASSIFICATION OF WORK: WHILE WORKING SWINGSTAGE, BOATSWAIN CHAIR, NEEDLE BEAM AND HORIZONTAL CABLE. WHILE OPERATING SPRAYGUNS, SANDBLASTING, COBBLASTING AND HIGH PRESSURE WATERBLASTING (4000PSI). $1.00 PER HOUR SHALL BE ADDED TO THE RATE OF PAY FOR THE CLASSIFICATION OF WORK: FOR THE APPLICATION OF CATALIZED EPOXY, INCLUDING LATEX EPOXY THAT IS DEEMED HAZARDOUS, LEAD ABATEMENT, OR FOR WORK OR MATERIAL WHERE SPECIAL PRECAUTIONS BEYOND NORMAL WORK DUTIES MUST BE TAKEN. FOR WORKING ON STACKS, TANKS, AND TOWERS OVER 40 FEET IN HEIGHT	$ 30.73	17.52

PAIN0813-005 12/01/2008

	Rates	Fringes
PAINTER: BASE RATE (GALLIA, LAWRENCE, MEIGS & VINTON)	$ 24.83	10.00
PAINTER: BRIDGES, LOCKS, DAMS & TENSION TOWERS (GALLIA, LAWRENCE, MEIGS & VINTON)	$ 27.83	10.00

PAIN0841-001 07/01/2025

	Rates	Fringes
PAINTERS: GROUP 1- BRUSH, ROLLER & PAPERHANGER (MEDINA, PORTAGE (SOUTH OF AND INCLUDING OHIO TURNPIKE), AND SUMMIT (SOUTH OF AND INCLUDING OHIO TURNPIKE) COUNTIES)	$ 31.93	18.15
PAINTERS: GROUP 2- EPOXY APPLICATION (MEDINA, PORTAGE (SOUTH OF AND INCLUDING OHIO TURNPIKE), AND SUMMIT (SOUTH OF AND INCLUDING OHIO TURNPIKE) COUNTIES)	$ 32.58	18.15
PAINTERS: GROUP 3- SWING SCAFFOLD, BOSUM CHAIR, &		

WINDOW JACK (MEDINA, PORTAGE (SOUTH OF AND INCLUDING OHIO TURNPIKE), AND SUMMIT (SOUTH OF AND INCLUDING OHIO TURNPIKE) COUNTIES).....$ 32.68 18.15
PAINTERS: GROUP 4- SPRAY GUN OPERATOR OF ANY & ALL COATINGS (MEDINA, PORTAGE (SOUTH OF AND INCLUDING OHIO TURNPIKE), AND SUMMIT (SOUTH OF AND INCLUDING OHIO TURNPIKE) COUNTIES).....$ 32.78 18.15
PAINTERS: GROUP 5- SANDBLAST, PAINTING OF STANDPIPES, ETC. FROM SCAFFOLDS, BRIDGE WORK AND/OR OPEN STRUCTURAL STEEL, STANDPIPES AND/OR WATER TOWERS (MEDINA, PORTAGE (SOUTH OF AND INCLUDING OHIO TURNPIKE), AND SUMMIT (SOUTH OF AND INCLUDING OHIO TURNPIKE) COUNTIES).....$ 33.18 18.15
PAINTERS: GROUP 6- PUBLIC & COMMERCE TRANSPORTATION, STEEL OR GALVANIZED, BRIDGES, TUNNELS & RELATED SUPPORT ITEMS (CONCRETE) (MEDINA, PORTAGE (SOUTH OF AND INCLUDING OHIO TURNPIKE), AND SUMMIT (SOUTH OF AND INCLUDING OHIO TURNPIKE) COUNTIES).....$ 38.60 18.15
PAINTERS: GROUP 7- SYNTHETIC EXTERIOR, DRYWALL FINISHER AND/OR TAPER, DRYWALL FINISHER AND FOLLOW-UP MAN USING AUTOMATIC TOOLS (MEDINA, PORTAGE (SOUTH OF AND INCLUDING OHIO TURNPIKE), AND SUMMIT (SOUTH OF AND INCLUDING OHIO TURNPIKE) COUNTIES).....$ 33.18 18.15

PAIN0841-002 07/01/2025

	Rates	Fringes
PAINTER: BRIDGES; TOWERS, POLES & STACKS; SANDBLASTING STEEL; STRUCTURAL STEEL & METALIZING (CARROLL, COSHOCTON, HOLMES, STARK, TUSCARAWAS & WAYNE)	$ 33.18	18.15
PAINTER: BRUSH & ROLLER (CARROLL, COSHOCTON, HOLMES, STARK, TUSCARAWAS & WAYNE)	$ 31.93	18.15
PAINTER: SPRAY; TANK INTERIOR & EXTERIOR (CARROLL, COSHOCTON, HOLMES, STARK, TUSCARAWAS & WAYNE)	$ 32.78	18.15

PAIN1020-002 07/01/2025

	Rates	Fringes
PAINTER: BRUSH & ROLLER (ALLEN, AUGLAIZE, CHAMPAIGN, DEFIANCE, HARDIN, LOGAN, MERCER, PAULDING, PUTNAM, SHELBY, VAN WERT, AND WILLIAMS COUNTIES) ALL SURFACES 40 FT. OR OVER WHERE MATERIAL IS APPLIED TO OR LABOR PERFORMED ON, ABOVE GROUND LEVEL (EXTERIOR), FLOOR LEVEL (INTERIOR) - $.50 PREMIUM APPLYING COAL TAR PRODUCTS - $1.00 PREMIUM	$ 27.59	18.54
PAINTER: DRYWALL FINISHING & TAPING (ALLEN, AUGLAIZE, CHAMPAIGN, DEFIANCE, HARDIN, LOGAN, MERCER, PAULDING, PUTNAM, SHELBY, VAN WERT, AND WILLIAMS COUNTIES): LL SURFACES 40 FT. OR OVER WHERE MATERIAL IS APPLIED TO OR LABOR PERFORMED ON, ABOVE GROUND LEVEL (EXTERIOR), FLOOR LEVEL (INTERIOR) - $.50 PREMIUM APPLYING COAL TAR PRODUCTS - $1.00 PREMIUM	$ 28.34	18.54
PAINTER: LEAD ABATEMENT (ALLEN, AUGLAIZE, CHAMPAIGN, DEFIANCE, HARDIN, LOGAN, MERCER, PAULDING, PUTNAM, SHELBY, VAN WERT, AND WILLIAMS COUNTIES) ALL SURFACES 40 FT. OR OVER WHERE MATERIAL IS APPLIED TO OR LABOR PERFORMED ON, ABOVE GROUND LEVEL (EXTERIOR), FLOOR LEVEL (INTERIOR) - $.50 PREMIUM APPLYING COAL TAR PRODUCTS - $1.00 PREMIUM	$ 29.34	18.54

PAINTER: SPRAY, SANDBLASTING PRESSURE CLEANING, & REFINERY (ALLEN, AUGLAIZE, CHAMPAIGN, DEFIANCE, HARDIN, LOGAN, MERCER, PAULDING, PUTNAM, SHELBY, VAN WERT, AND WILLIAMS COUNTIES) ALL SURFACES 40 FT. OR OVER WHERE MATERIAL IS APPLIED TO OR LABOR PERFORMED ON, ABOVE GROUND LEVEL (EXTERIOR), FLOOR LEVEL (INTERIOR) - $.50 PREMIUM APPLYING COAL TAR PRODUCTS - $1.00 PREMIUM.....$ 28.34 18.54

PAINTER: SWING STAGE, CHAIR, SPIDERS, & CHERRY PICKERS (ALLEN, AUGLAIZE, CHAMPAIGN, DEFIANCE, HARDIN, LOGAN, MERCER, PAULDING, PUTNAM, SHELBY, VAN WERT, AND WILLIAMS COUNTIES) ALL SURFACES 40 FT. OR OVER WHERE MATERIAL IS APPLIED TO OR LABOR PERFORMED ON, ABOVE GROUND LEVEL (EXTERIOR), FLOOR LEVEL (INTERIOR) - $.50 PREMIUM APPLYING COAL TAR PRODUCTS - $1.00 PREMIUM.....$ 27.84 18.54

PAINTER: WALLCOVERINGS (ALLEN, AUGLAIZE, CHAMPAIGN, DEFIANCE, HARDIN, LOGAN, MERCER, PAULDING, PUTNAM, SHELBY, VAN WERT, AND WILLIAMS COUNTIES) ALL SURFACES 40 FT. OR OVER WHERE MATERIAL IS APPLIED TO OR LABOR PERFORMED ON, ABOVE GROUND LEVEL (EXTERIOR), FLOOR LEVEL (INTERIOR) - $.50 PREMIUM APPLYING COAL TAR PRODUCTS - $1.00 PREMIUM.....$ 28.34 18.54

PAIN1275-002 05/01/2025

	Rates	Fringes
PAINTER: BRIDGES (DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, MADISON, PICKAWAY, ROSS & UNION).....	$ 37.26	15.16
PAINTER: BRUSH; ROLLER (DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, MADISON, PICKAWAY, ROSS & UNION).....	$ 30.20	15.16
PAINTER: SANDBLASTING; STEAMCLEANING; WATERBLASTING (3500 PSI OR OVER)& HAZARDOUS WORK (DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, MADISON, PICKAWAY, ROSS & UNION).....	$ 32.35	15.16
PAINTER: SPRAY (DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, MADISON, PICKAWAY, ROSS & UNION).....	$ 32.15	15.16
PAINTER: STACKS; TANKS; & TOWERS (DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, MADISON, PICKAWAY, ROSS & UNION).....	$ 34.46	15.16
PAINTER: STRUCTURAL STEEL & SWING STAGE (DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, MADISON, PICKAWAY, ROSS & UNION).....	$ 30.50	15.16

PLAS0109-001 06/01/2025

	Rates	Fringes
PLASTERER (MEDINA, PORTAGE, STARK, AND SUMMIT COUNTIES).....	$ 33.00	23.83

PLAS0109-003 06/01/2025

	Rates	Fringes
PLASTERER (CARROLL, HOLMES, TUSCARAWAS, AND WAYNE COUNTIES).....	$ 33.00	23.83

PLAS0132-002 07/01/2025

	Rates	Fringes
PLASTERER (BROWN, BUTLER, CLERMONT, HAMILTON, HIGHLAND, WARREN COUNTIES).....	$ 31.35	17.65

PLAS0404-002 05/01/2018

	Rates	Fringes
PLASTERER (ASHTABULA, CUYAHOGA, GEAUGA, AND LAKE COUNTIES)	$ 29.63	17.11

PLAS0404-003 05/01/2018

	Rates	Fringes
PLASTERER (LORAIN COUNTY)	$ 28.86	17.11

PLAS0526-022 05/01/2018

	Rates	Fringes
PLASTERER (COLUMBIANA, MAHONING, AND TRUMBULL COUNTIES)	$ 28.86	17.11

PLAS0526-023 05/01/2018

	Rates	Fringes
PLASTERER (BELMONT, HARRISON, AND JEFFERSON COUNTIES)	$ 28.21	17.11

PLAS0886-001 07/01/2025

	Rates	Fringes
PLASTERER (FULTON, HANCOCK, HENRY, LUCAS, PUTNAM, AND WOOD COUNTIES)	$ 36.65	25.60

PLAS0886-003 07/01/2025

	Rates	Fringes
PLASTERER (DEFIANCE, ERIE, HURON, OTTAWA, PAULDING, SANDUSKY, AND SENECA)	$ 36.65	25.60

PLAS0886-004 07/01/2025

	Rates	Fringes
PLASTERER (ALLEN, AUGLAIZE, HARDIN, LOGAN, MERCER, AND VAN WERT)	$ 35.29	23.07

PLUM0042-002 07/01/2025

	Rates	Fringes
PLUMBER, PIPEFITTER, STEAMFITTER (ASHLAND, CRAWFORD, ERIE, HURON, KNOX, LORAIN, MORROW, RICHLAND & WYANDOT)	$ 43.02	26.45

PLUM0050-002 06/30/2025

	Rates	Fringes
PLUMBER, PIPEFITTER, STEAMFITTER (DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, WILLIAMS & WOOD)	$ 51.00	32.56

PLUM0055-003 05/05/2025

	Rates	Fringes
PLUMBER (ASHTABULA, CUYAHOGA, GEAUGA, LAKE, MEDINA (N. OF RTE. #18 & SMITH ROAD) & SUMMIT (N. OF RTE. #303, INCLUDING THE CORPORATE LIMITS OF THE CITY OF HUDSON))	$ 44.86	30.03

PLUM0083-001 07/01/2023

	Rates	Fringes
PLUMBER AND STEAMFITTER (BELMONT & MONROE (NORTH OF		

RTE. #78))..... $ 35.94 37.35

PLUM0094-002 05/01/2025

	Rates	Fringes
PLUMBER/PIPEFITTER (CARROLL (NORTHEN HALF), STARK, AND WAYNE COUNTIES).....	$ 47.48	27.14

PLUM0120-002 05/01/2025

	Rates	Fringes
PIPEFITTER (ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN (THE C.E.I. POWER HOUSE IN AVON LAKE), MEDINA (N. OF RTE. #18) & SUMMIT (N. OF #303)).....	$ 49.17	28.55

PLUM0162-002 06/01/2024

	Rates	Fringes
PLUMBER, PIPEFITTER, STEAMFITTER (CHAMPAIGN, CLARK, CLINTON, DARKE, FAYETTE, GREENE, MIAMI, MONTGOMERY & PREBLE).....	$ 43.05	27.18

PLUM0168-002 06/01/2025

	Rates	Fringes
PLUMBER/PIPEFITTER (MEIGS, MONROE (SOUTH OF RTE. #78), MORGAN (SOUTH OF RTE. #78) & WASHINGTON).....	$ 40.92	37.20

PLUM0189-002 06/01/2025

	Rates	Fringes
PLUMBER, PIPEFITTER, STEAMFITTER (DELAWARE, FAIRFIELD, FRANKLIN, HOCKING, LICKING, MADISON, MARION, PERRY, PICKAWAY, ROSS & UNION).....	$ 53.00	27.59

PLUM0219-002 06/01/2025

	Rates	Fringes
PLUMBER AND STEAMFITTER (MEDINA (RTE. #18 FROM EASTERN EDGE OF MEDINA CO., WEST TO EASTERN CORPORATE LIMITS OF THE CITY OF MEDINA, & ON THE COUNTY ROAD FROM THE WEST CORPORATE LIMITS OF MEDINA RUNNING DUE WEST TO AND THROUGH COMMUNITY OF RISLEY TO THE WESTERN EDGE OF MEDINA COUNTY - ALL TERRITORY SOUTH OF THIS LINE), PORTAGE, AND SUMMIT (S. OF RTE. #303) COUNTIES).....	$ 46.87	28.39

PLUM0392-002 06/01/2025

	Rates	Fringes
PLUMBER/PIPEFITTER (BROWN, BUTLER, CLERMONT, HAMILTON & WARREN).....	$ 43.30	27.40

PLUM0396-001 06/01/2025

	Rates	Fringes
PLUMBER/PIPEFITTER (COLUMBIANA (EXCLUDING WASHINGTON & YELLOW CREEK TOWNSHIPS & LIVERPOOL TWP. - SECS. 35 & 36 - WEST OF COUNTY ROAD #427), MAHONING AND TRUMBULL COUNTIES).....	$ 40.55	29.25

PLUM0495-002 06/01/2025

	Rates	Fringes
PLUMBER, PIPEFITTER, STEAMFITTER (CARROLL (ROSE,		

MONROE, UNION, LEE, ORANGE, PERRY & LOUDON TOWNSHIPS), COLUMBIANA (WASHINGTON & YELLOW CREEK TOWNSHIPS & LIVERPOOL TOWNSHIP, SECS. 35 & 36, WEST OF COUNTY RD. #427), COSHOCTON, GUERNSEY, HARRISON, HOLMES, JEFFERSON, MORGAN (SOUTH TO STATE RTE. #78 & FROM MCCONNELSVILLE WEST ON STATE RTE. #37 TO THE PERRY COUNTY LINE), MUSKINGUM, NOBLE, AND TUSCARAWAS COUNTIES).....$ 39.32 37.60

PLUM0577-002 06/01/2025

	Rates	Fringes
PLUMBER, PIPEFITTER, STEAMFITTER (ADAMS, ATHENS, GALLIA, HIGHLAND, JACKSON, LAWRENCE, PIKE, SCIOTO & VINTON)	$ 42.65	28.56

PLUM0776-002 07/01/2025

	Rates	Fringes
PLUMBER, PIPEFITTER, STEAMFITTER (ALLEN, AUGLAIZE, HARDIN, LOGAN, MERCER, SHELBY AND VAN WERT COUNTIES)	$ 42.76	30.81

TEAM0377-003 05/01/2025

	Rates	Fringes
TRUCK DRIVER: GROUP 1- ASPHALT DISTRIBUTOR; BATCH; 4- WHEEL SERVICE; 4-WHEEL DUMP; OIL DISTRIBUTOR & TANDEM (STATEWIDE, EXCEPT CUYAHOGA, GEAUGA & LAKE)	$ 34.26	18.85
TRUCK DRIVER: GROUP 2- TRACTOR-TRAILER COMBINATION: FUEL; POLE TRAILER; READY MIX; SEMI-TRACTOR; & ASPHALT OIL SPRAYBAR MAN WHEN OPERATED FROM CAB; 5 AXLES & OVER; BELLY DUMP; END DUMP; ARTICULATED DUMP; HEAVY DUTY EQUIPMENT; LOW BOY; & TRUCK MECHANIC (STATEWIDE, EXCEPT CUYAHOGA, GEAUGA & LAKE)	$ 35.26	18.85

TEAM0436-002 05/01/2025

	Rates	Fringes
TRUCK DRIVER: GROUP 1- STRAIGHT & DUMP, STRAIGHT FUEL (CUYAHOGA, GEAUGA & LAKE)	$ 34.92	19.30
TRUCK DRIVER: GROUP 2- SEMI FUEL, SEMI TRACTOR, EUCLIDS, DARTS, TANK, ASPHALT SPREADERS, LOW BOYS, CARRY-ALL, TOURNA-ROCKERS, HI-LIFTS, EXTRA LONG TRAILERS, SEMI-POLE TRAILERS, DOUBLE HOOK-UP TRACTOR TRAILERS INCLUDING TEAM TRACK & RAILROAD SIDING, SEMI-TRACTOR & TRI-AXLE TRAILER, TANDEM TRACTOR & TANDEM TRAILER, TAG ALONG TRAILER, EXPANDABLE TRAILER OR TOWING REQUIRING ROAD PERMITS, READY-MIX (AGITATOR OR NON-AGITATOR), BULK CONCRETE DRIVER, DRY BATCH TRUCK, ARTICULATED END DUMP (CUYAHOGA, GEAUGA & LAKE)	$ 35.73	19.30

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this

contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, the contractor must pay all covered workers at least $13.65 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract from May 11, 2026, through December 31, 2026. The applicable Executive Order minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than SU, UAVG, SA, or SC denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The SU identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

SU wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The SA identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the SA identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter

d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

==========

END OF GENERAL DECISION"