

BID OF \_\_\_\_\_

**2014**

**PROPOSAL, CONTRACT, BOND AND SPECIFICATIONS**

**FOR**

**BOWMAN LIGHTING SYSTEM - PHASE TWO**

**CONTRACT NO. 7350**

**IN**

**MADISON, DANE COUNTY, WISCONSIN**

AWARDED BY THE COMMON COUNCIL  
MADISON, WISCONSIN ON \_\_\_\_\_

CITY ENGINEERING DIVISION  
1600 EMIL STREET  
MADISON, WISCONSIN 53713

<https://bidexpress.com/login>

**BOWMAN LIGHTING SYSTEM - PHASE TWO  
CONTRACT NO. 7350**

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This Proposal, and Agreement have  
been prepared by:

**PARKS DIVISION  
CITY OF MADISON  
MADISON, DANE COUNTY, WISCONSIN**

  
Eric Knepp – Interim Parks Superintendent

RFP:

## SECTION A: ADVERTISEMENT FOR BIDS AND INSTRUCTIONS TO BIDDERS

### REQUEST FOR BID FOR PUBLIC WORKS CONSTRUCTION CITY OF MADISON, WISCONSIN

#### A BEST VALUE CONTRACTING MUNICIPALITY

|  |                                    |
|--|------------------------------------|
| PROJECT NAME:                                | BOWMAN LIGHTING SYSTEM - PHASE TWO |
| CONTRACT NO.:                                | 7350                               |
| SBE GOAL                                     | 3%                                 |
| BID BOND                                     | 5%                                 |
| PRE BID MEETING (1:00 P.M.)                  | 08/01/14                           |
| PREQUALIFICATION APPLICATION DUE (1:00 P.M.) | 08/01/14                           |
| BID SUBMISSION (1:00 P.M.)                   | 08/08/14                           |
| BID OPEN (1:30 P.M.)                         | 08/08/14                           |
| PUBLISHED IN WSJ                             | 07/25/14 & 08/01/14                |

PRE BID MEETING: Representatives of the Affirmative Action Department will be present to discuss the Small Business Enterprise requirements at 1600 Emil Street, Madison Wisconsin.

PREQUALIFICATION APPLICATION: Forms are available on our website, [www.cityofmadison.com/business/pw/forms.cfm](http://www.cityofmadison.com/business/pw/forms.cfm). If not currently prequalified in the categories listed in Section A, an amendment to your Prequalification will need to be submitted prior to the same due date. Postmark is not applicable.

BIDS TO BE SUBMITTED by hand to 1600 EMIL ST., MADISON, WI 53713 or online at [www.bidexpress.com](http://www.bidexpress.com).

THE BID OPENING is at 1600 EMIL ST., MADISON, WI 53713.

#### STANDARD SPECIFICATIONS

The City of Madison's Standard Specifications for Public Works Construction - 2014 Edition, as supplemented and amended from time to time, forms a part of these contract documents as if attached hereto.

These standard specifications are available on the City of Madison Public Works website, [www.cityofmadison.com/Business/PW/specs.cfm](http://www.cityofmadison.com/Business/PW/specs.cfm).

The Contractor shall review these Specifications prior to preparation of proposals for the work to be done under this contract, with specific attention to Article 102, "BIDDING REQUIREMENTS AND CONDITIONS" and Article 103, "AWARD AND EXECUTION OF THE CONTRACT." For the convenience of the bidder, below are highlights of three subsections of the specifications.

#### SECTION 102.1: PRE-QUALIFICATION OF BIDDERS

In accordance with Wisconsin State Statutes 66.0901 (2) and (3), all bidders must submit to the Board of Public Works proof of responsibility on forms furnished by the City. The City requires that all bidders be qualified on a biennial basis.

Bidders must present satisfactory evidence that they have been regularly engaged in the type of work specified herein and they are fully prepared with necessary capital, materials, machinery and supervisory personnel to conduct the work to be contracted for to the satisfaction of the City. All bidders must be pre-

qualified by the Board of Public Works for the type of construction on which they are bidding prior to the opening of the bid.

In accordance with Section 39.02(9)(a)l. of the General Ordinances, all bidders shall submit in writing to the Affirmative Action Division Manager of the City of Madison, a Certificate of Compliance or an Affirmative Action Plan at the same time or prior to the submission of the proof of responsibility forms.

The bidder shall be disqualified if the bidder fails to or refuses to, prior to opening of the bid, submit a Certificate of compliance, Affirmative Action Plan or Affirmative Action Data Update, as applicable, as defined by Section 39.02 of the General Ordinances (entitled Affirmative Action) and as required by Section 102.11 of the Standard Specifications.

#### SECTION 102.4 PROPOSAL

No bid will be accepted that does not contain an adequate or reasonable price for each and every item named in the Schedule of Unit Prices.

A lump sum bid for the work in accordance with the plans and specifications is required. The lump sum bid must be the same as the total amounts bid for the various items and it shall be inserted in the space provided.

All papers bound with or attached to the proposal form are considered a part thereof and must not be detached or altered when the proposal is submitted. The plans, specifications and other documents designated in the proposal form will be considered a part of the proposal whether attached or not.

A proposal submitted by an individual shall be signed by the bidder or by a duly authorized agent. A proposal submitted by a partnership shall be signed by a member/partner or by a duly authorized agent thereof. A proposal submitted by a corporation shall be signed by an authorized officer or duly authorized registered agent of such corporation, and the proposal shall show the name of the State under the laws of which such corporation was chartered. The required signatures shall in all cases appear in the space provided thereof on the proposal.

Each proposal shall be placed, together with the proposal guaranty, in a sealed envelope, so marked as to indicate name of project, the contract number or option to which it applies, and the name and address of the Contractor or submitted electronically through Bid Express ([www.bidexpress.com](http://www.bidexpress.com)). Proposals will be accepted at the location, the time and the date designated in the advertisement. Proposals received after the time and date designated will be returned to the bidder unopened.

The Bidder shall execute the Disclosure of Ownership form. REFER TO SECTION F.

#### SECTION 102.5: BID DEPOSIT (PROPOSAL GUARANTY)

All bids, sealed or electronic, must be accompanied with a Bid Bond equal to at least 5% of the bid or a Certificate of Annual/Biennial Bid Bond or certified check, payable to the City Treasurer. Bid deposit of the successful bidders shall be returned within forty-eight (48) hours following execution of the contract and bond as required.

#### PREVAILING WAGE RATES

Prevailing Wage Rates may be required and are attached in Section J of the contract. See Special Provisions to determine applicability.

**Bidders for this Contract(s) must be Pre-Qualified for at least one of the following type(s) of construction denoted by an**

**Building Demolition**

- 101  Asbestos Removal
- 120  House Mover

- 110  Building Demolition

**Street, Utility and Site Construction**

- 201  Asphalt Paving
- 205  Blasting
- 210  Boring/Pipe Jacking
- 215  Concrete Paving
- 220  Con. Sidewalk/Curb & Gutter/Misc. Flat Work
- 221  Concrete Bases and Other Concrete Work
- 222  Concrete Removal
- 225  Dredging
- 230  Fencing
- 235  Fiber Optic Cable/Conduit Installation
- 240  Grading and Earthwork
- 241  Horizontal Saw Cutting of Sidewalk
- 242  Infrared Seamless Patching
- 245  Landscaping, Maintenance
- 250  Landscaping, Site and Street
- 251  Parking Ramp Maintenance
- 252  Pavement Marking
- 255  Pavement Sealcoating and Crack Sealing
- 260  Petroleum Above/Below Ground Storage Tank Removal/Installation
- 262  Playground Installer
- 265  Retaining Walls, Precast Modular Units

- 270  Retaining Walls, Reinforced Concrete
- 275  Sanitary, Storm Sewer and Water Main Construction
- 276  Sawcutting
- 280  Sewer Lateral Drain Cleaning/Internal TV Insp.
- 285  Sewer Lining
- 290  Sewer Pipe Bursting
- 295  Soil Borings
- 300  Soil Nailing
- 305  Storm & Sanitary Sewer Laterals & Water Svc.
- 310  Street Construction
- 315  Street Lighting
- 318  Tennis Court Resurfacing
- 320  Traffic Signals
- 325  Traffic Signing & Marking
- 332  Tree pruning/removal
- 333  Tree, pesticide treatment of
- 335  Trucking
- 340  Utility Transmission Lines including Natural Gas, Electrical & Communications
- 399  Other \_\_\_\_\_

**Bridge Construction**

- 501  Bridge Construction and/or Repair

**Building Construction**

- 401  Floor Covering (including carpet, ceramic tile installation, rubber, VCT)
- 402  Building Automation Systems
- 403  Concrete
- 404  Doors and Windows
- 405  Electrical - Power, Lighting & Communications
- 410  Elevator - Lifts
- 412  Fire Suppression
- 413  Furnishings - Furniture and Window Treatments
- 415  General Building Construction, Equal or Less than \$250,000
- 420  General Building Construction, \$250,000 to \$1,500,000
- 425  General Building Construction, Over \$1,500,000
- 428  Glass and/or Glazing
- 429  Hazardous Material Removal
- 430  Heating, Ventilating and Air Conditioning (HVAC)
- 433  Insulation - Thermal
- 435  Masonry/Tuck pointing

- 437  Metals
- 440  Painting and Wallcovering
- 445  Plumbing
- 450  Pump Repair
- 455  Pump Systems
- 460  Roofing and Moisture Protection
- 464  Tower Crane Operator
- 461  Solar Photovoltaic/Hot Water Systems
- 465  Soil/Groundwater Remediation
- 466  Warning Sirens
- 470  Water Supply Elevated Tanks
- 475  Water Supply Wells
- 480  Wood, Plastics & Composites - Structural & Architectural
- 499  Other \_\_\_\_\_

**State of Wisconsin Certifications**

- 1  Class 5 Blaster - Blasting Operations and Activities 2500 feet and closer to inhabited buildings for quarries, open pits and road cuts.
- 2  Class 6 Blaster - Blasting Operations and Activities 2500 feet and closer to inhabited buildings for trenches, site excavations, basements, underwater demolition, underground excavations, or structures 15 feet or less in height.
- 3  Class 7 Blaster - Blasting Operations and Activities for structures greater than 15' in height, bridges, towers, and any of the objects or purposes listed as "Class 5 Blaster or Class 6 Blaster".
- 4  Petroleum Above/Below Ground Storage Tank Removal and Installation (Attach copies of State Certifications.)
- 5  Hazardous Material Removal (Contractor to be certified for asbestos and lead abatement per the Wisconsin Department of Health Services, Asbestos and Lead Section (A&LS).) See the following link for application: [www.dhs.wisconsin.gov/Asbestos/Cert](http://www.dhs.wisconsin.gov/Asbestos/Cert). State of Wisconsin Performance of Asbestos Abatement Certificate must be attached.
- 6  Certification number as a Certified Arborist or Certified Tree Worker as administered by the International Society of Arboriculture
- 7  Pesticide application (Certification for Commercial Applicator For Hire with the certification in the category of turf and landscape (3.0) and possess a current license issued by the DATCP)
- 8  State of Wisconsin Master Plumbers License.

## SECTION B: PROPOSAL

Please refer to the  
Bid Express Website  
at <https://bidexpress.com>  
look up contract number  
and go to  
Section B: Proposal Page

You can access all City of Madison bid solicitations for FREE at [www.bidexpress.com](http://www.bidexpress.com)

Click on the "Register for Free" button and follow the instructions to register your company and yourself. You will be asked for a payment subscription preference, since you may wish to bid online someday. Simply choose the method to pay on a 'per bid' basis. This requires no payment until / unless you actually bid online. You can also choose the monthly subscription plan at this time. You will, however, be asked to provide payment information. Remember, you can change your preference at anytime. You will then be able to complete your free registration and have full access to the site. Your free access does not require completion of the 'Digital ID' process, so you will have instant access for viewing and downloading. To be prepared in case you ever do wish to bid online, you may wish to establish your digital ID also, since you cannot bid without a Digital ID.

If you have any problems with the free registration process, you can call the bidexpress help team, toll free at 1-888-352-2439 (option 1, option1).

## **SECTION C: SMALL BUSINESS ENTERPRISE**

### **Instructions to Bidders City of Madison SBE Program Information**

#### **2 Small Business Enterprise (SBE) Program Information**

##### **2.1 Policy and Goal**

The City of Madison reaffirms its policy of nondiscrimination in the conduct of City business by maintaining a procurement process which remains open to all who have the potential and ability to sell goods and services to the City. It is the policy of the City of Madison to allow Small Business Enterprises (SBE) maximum feasible opportunity to participate in City of Madison contracting. The bidder acknowledges that its bid has been submitted in accordance with the SBE program and is for the public's protection and welfare.

Please refer to the "ADVERTISEMENT FOR BIDS" for the goal for the utilization of SBEs on this project. SBEs may participate as subcontractors, vendors and/or suppliers, which provide a commercially useful function. The dollar value for SBE suppliers or 'materials only' vendors shall be discounted to 60% for purposes of meeting SBE goals.

A bidder which achieves or exceeds the SBE goal will be in compliance with the SBE requirements of this project. In the event that the bidder is unable to achieve the SBE goal, the bidder must demonstrate that a good faith effort to do so was made. Failure to either achieve the goal or demonstrate a good faith effort to do so will be grounds for the bidder being deemed a non-responsible contractor ineligible for award of this contract.

A bidder may count towards its attainment of the SBE goal only those expenditures to SBEs that perform a commercially useful function. For purposes of evaluating a bidder's responsiveness to the attainment of the SBE goal, the contract participation by an SBE is based on the percentage of the total base bid proposed by the Contractor. The total base bid price is inclusive of all addenda.

Work performed by an SBE firm in a particular transaction can be counted toward the goal only if it involves a commercially useful function. That is, in light of industry practices and other relevant considerations, does the SBE firm have a necessary and useful role in the transaction, of a kind for which there is a market outside the context of the SBE Program, or is the firm's role a superfluous step added in an attempt to obtain credit towards goals? If, in the judgment of the Affirmative Action Division, the SBE firm will not perform a commercially useful function in the transaction, no credit towards goals will be awarded.

The question of whether a firm is performing a commercially useful function is completely separate from the question of whether the firm is an eligible SBE. A firm is eligible if it meets the definitional criteria and ownership and control requirements, as set forth in the City of Madison's SBE Program.

If the City of Madison determines that the SBE firm is performing a commercially useful function, then the City of Madison must then decide what that function is. If the commercially useful function is that of an SBE vendor / supplier that regularly transacts business with the respective product, then the City of Madison will count 60% of the value of the product supplied toward SBE goals.

To be counted, the SBE vendor / supplier must be engaged in selling the product in question to the public. This is important in distinguishing an SBE vendor / supplier, which has a regular trade with a variety of customers, from a firm which performs supplier-like functions on an ad hoc basis or for only one or two contractors with whom it has a special relationship.

A supplier of bulk goods may qualify as an eligible SBE vendor / supplier if it either maintains an inventory or owns or operates distribution equipment. With respect to the distribution equipment; e.g., a fleet of trucks, the term "operates" is intended to cover a situation in which the supplier leases the equipment on a regular basis for its entire business. It is not intended to cover a situation in which the firm simply provides drivers for trucks owned or leased by another party; e.g., a prime contractor, or leases such a party's trucks on an ad hoc basis for a specific job.

If the commercially useful function being performed is not that of a qualified SBE vendor / supplier, but rather that of delivery of products, obtaining bonding or insurance, procurement of personnel, acting as a broker or manufacturer's representative in the procurement of supplies, facilities, or materials, etc., only the fees or commissions will apply towards the goal.

For example, a business that simply transfers title of a product from manufacturer to ultimate purchaser; e. g., a sales representative who re-invoices a steel product from the steel company to the Contractor, or a firm that puts a product into a container for delivery would not be considered a qualified SBE vendor / supplier. The Contractor would not receive credit based on a percentage of the cost of the product for working with such firms.

Concerning the use of services that help the Contractor obtain needed supplies, personnel, materials or equipment to perform a contract: only the fee received by the service provider will be counted toward the goal. For example, use of a SBE sales representative or distributor for a steel company, if performing a commercially useful function at all, would entitle the Contractor receiving the steel to count only the fee paid to the representative or distributor toward the goal. This provision would also govern fees for professional and other services obtained expressly and solely to perform work relating to a specific contract.

Concerning transportation or delivery services: if an SBE trucking company picks up a product from a manufacturer or a qualified vendor / supplier and delivers the product to the Contractor, the commercially useful function it is performing is not that of a supplier, but simply that of a transporter of goods. Unless the trucking company is itself the manufacturer or a qualified vendor / supplier in the product, credit cannot be given based on a percentage of the cost of the product. Rather, credit would be allowed for the cost of the transportation service.

The City is aware that the rule's language does not explicitly mention every kind of business that may contribute work on this project. In administering these programs, the City would, on a case-by-case basis, determine the appropriate counting formula to apply in a particular situation.

## **2.2 Contract Compliance**

Questions concerning the SBE Program shall be directed to the Contract Compliance Officer of the City of Madison Department of Civil Rights, Affirmative Action Division, 210 Martin Luther King, Jr. Blvd., Room 523, Madison, WI 53703; telephone (608) 266-4910.

## 2.3 Certification of SBE by City of Madison

The Affirmative Action Division maintains a directory of SBEs which are currently certified as such by the City of Madison. Contact the Contract Compliance Officer as indicated in Section 2.2 to receive a copy of the SBE Directory or you may access the SBE Directory online at [www.cityofmadison.com/dcr/aaTBDir.cfm](http://www.cityofmadison.com/dcr/aaTBDir.cfm).

All contractors, subcontractors, vendors and suppliers seeking SBE status must complete and submit the **Targeted Business Certification Application** to the City of Madison Affirmative Action Division by the time and date established for receipt of bids. A copy of the Targeted Business Certification Application is available by contacting the Contract Compliance Officer at the address and telephone indicated in Section 2.2 or you may access the Targeted Business Certification Application online at [www.cityofmadison.com/dcr/aaTBDir.cfm](http://www.cityofmadison.com/dcr/aaTBDir.cfm). Submittal of the Targeted Business Certification Application by the time specified does not guarantee that the applicant will be certified as a SBE eligible to be utilized towards meeting the SBE goal for this project.

## 2.4 Small Business Enterprise Compliance Report

### 2.4.1 Good Faith Efforts

Bidders shall take all necessary affirmative steps to assure that SBEs are utilized when possible and that the established SBE goal for this project is achieved. A contractor who self performs a portion of the work, and is pre-qualified to perform that category of work, may subcontract that portion of the work, but shall not be required to do so. When a bidder is unable to achieve the established SBE goal, the bidder must demonstrate that a good faith effort to do so was made. Such a good faith effort should include the following:

- 2.4.1.1 Attendance at the pre-bid meeting.
- 2.4.1.2 Using the City of Madison's directory of certified SBEs to identify SBEs from which to solicit bids.
- 2.4.1.3 Assuring that SBEs are solicited whenever they are potential sources.
- 2.4.1.4 Referring prospective SBEs to the City of Madison Affirmative Action Division for certification.
- 2.4.1.5 Dividing total project requirements into smaller tasks and/or quantities, where economically feasible, to permit maximum feasible SBE participation.
- 2.4.1.6 Establishing delivery schedules, where requirements permit, which will encourage participation by SBEs.
- 2.4.1.7 Providing SBEs with specific information regarding the work to be performed.
- 2.4.1.8 Contacting SBEs in advance of the deadline to allow such businesses sufficient time to prepare a bid.
- 2.4.1.9 Utilizing the bid of a qualified and competent SBE when the bid of such a business is deemed reasonable (i.e. 5% above the lowest bidder), although not necessarily low.
- 2.4.1.10 Contacting SBEs which submit a bid, to inquire about the details of the bid and confirm that the scope of the work was interpreted as intended.

### 2.4.2 Reporting SBE Utilization and Good Faith Efforts

The Small Business Enterprise Compliance Report is to be submitted by the bidder with the bid: This report is due by the specified bid closing time and date. Bids submitted without a completed SBE Compliance Report as outlined below

shall be deemed non-responsible and the bidder ineligible for award of this contract.

2.4.2.1 If the Bidder meets or exceeds the goal established for SBE utilization, the Small Business Enterprise Compliance Report shall consist of the following:

2.4.2.1.1 **Cover Page**, Page C-6; and

2.4.2.1.2 **Summary Sheet**, C-7.

2.4.2.2 If the bidder does not meet the goal established for SBE utilization, the Small Business Enterprise Compliance Report shall consist of the following:

2.4.2.2.1 **Cover Page**, Page C-6;

2.4.2.2.2 **Summary Sheet**, C-7; and

2.4.2.2.3 **SBE Contact Report**, C-8 and C-9. (A separate Contact Report must be completed for each applicable SBE which is not utilized.)

## 2.5 Appeal Procedure

A bidder which does not achieve the established goal and is deemed non-responsible for failure to demonstrate a good faith effort to achieve such goal and subsequently denied eligibility for award of contract may, within 72 hours of receiving such notification, appeal that decision to a special appeals committee composed of three (3) members of the Affirmative Action Commission, three (3) members of the Board of Public Works and a seventh member appointed by the Mayor. All appeals must be made in writing to the City Engineer and received within 72 hours of City of Madison's notice. Postmark not applicable.

## 2.6 SBE Requirements After Award of the Contract

The successful bidder shall identify SBE subcontractors, suppliers and vendors on the subcontractor list in accordance with the specifications. The Contractor shall submit a detailed explanation of any variances between the listing of SBE subcontractors, vendors and/or suppliers on the subcontractor list and the Contractor's SBE Compliance Report for SBE participation.

No change in SBE subcontractors, vendors and/or suppliers from those SBEs indicated in the SBE Compliance Report will be allowed without prior approval from the Engineer and the Affirmative Action Division. The contractor shall submit in writing to the City of Madison Affirmative Action Division a request to change any SBE citing specific reasons which necessitate such a change. The Affirmative Action Division will use a general test of reasonableness in approving or rejecting the contractor's request for change. If the request is approved, the Contractor will make every effort to utilize another SBE if available.

The City will monitor the project to ensure that the actual percentage commitment to SBE firms is carried out.

## **2.7 SBE Definition and Eligibility Guidelines**

A Small Business Enterprise is a business concern awarded certification by the City of Madison. For the purposes of this program a Small Business Enterprise is defined as:

- A. An independent business operated under a single management. The business may not be a subsidiary of any other business and the stock or ownership may not be held by any individual or any business operating in the same or a similar field. In determining whether an entity qualifies as a SBE, the City shall consider all factors relevant to being an independent business including, but not limited to, the date the business was established, adequacy of its resources for the work in which it proposes to involve itself, the degree to which financial, equipment leasing and other relationships exist with other ineligible firms in the same or similar lines of work. SBE owner(s) shall enjoy the customary incidents of ownership and shall share in the risks and profits commensurate with their enjoyment interests, as demonstrated by an examination of the substance rather than form or arrangements that may be reflected in its ownership documents.
- B. A business that has averaged no more than \$4.0 million in annual gross receipts over the prior three year period and the principal owner(s) do not have a personal net worth in excess of \$1.32 million.

Firm and/or individuals that submit fraudulent documents/testimony may be barred from doing business with the City and/or forfeit existing contracts.

SBE certification is valid for one (1) year unless revoked.

**BOWMAN LIGHTING SYSTEM - PHASE TWO  
CONTRACT NO. 7350**

**Small Business Enterprise Compliance Report**

**This information may be submitted electronically through  
Bid Express or submitted with bid in sealed envelope.**

**Cover Sheet**

Prime Bidder Information

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

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

Telephone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Contact Person/Title: \_\_\_\_\_

Prime Bidder Certification

I, \_\_\_\_\_, \_\_\_\_\_ of  
Name Title

\_\_\_\_\_ certify that the information  
Company

contained in this SBE Compliance Report is true and correct to the best of my knowledge and belief.

\_\_\_\_\_  
Witness' Signature

\_\_\_\_\_  
Bidder's Signature

\_\_\_\_\_  
Date



**BOWMAN LIGHTING SYSTEM - PHASE TWO  
CONTRACT NO. 7350**

**Small Business Enterprise Compliance Report**

**SBE Contact Report**

Submit separate copy of this form for each SBE which you are not able to utilize towards meeting the SBE goal for this project. Attach separate sheets if necessary.

SBE Information

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

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

Telephone Number: \_\_\_\_\_

Contact Person/Title: \_\_\_\_\_

1. Outline below all efforts to solicit a bid from the above SBE. Include date, means of contact, who from your company made this contact and the result.

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

2. Describe the information provided to the aforementioned SBE regarding the scope of work for which he/she was to provide a bid.

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

Is this the same scope of work on which the subcontractor you intend to utilize based his/her bid?

Yes     No

3. Did this SBE submit a bid?     Yes     No

4. Is the General Contractor pre-qualified to self-perform this category of work?

Yes     No

5. If you responded "Yes" to Question 3, please check the items below which apply and provide the requested detail. If you responded "No" to Question 3, please skip ahead to item 6 below.

The SBE listed above is unavailable for work on this project for the following reasons. Provide specific detail for this conclusion.

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The SBE listed above is unqualified for work on this project. Provide specific details for this conclusion.

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The SBE listed above provided a price that was unreasonable (i.e. more than 5% above the lowest bidder). Provide specific detail for this conclusion including the SBE's price and the price of the subcontractor you intend to utilize.

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A contract with the SBE listed above may constitute a breach of the bidder's collective bargaining agreements. Provide specific detail for this conclusion including, but not limited to, correspondence from the SBE indicating it will not sign a project labor agreement and/or correspondence from the applicable trade union indicating a project labor agreement will not be allowed at the time of project bidding.

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Other; please specify reason(s) other than listed above which made it impossible for you to utilize this SBE on this project.

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6. Describe any other good faith efforts:

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## SECTION D: SPECIAL PROVISIONS

### BOWMAN LIGHTING SYSTEM - PHASE TWO CONTRACT NO. 7350

It is the intent of these Special Provisions to set forth the final contractual intent as to the matter involved and shall prevail over the Standard Specifications and plans whenever in conflict therewith. In order that comparisons between the Special Provisions can be readily made, the numbering system for the Special Provisions is equivalent to that of the Specifications.

Whenever in these Specifications the term "Standard Specifications" appears, it shall be taken to refer to the City of Madison Standard Specifications for Public Works Construction and Supplements thereto.

#### SECTION 102.10: PREVAILING WAGE

For this project, payment of prevailing wages (white sheet) shall be required unless the box indicating prevailing wages are not required is checked below.

Prevailing wages shall not be required when this box is checked.

If prevailing wages (white sheets) are required, the wages and benefits paid on the contract shall not be less than those specified in the Prevailing Wage Determination included with these contract documents for the following types of work:

- Building or Heavy Construction
- Sewer, Water, or Tunnel Construction
- Local Street or Miscellaneous Paving Construction
- Residential or Agricultural Construction

When multiple boxes are checked, worker's wages may vary according to the type and area of work performed. It is the responsibility of the Contractor to determine and apply the appropriate wage rate for the specific work assigned.

#### SECTION 102.12: BEST VALUE CONTRACTING

This Contract shall be considered a Best Value Contract if the Contractor's bid is equal to or greater than \$54,000 for a single trade contract; or equal to or greater than \$264,500 for a multi-trade contract pursuant to MGO 33.07(7).

#### SECTION 104 SCOPE OF WORK

The project consists of replacing the athletic field lighting and poles for two (2) softball fields and one (1) baseball diamond at Bowman Park. **The following is a brief summary of the work required and is not intended to be all inclusive. Refer to the contract documents for all work required as part of this contract:**

- Remove and dispose of the existing athletic field lights, walk off fixtures, poles and lighting controls. The existing poles are coated with lead based paint and shall be removed and disposed of in accordance with City, State and Federal regulations.
- Procure the new athletic field lights, controls and poles. The existing concrete pole bases shall be re-used with the new light system.
- Install the new fixtures, controls and poles. The existing electrical system was upgraded in 2014 to accommodate the new lights (Bowman Lighting Distribution System - Phase One).
- Test and adjust the new lights according to the equipment manufacture's requirements and the contract documents.
- Restore all disturbed surfaces to match existing.
- Provide operation training for the new lighting system.

The Contractor shall visit the site prior to bidding to become familiar with the existing conditions.

**SECTION 105.12: COOPERATION OF THE CONTRACTOR**

**A PRE-CONSTRUCTION MEETING WILL BE REQUIRED PRIOR TO START OF CONSTRUCTION**

The Contractor shall perform a One Call through Digger's Hotline for the site at least three days prior to beginning construction. To ensure that Parks-owned utilities are also marked, include the park name at the beginning of the Marking Instructions field on the ticket, and send a copy of the ticket to the City of Madison Parks Surveyor (Dan Rodman / [drodman@cityofmadison.com](mailto:drodman@cityofmadison.com) / tel (608) 266-6674 / fax (608) 267-1162).

The Contractor warrants that its services are performed, within the limits prescribed by the City, with the usual thoroughness and competence of the consulting profession; in accordance with the standard for professional services at the time those services are rendered. The Contractor shall be responsible for the accuracy of the work performed under this Agreement, and shall promptly make necessary revisions or corrections resulting from their negligent acts, errors or omissions without additional compensation. The Contractor shall be responsible for any damages incurred as a result of their errors, omissions, or negligent acts and for any losses or costs to repair or remedy construction.

The Contractor will be allowed to store equipment and materials at the far southeast corner of the parking lot. The area available shall be the equivalent of seven (7) full-size parking stalls. Stored equipment and materials shall not occupy ADA reserved stalls or extend into drive aisles. The exact location of the equipment storage area will be determined at the pre-construction meeting. The Contractor shall secure materials at the end of each work day to deter any potential vandalism and theft.

The Contractor shall be responsible for any construction related snow removal operations. Plows must utilize a rubber edged blade for snow removal in lawn areas. The Contractor shall be responsible for any snow removal related damage.

**SECTION 107.2: PROTECTON AND RESTORATION OF PROPERTY**

Contractor shall protect all facility improvements in and around the complex. The Contractor shall protect all existing facilities including but not limited to concrete curbs, asphalt paving, lawn, fencing, trees and planting beds from construction operation related damage. Any damage shall be repaired per City of Madison Standard Specifications for Public Works Construction by the Contractor and considered incidental this contract.

**SECTION 109.2: PROSECUTION OF THE WORK**

Construction work must begin within seven (7) calendar days after the date appearing on mailed notice to do so. Once started, work shall be carried on at a rate so as to secure full completion within the contract time, the rate of progress and the time of completion being essential conditions of this Agreement.

**The anticipated start date of this contract is October 1, 2014. The calendar completion date of this contract is March 15, 2015. This schedule is determined by existing reservations for the athletic events at Bowman Park.**

Professional

Engineering

Services

Bowman  
Phase 2 Lighting  
Upgrade

Contract 7350

## Technical Specifications

Madison–Parks Division

Madison, WI

Issued for Bid

July 18, 2014



TECHNICAL SPECIFICATIONS

BOWMAN PHASE 2 LIGHTING UPGRADE  
CONTRACT 7350  
MADISON-PARKS DIVISION  
MADISON, WISCONSIN



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Issued for Bid  
July 18, 2014



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## **SPECIFICATIONS**

## SECTION 01010

### SUMMARY OF WORK

#### PART 1–GENERAL

##### 1.01 DIVISION ONE

- A. The requirements of Division 1 apply to all sections of the Contract(s).

##### 1.02 PROJECT SCOPE

- A. CONTRACTOR shall provide all items, articles, materials, operations or methods mentioned or scheduled on the Drawings or herein specified: including all labor, supervision, equipment, incidentals, taxes, and permits necessary to complete the Work as described within the Contract Documents. CONTRACTOR shall install all items provided by OWNER as mentioned or scheduled on the Drawings or herein specified.

##### 1.03 CONTRACT DOCUMENTS–INTENT AND USE

###### A. Intent of Documents:

1. Singular notations and specifications shall be considered plural where application is reasonably inferred.
2. Mention or indication of extent of work under any division or Specification section is done only for convenience of CONTRACTOR and shall not be construed as describing all work required under that division or section.
3. Some individual sections may contain a list of related sections. The list of related sections in individual sections is provided for the convenience of CONTRACTOR and is not necessarily all-inclusive. CONTRACTOR may not rely upon this listing for determination of scope of work. Other sections of the Specifications not referenced in individual sections shall apply as required for proper performance of the Work.
4. Command type sentences may be used in the Contract Documents. These sentences refer to and are directed to CONTRACTOR.
5. Symbols for various elements and systems are shown on the Drawings. Should there be any doubt regarding the meaning or intent of the symbols used, a written interpretation shall be obtained from ENGINEER.

###### B. Use of Documents:

1. CONTRACTOR shall examine all Specifications and Drawings for the Work, including those that may pertain to Work CONTRACTOR does not normally perform with its own forces.
2. CONTRACTOR shall use all of the Project Drawings and Specifications:
  - a. For a complete understanding of the Project.
  - b. To determine the type of construction and systems required.
  - c. For coordination with other contractors.
  - d. To determine what other work may be involved in various parts or phases.
  - e. To anticipate and notify others when work by others will be required.
  - f. And all other relevant matters related to the project.
3. CONTRACTOR is also bound by all requirements of the Contract Documents which are applicable to, pertain to, or affect its Work as may be shown or inferred by the entire set of Project Drawings and Specifications.

## 1.04 CONSTRUCTION REQUIREMENTS

### A. General Information and Requirements:

1. There are four existing utility services for the baseball and softball field lighting systems:
  - a. One 2400-volt service for the baseball field lighting system, one 240-volt service for the two southern softball field lighting systems.
  - b. One 240-volt service for the east softball field lighting system.
  - c. One 480-volt service that was installed in 2014 for use with the new baseball field and two southern softball field lighting systems being installed as part of this project.
2. The existing utility services for the baseball and two southern softball field lighting systems are being removed as part of this project and the existing utility service for the east softball field lighting system will not be removed or modified.
3. The existing light poles, light fixtures, and control systems for the baseball field and two southern softball fields will be replaced with new poles, fixtures, walk-off light fixtures, and controls as part of this project. The fields will not be in use during the construction phase.
4. All hot-patch asphalt Work shall be performed during periods when all required materials are available.

## 1.05 CONTRACTOR USE OF SITE

### A. General:

1. OWNER's property lines shall be considered the "area of the site."
2. Construction activities shall be confined within the "area of the site" limits.
3. From the start of work to completion, CONTRACTOR is responsible for the care of the site and the premises which are affected by operations of Work of this Contract.
4. Except for permanent site improvements provided under the Contract, CONTRACTOR shall restore property disturbed during the Work to the conditions which previously existed.

### B. Parking and Deliveries:

1. CONTRACTOR is responsible for control of traffic by vehicles and persons within the limits of its operations.
2. Parking for employees, subcontractors, and agents of CONTRACTOR shall be in areas subject to approval of OWNER.
3. Access to the site for delivery of construction material or equipment shall be subject to approval of OWNER.

## 1.06 EXISTING SERVICES, STRUCTURES, AND UNDERGROUND FACILITIES

- A. Work shall not commence until all labor, materials, and equipment are available so Work can continue without interruption or delay.
- B. Should uncharted or incorrectly charted piping or other utilities be encountered during installation, notify OWNER and consult with utility owner immediately.
- C. Cooperate with OWNER and utility companies in keeping respective services and facilities in operation and repair any damaged utilities as required by utility owner.

- D. CONTRACTOR shall not interrupt existing utilities serving facilities occupied and used by OWNER or others, except when permitted in writing by OWNER.
- E. Any accidental interruption of services shall be repaired immediately, including provision of temporary facilities until permanent repairs can be made.
- F. Wisconsin Statute 182.0175(2) requires, among other provisions, that before excavation or demolition begins, reasonable advance notice not less than three working days prior to the start of the excavation or demolition of the intent to excavate or demolish and the commencement date be provided to the owners of the Underground Facilities in and near the construction area whose facilities may be affected by the excavation or demolition. As part of this notification requirement, CONTRACTOR shall contact Digger's Hotline (811 or 1-800-242-8511). CONTRACTOR shall be aware that not all owners participate in the Digger's Hotline program. A call to this agency shall not absolve CONTRACTOR of the requirements of this statute. CONTRACTOR shall comply with all other provisions of the statute though not enumerated herein.
- G. CONTRACTOR shall proceed with caution in the excavation and preparation of the Site so the exact location of structures and Underground Facilities can be determined. CONTRACTOR shall include in the Contract Price any costs for temporary or permanent relocations of such structures and Underground Facilities required to complete the Work unless specifically indicated otherwise in the Specifications.
- H. CONTRACTOR shall keep an accurate and complete record of all such structures and Underground Facilities encountered and shall provide OWNER a copy of this record. The record shall include a description of the item encountered, opinion as to conditions, and adequate measurements and depths so that the item can be located in the future.
- I. CONTRACTOR shall inspect all structures for condition and soundness. Unsound conditions shall be reported to the structure owner immediately after exposing. CONTRACTOR shall not proceed with the work until the structure owner has been notified. OWNER shall then be given time to inspect and correct, if required, the structure. CONTRACTOR may make claim under the provisions of Articles 11 and 12 of the General Conditions should CONTRACTOR feel a price or time adjustment is justified.
- J. Any additional costs incurred because of failure of CONTRACTOR to report the condition of any and all existing structures encountered shall be paid for by CONTRACTOR.
- K. Whenever ENGINEER feels it is necessary to explore and excavate to determine the location of existing structures, CONTRACTOR shall make explorations and excavations for such purposes. If CONTRACTOR is required to perform additional work in making the explorations and excavations, extra compensation will be allowed as provided for in the General Conditions.

#### 1.07 PROTECTION OF WORK AND IMPROVEMENTS

- A. CONTRACTOR shall protect the property of OWNER, existing improvements, and the Work installed by CONTRACTOR and others from abuse, damage, dust, debris, and other objectionable materials resulting from construction activities.
- B. CONTRACTOR shall provide suitable covers, partitions, or other dust and fume containment devices to suit construction operations.

- C. CONTRACTOR shall keep property, existing improvements, and the Work including structures, mains, fittings, and accessories free from dirt and foreign matter at all times.
- D. CONTRACTOR shall provide temporary plugging of openings, holes, and conduit ends that are existing or that CONTRACTOR has installed.
- E. Property, improvements, and Work damaged by CONTRACTOR shall be repaired or replaced by CONTRACTOR to the satisfaction of OWNER.

1.08 AVAILABILITY OF LANDS

- A. Easements were not obtained for this Project. CONTRACTOR shall confine its operations, equipment and storage areas to the lands and rights-of-way in which the Project is to be located. CONTRACTOR may enter into written agreements with property owners for use of other lands during construction. Copies of such agreements shall be provided to OWNER.

PART 2-PRODUCTS

NOT APPLICABLE

PART 3-EXECUTION

NOT APPLICABLE

END OF SECTION

## SECTION 01019

### CONTRACT CONSIDERATIONS

#### PART 1—GENERAL

##### 1.01 SUMMARY

- A. Work Included:
  - 1. Cash allowances.
  - 2. Measurement and Payment—Lump Sum.

##### 1.02 CASH ALLOWANCES

- A. CONTRACTOR shall include in the Lump Sum Bid, all allowances specified in the Contract Documents, and shall provide or coordinate all work covered by such allowances as acceptable to OWNER and ENGINEER.
- B. Cash allowances shall include the cost to CONTRACTOR, (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, including all applicable taxes.
- C. CONTRACTOR shall include in the Lump Sum Bid, all costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances. These costs shall not be included in the allowance, and additional payment shall not be allowed for such items.
- D. Prior to final payment, an appropriate change order will be issued to reflect actual amounts due CONTRACTOR on account of work covered by allowances, and the Contract Price shall be correspondingly adjusted.
- E. A cash allowance for the removal of the existing Electrical Services shall be included in the Lump Sum Bid. CONTRACTOR shall refer to Section 16420—Electrical Service System for specific dollar amounts associated with the allowance.
- F. A cash allowance for Concrete Surface Repair shall be included in the Lump Sum Bid. CONTRACTOR shall refer to Section 03560-Concrete Surface Repair for specific dollar amounts associated with the allowance.

##### 1.03 MEASUREMENT AND PAYMENT—LUMP SUM

- A. No separate measurement for payment will be performed for Lump Sum Work.
- B. CONTRACTOR shall estimate percentage of Work completed. ENGINEER will review CONTRACTOR's estimate of quantity of Work completed.
- C. Payment will be made based on the percentage of the Contract completed less retainage and/or liquidated damages.
- D. Unless noted otherwise, all Work described in the Specifications and/or shown on the Drawings shall be included in the Lump Sum Bid.

PART 2-PRODUCTS

NOT APPLICABLE

PART 3-EXECUTION

NOT APPLICABLE

END OF SECTION

## SECTION 01039

### COORDINATION, FIELD ENGINEERING, AND MEETINGS

#### PART 1—GENERAL

##### 1.01 SUMMARY

- A. Work Included:
  - 1. Coordination.
  - 2. Field engineering.
  - 3. Progress meetings.

##### 1.02 COORDINATION

- A. CONTRACTOR shall coordinate scheduling, submittals, and work of the various sections of the work to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. CONTRACTOR shall verify utility requirements and characteristics of operating equipment are compatible with building utilities and coordinate Work of various sections having interdependent responsibilities for installing, connecting to, and placing in service such equipment.
- C. CONTRACTOR shall coordinate space requirements and installation of electrical work which are indicated diagrammatically on the Drawings and shall follow routing shown for conduit as closely as practicable.
- D. CONTRACTOR shall coordinate completion and cleanup of Work of separate sections in preparation for substantial completion and for portions of Work designated for OWNER's use.
- E. CONTRACTOR shall coordinate access to Site for correction of defective Work and Work not in accordance with Contract Documents to minimize disruption of OWNER's activities.

##### 1.03 FIELD ENGINEERING

- A. CONTRACTOR shall locate and protect property stakes, legal survey monuments, benchmarks, and survey control and reference points. CONTRACTOR shall pay for replacement of disturbed property stakes and legal survey monuments by a Registered Land Surveyor acceptable to OWNER and for replacement of benchmarks and survey control and reference points provided by ENGINEER.
- B. CONTRACTOR shall furnish all required plummets and graduated poles to check all Work.
- C. If stakes and boards have to be reset because of negligence of CONTRACTOR, CONTRACTOR shall bear the cost of such work.
- D. If existing property stakes are removed or damaged by CONTRACTOR, CONTRACTOR shall bear the cost of replacement. Replacement shall be made by a legal survey performed by a licensed Land Surveyor hired by OWNER. Cost for survey shall be deducted from the Contract Price.

- E. CONTRACTOR shall be responsible for all lines, elevations, and measurements of conduit and other work executed by CONTRACTOR under the Contract. CONTRACTOR must exercise proper precaution to verify figures before laying out the Work and will be held responsible for any error resulting from its failure to exercise such precaution.

#### 1.04 PROGRESS MEETINGS

- A. Progress meetings will be held throughout progress of the Work at intervals agreed to by OWNER, ENGINEER, and CONTRACTOR. Interval will generally be biweekly. Meetings will be held at the City of Madison Goodman Field Maintenance Facility.
- B. CONTRACTOR's project manager, job superintendent, major subcontractors, and suppliers shall attend as appropriate to address agenda topics for each meeting. CONTRACTOR's representatives shall have authority to bind CONTRACTOR to decisions at the meetings.
- C. The project schedule shall be updated biweekly and shall be reviewed at each progress meeting. CONTRACTOR shall provide the following information in written form at each meeting.
  - 1. Construction progress, including:
    - a. Activities completed this reporting period.
    - b. Activities in progress this reporting period.
    - c. Activities scheduled to commence this reporting period.
  - 2. Description of problem areas.
  - 3. Current and anticipated delays.
    - a. Cause of the delay.
    - b. Corrective action and schedule adjustments to correct the delay.
    - c. Impact of the delay on other activities, on milestones, and on completion dates.
  - 4. Changes in construction sequence.
- D. ENGINEER will prepare and distribute minutes to all attending parties.

#### PART 2-PRODUCTS

NOT APPLICABLE

#### PART 3-EXECUTION

NOT APPLICABLE

END OF SECTION

## SECTION 01045

### CUTTING, PATCHING, AND ALTERATIONS

#### PART 1—GENERAL

##### 1.01 SUMMARY

- A. Work Included: CONTRACTOR shall be responsible for all cutting, fitting, patching, and other alterations required to complete the Work as specified herein or to:
  - 1. Make its several parts fit together properly.
  - 2. Uncover portions of the Work to install improperly sequenced Work.
  - 3. Remove and replace defective Work.
  - 4. Remove and replace Work not conforming to requirements of the Contract Documents.
  - 5. Remove samples of installed Work as specified for testing.
  - 6. Provide penetrations of surfaces for installation of piping and electrical conduit.

##### 1.02 REFERENCES

- A. ANSI A10 Safety Requirements for Construction and Demolition.

##### 1.03 QUALITY ASSURANCE

- A. CONTRACTOR shall perform all cutting, patching, and alterations in strict accordance with pertinent requirements of these Specifications.
- B. Except as modified by governing codes, CONTRACTOR shall comply with the applicable provision and recommendations of ANSI A10.

##### 1.04 SUBMITTALS

- A. CONTRACTOR shall submit a written request to OWNER well in advance of executing any cutting or alteration which affects the following:
  - 1. Work of OWNER or any separate contractor.
  - 2. Structural value or integrity of any element of the Project.
  - 3. Integrity or effectiveness of weather-exposed or moisture-resistant elements or systems.
  - 4. Efficiency, operational life, maintenance, or safety of operational elements.
  - 5. Visual qualities of sight-exposed elements.
- B. The request shall include:
  - 1. Description of affected work.
  - 2. The necessity for cutting, patching, or alteration.
  - 3. Effect on work of OWNER, any separate contractor, or on the structural or weather-proof integrity of the Project.
  - 4. Description of proposed work to include:
    - a. Scope of cutting, patching, or alteration.
    - b. Trades who will execute the work.
    - c. Products proposed to be used.
    - d. Extent of refinishing to be done.

5. Alternatives to cutting and patching.
  6. Written permission of any separate contractor whose work will be affected.
- C. Submit written notice to OWNER designating the date and the time the Work will be uncovered or executed.

#### 1.05 SCHEDULING AND COORDINATION

- A. All work under this section shall be coordinated with OWNER's work forces and those of other contractors and shall be accomplished at times acceptable to OWNER.
- B. Before starting any work relating to existing utilities (electrical, etc.) that will temporarily discontinue or disrupt service to the site, notify ENGINEER and OWNER 72 hours in advance and obtain OWNER's approval before proceeding with this phase of the work. Temporary facilities, if required, shall be in place prior to disruption of service.

### PART 2-PRODUCTS

#### 2.01 NEW MATERIALS

- A. For replacement of work removed, CONTRACTOR shall use materials which comply with the pertinent sections of these Specifications.
- B. All new materials for patching and extending work shall match existing products and work.
- C. CONTRACTOR shall determine type and quality of existing products by inspection and any necessary testing and workmanship by use of existing as the standard.

#### 2.02 SALVAGEABLE MATERIAL

- A. Items which are not to be reinstalled but are to become the property of OWNER shall be removed by CONTRACTOR with care, cleaned, and stored in a location at the Site to be approved by OWNER.
- B. Materials or items damaged in its removal shall be replaced by CONTRACTOR with similar new material at no additional cost to OWNER.
- C. Where existing equipment or fixtures are indicated to be reused, CONTRACTOR shall repair such equipment and refinish as specified elsewhere or indicated on the drawings.

#### 2.03 UNSALVAGEABLE MATERIALS

- A. Materials or items demolished and not designated to become the property of OWNER or not designated to be reinstalled shall become the property of CONTRACTOR and shall be removed from the site and legally and properly disposed of by CONTRACTOR.
- B. Materials shall be removed by CONTRACTOR in a manner that will avoid damage to materials or equipment to remain.

## PART 3–EXECUTION

### 3.01 INSPECTION

- A. CONTRACTOR shall inspect existing conditions including elements subject to movement or damage during cutting, patching, and other alterations.
- B. After uncovering the work, CONTRACTOR shall inspect conditions affecting installation of new products or performance of new work.
- C. CONTRACTOR shall report unsatisfactory or questionable conditions to ENGINEER in writing.
- D. CONTRACTOR shall not proceed with work until unsatisfactory or questionable conditions are resolved.
- E. Beginning of cutting, patching, and alterations work means acceptance of existing conditions by CONTRACTOR.

### 3.02 PREPARATION AND PROTECTION

- A. CONTRACTOR shall provide temporary bracing, shoring, needling, and support of the structure during alterations work as necessary to prevent collapse, settling, or deflection and to protect persons and property from injury or damage.
- B. Temporary supports must adequately carry all existing and imposed load.
- C. CONTRACTOR shall provide and maintain temporary protection of surface finishes, equipment, and adjacent work designated to remain where demolition, removal, and new work is being done, connections are being made, materials are being handled, or equipment is being removed.
- D. CONTRACTOR shall provide adequate fire protection in accordance with local Fire Department requirements.
- E. CONTRACTOR shall provide waterproofing, weather protection, and other facilities for that portion of the work which may be exposed by cutting and patching, demolition, or other alterations.
- F. CONTRACTOR shall prepare surfaces and remove surface finishes to provide for proper installation of new work and new finishes.
- G. CONTRACTOR shall be responsible for any damage to the existing site or its contents directly or indirectly by its crews or those of its subcontractors.

### 3.03 PERFORMANCE

- A. CONTRACTOR shall accomplish all work of cutting, removal, demolition, patching, or other alterations using only persons skilled in the appropriate trade.
- B. CONTRACTOR shall execute the work in a careful and orderly manner with the least possible disturbance to the public and to the occupants of the building.

- C. CONTRACTOR shall execute cutting and demolition by methods which will prevent damage to other work and will provide proper surfaces to receive installation of repairs.
- D. CONTRACTOR shall execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances, and finishes.
- E. CONTRACTOR shall fit work airtight to sleeves, conduit, and other penetrations through surfaces.
- F. CONTRACTOR shall thoroughly clean and prepare all surfaces to receive new finish or covering to completely remove all dirt, dust, grease, oil, paint, loose materials, and soil.
- G. CONTRACTOR shall refinish entire surface as necessary to provide an even finish to match adjacent finishes:
  - 1. For continuous surfaces, refinish to nearest intersection.
  - 2. For an assembly, refinish entire unit.

#### 3.04 DEMOLITION, CUTTING, AND REMOVAL

- A. Cutting and removal of construction shall be performed by CONTRACTOR so as not to cut or remove more than is necessary and so as not to damage adjacent work.
- B. CONTRACTOR shall cut out embedded anchorages and attachment items as required to properly provide for patching and repair of the respective finishes.
- C. CONTRACTOR shall not cut structural work in a manner resulting in a reduction of load-carrying capacity or load/deflection ratio.
- D. CONTRACTOR shall not cut operational elements and safety components in a manner resulting in decreased performance, shortened useful life, or increased maintenance.
- E. CONTRACTOR shall not cut work exposed to view in a manner resulting in noticeable reduction of visual qualities as determined by OWNER.
- F. Construction that is to remain which is loosened, cracked, or otherwise damaged or defaced as a result of careless cutting or demolition and is unsuitable for use intended shall be removed and replaced at no additional cost to OWNER.
- G. CONTRACTOR shall clean demolished areas and remove debris, waste, and rubbish at the conclusion of each day's work.
- H. CONTRACTOR shall not let piled waste material endanger the public.

#### 3.05 PATCHING, EXTENDING, AND MATCHING

- A. Patching work shall conform to the standards of the Specifications where applicable, and where not specified, work shall conform to the highest standards of the applicable trade.
- B. CONTRACTOR shall patch construction to match adjacent work unless noted otherwise.
- C. Patching or restoration shall be carried to natural breaks (e.g., corners) wherever possible.

D. CONTRACTOR shall provide adequate support to substrate for patching finishes.

END OF SECTION

## SECTION 01060

### REGULATORY REQUIREMENTS

#### PART 1–GENERAL

##### 1.01 SUMMARY

- A. Work Included:
  - 1. OSHA Requirements.
  - 2. Roadway Limits.
  - 3. Permits.

##### 1.02 OSHA REQUIREMENTS

- A. All work including site safety, equipment, materials, and fabricated items provided under the Contract shall comply with the provisions of the “Occupational Safety and Health Act.”

##### 1.03 ROADWAY LIMITS

- A. CONTRACTOR shall comply with roadway weight restrictions including seasonal weight restrictions.

##### 1.04 PERMITS

- A. No permits were obtained by OWNER for this Project. CONTRACTOR shall obtain required permits. Where the requirements of any permit are more restrictive than the Drawings or the Specifications, the permit requirements shall govern.

#### PART 2–PRODUCTS

NOT APPLICABLE

#### PART 3–EXECUTION

NOT APPLICABLE

END OF SECTION

## SECTION 01090

### REFERENCE STANDARDS AND DEFINITIONS

#### PART 1—GENERAL

##### 1.01 SUMMARY

- A. Work Included:
  - 1. Reference Standards:
    - a. Throughout the Contract Documents, reference is made to codes and standards which establish qualities and types of workmanship and materials, and which establish methods for workmanship and materials, and which establish methods for testing and reporting on the pertinent characteristics.
    - b. Where materials or workmanship are required by these Contract Documents to meet or exceed the specifically named code or standard, it is CONTRACTOR's responsibility to provide materials and workmanship which meet or exceed that specifically named code or standard.
    - c. It is also CONTRACTOR's responsibility, when so required by the Contract Documents, to deliver to ENGINEER all required proof that the material or workmanship, or both, meet or exceed the requirements of the specifically named code or standard.
  - 2. Definitions:
    - a. A substantial amount of specification language constitutes definitions for terms found in other Contract Documents, including the Drawings which must be recognized as diagrammatic in nature and not completely descriptive of requirements indicated thereon.
    - b. Certain terms used in the Contract Documents are defined generally in this section to supplement definitions of the Agreement, General Conditions, Supplementary Conditions, and other general contract documents.
    - c. Definitions and explanations of this section are not necessarily either complete or exclusive, but are general for the Work.
- B. Related Work Described Elsewhere: The specific naming of codes or standards occurs on the Drawings and in other sections of these Specifications.

##### 1.02 QUALITY ASSURANCE

- A. Familiarity with Pertinent Codes and Standards:
  - 1. It is CONTRACTOR's responsibility to verify the requirements of the specifically named codes and standards and to verify that the items procured for use in this Work meet or exceed the specified requirements.
  - 2. When required by individual sections of these specifications, CONTRACTOR shall obtain a copy of each pertinent code or standard and maintain the copies at the job site during submittals, planning, and progress of the Work until Substantial Completion of the Work is attained.
- B. Overlapping or Conflicting Requirements:
  - 1. Where compliance with two or more industry standards or sets of requirements are specified, and the overlapping of those standards or requirements establishes different or conflicting minimums or levels of quality, the most stringent requirement (which is

generally recognized to be also most costly) is intended and will be enforced, unless more detailed language written directly into Contract Documents clearly indicates that a less stringent requirement is acceptable.

2. Refer all uncertainties to ENGINEER for decision before proceeding.

### 1.03 REFERENCE STANDARDS

- A. Applicable standards of the construction industry are made a part of the Contract Documents by reference as if copied directly into the Contract Documents, or as if published copies were bound herewith. See Article 3.02 of the General Conditions for additional provisions regarding references.
- B. Standards referenced directly in the Contract Documents or by governing regulation, have precedence over nonreferenced standards which are recognized in industry for applicability to the Work.
- C. Nonreference standards are hereby defined to have no particular applicability to the work except as a general measurement of whether the Work complies with standards recognized in the construction industry.
- D. Reference standards and codes listed in these specifications may include, but are not necessarily limited to, standards or codes published by the following agencies and organizations:

1. AA            Aluminum Association  
1525 Wilson Boulevard, Arlington, VA 22209
2. AAMA        American Architectural Manufacturer's Association  
1827 Walden Office Square Suite 550, Schaumburg, IL 60173-4268
3. AASHTO     American Association of State Highway & Transportation Officials  
444 North Capitol Street NW Suite 249, Washington, DC 20001
4. ACI           American Concrete Institute  
38800 Country Club Drive, Farmington Hills, MI 48331-3439
5. AI             Asphalt Institute  
2696 Research Park Drive, Lexington, KY 40511-8480
6. AISC         American Institute of Steel Construction  
One East Wacker Drive Suite 700, Chicago, IL 60601-1802
7. AISI         American Iron and Steel Institute  
25 Massachusetts Avenue NW Suite 800, Washington, DC 20001
8. ANSI         American National Standards Institute  
25 West 43rd Street, New York, NY 10036
9. APA         American Plywood Association  
7011 South 19th, Tacoma, WA 98466-5333

10. API American Petroleum Institute  
1220 L Street NW, Washington, DC 20005-4070
11. ARI Air-Conditioning & Refrigeration Institute  
4100 North Fairfax Drive Suite 200, Arlington, VA 22203
12. ASHRAE American Society of Heating, Refrigerating, and Air Conditioning Engineers  
1791 Tullie Circle NE, Atlanta, GA 30329
13. ASME American Society of Mechanical Engineers  
Two Park Avenue, New York, NY 10016-5990
14. ASSE American Society of Sanitary Engineering  
901 Canterbury Suite A, Westlake, OH 44145
15. ASTM ASTM International  
100 Barr Harbor Drive, West Conshohocken, PA 19428-2959
16. AWI Architectural Woodwork Institute  
46179 Westlake Drive Suite 120, Potomac Falls, VA 20165-5874
17. AWPA American Wood Protection Association  
P.O. Box 361784, Birmingham, AL 35236-1784
18. AWS American Welding Society  
8669 Doral Boulevard Suite 130, Doral, FL 33166
19. AWWA American Water Works Association  
6666 West Quincy Avenue, Denver, CO 80235
20. BHMA Builder's Hardware Manufacturers Association  
355 Lexington Avenue 15th floor, New York, NY 10017
21. BIA Brick Industry Association  
1850 Centennial Park Drive Suite 301, Reston, VA 20191
22. CRSI Concrete Reinforcing Steel Institute  
9333 North Plum Grove Road, Schaumburg, IL 60173
23. EJMA Expansion Joint Manufacturers Association  
25 North Broadway, Tarrytown, NY 10591
24. FM FM Global  
FM Global Corporate Offices, 270 Central Avenue, Johnston, RI 02919
25. FTI Facing Tile Institute  
Box 8880, Canton, OH 44711

26. GA Gypsum Association  
6525 Belcrest Road Suite 480, Hyattsville, MD 20782
27. GANA Glass Association of North America  
800 SW Jackson Street Suite 1500, Topeka, KS 66612-1200
28. ICC International Code Council  
500 New Jersey Avenue NW 6th Floor, Washington, DC 20001
29. IES Illuminating Engineering Society  
120 Wall Street, Floor 17, New York, NY 10005-4001
30. MIL Military Specifications  
Naval Publications and Forms Center  
5801 Tabor Avenue, Philadelphia, PA 19120
31. NAAMM National Association of Architectural Metal Manufacturers  
800 Roosevelt Road Building C Suite 312, Glen Ellyn, IL 60137
32. NCMA National Concrete Masonry Association  
13750 Sunrise Valley Drive, Herndon, VA 20171-4662
33. NECA NECA  
National Electrical Contractors Association  
3 Bethesda Metro Center Suite 1100, Bethesda, MD 20814
34. NEMA National Electrical Manufacturers Association  
1300 North 17th Street Suite 1752, Rosslyn, VA 22209
35. NFPA National Fire Protection Association  
1 Batterymarch Park, Quincy, MA 02169-7471
36. NIST National Institute of Standards and Technology  
(U.S. Department of Commerce), 100 Bureau Drive, Stop 1070  
Gaithersburg, MD 20899-1070
37. NRCA National Roofing Contractors Association  
10255 West Higgins Road Suite 600, Rosemont, IL 60018-5607
38. NSF National Sanitation Foundation International  
P.O. Box 130140, 789 North Dixboro Road, Ann Arbor, MI 48113-0140
39. OSHA Occupational Safety & Health Administration  
200 Constitution Avenue NW, Washington, DC 20210
40. PCA Portland Cement Association  
5420 Old Orchard Road, Skokie, IL 60077
41. PCI Prestressed Concrete Institute  
200 West Adams Street Suite 2100, Chicago, IL 60606

- 42. SAE            Society of Automotive Engineers  
SAE World Headquarters  
400 Commonwealth Drive, Warrendale, PA 15096-0001
  
- 43. SDI            Steel Deck Institute  
P.O. Box 25, Fox River Grove, IL 60021
  
- 44. SDI            Steel Door Institute  
30200 Detroit Road, Westlake, OH 44145-1987
  
- 45. SIGMA        Sealed Insulating Glass Manufacturers Assoc.  
401 North Michigan Avenue Suite 2400, Chicago, IL 60611
  
- 46. SJI            Steel Joist Institute  
234 Cheves Street, Florence, SC 29501
  
- 47. SMACNA      Sheet Metal and Air Conditioning  
Contractor's National Association  
4201 Lafayette Center Drive, Chantilly, VA 20151-1219
  
- 48. SSPC         Society for Protective Coatings  
40 24th Street 6th Floor, Pittsburgh, PA 15222-4656
  
- 49. TCA            Tile Council of America  
100 Clemson Research Boulevard, Anderson, SC 29625
  
- 50. ICC            International Code Council  
500 New Jersey Avenue NW 6th Floor, Washington, DC 20001
  
- 51. UL            Underwriters Laboratories  
333 Pfingston Road; Northbrook, IL 60062

1.04 SUBMITTALS

- A. For OWNER's records, CONTRACTOR shall submit copies of permits, licenses, certifications, inspection reports, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work.

1.05 DEFINITIONS

- A. Indicated:
  - 1. The term "indicated" is a cross-reference to details, notes, or schedules on the drawings, to other paragraphs or schedules in the specifications and to similar means of recording requirements in the Contract Documents.
  - 2. Where terms such as "shown," "noted," "scheduled," and "specified" are used in lieu of "indicated", it is for the purpose of helping the reader locate cross-reference, and no limitation is intended except as specifically noted.

- B. Approve (or Words of Similar Nature):
1. Where used in conjunction with ENGINEER's response to submittals, requests, applications, inquiries, reports, and claims by CONTRACTOR, the meaning of the term "approve" will be held to the limitation of ENGINEER's responsibilities and duties as specified in Paragraph 1.02.B.1. of the General Conditions.
  2. In no case will "approval" by ENGINEER be interpreted as a release of CONTRACTOR from responsibility to fulfill requirements of the Contract Documents.
- C. Minimum Requirements:
1. Indicated requirements are for a specific minimum acceptable level of quality or quantity, as recognized in the industry.
  2. Actual work must comply with (or within specified tolerances) or exceed minimums.
  3. CONTRACTOR shall refer uncertainties to ENGINEER before proceeding.
- D. Abbreviations: Abbreviations, where not defined in the Contract Documents, will be interpreted to mean the normal construction industry terminology.

PART 2-PRODUCTS

NOT APPLICABLE

PART 3-EXECUTION

NOT APPLICABLE

END OF SECTION

## SECTION 01300

### SUBMITTALS

#### PART 1—GENERAL

##### 1.01 SUMMARY

- A. Work Included:
  - 1. Whenever possible throughout the Contract Documents, the minimum acceptable quality of workmanship and materials has been defined either by manufacturer's name and catalog number or by reference to recognized industry standards.
  - 2. To facilitate CONTRACTOR's understanding of the design intent, procedures have been established for advance submittal of design data and for its review or rejection by ENGINEER.
  - 3. The type of submittal requirements specified in this section include progress schedule, shop drawings, product data, samples, and other miscellaneous work related submittals.
- B. Related work described elsewhere: More detailed requirements for submittals are described in other sections of these specifications for some materials and equipment. They are to be considered additional requirements to supplement the requirements specified in this section. Submittals shall conform to Article 6 of the General Conditions.
- C. Definitions: "Electronic Submittal" is defined as any submittal transmitted electronically to ENGINEER for review.

##### 1.02 IDENTIFICATION OF SUBMITTALS

- A. CONTRACTOR shall completely identify each submittal and resubmittal by showing at least the following information:
  - 1. Name and address of submitter, plus name and telephone number of the individual who may be contacted for further information.
  - 2. Name and location of project and identification number.
  - 3. Drawing number and specifications section number to which the submittal applies.
  - 4. Include the date of each submittal or resubmittal.

##### 1.03 GROUPING OF SUBMITTALS

- A. Unless otherwise specifically permitted by ENGINEER, CONTRACTOR shall make all submittals in groups containing all associated items so that information is available for checking each item when it is received.
- B. Partial submittals may be rejected as not complying with the provisions of the Contract Documents.

##### 1.04 TIMING OF SUBMITTALS

- A. CONTRACTOR shall make all submittals far enough in advance of scheduled dates of installation to provide required time for reviews, for securing necessary approval, for possible revision and resubmittal, and for placing orders and securing delivery.

- B. The review period for submittals that are received after 3 P.M. shall commence on the following business day.

#### 1.05 CONSTRUCTION PROGRESS SCHEDULE

- A. Submit initial schedule in duplicate within 10 days after date of OWNER-CONTRACTOR Agreement.
- B. Revise and resubmit as required.
- C. Submit revised schedules with each Application for Payment, identifying changes since previous version.
- D. Submit a horizontal bar chart with separate line for each major portion of Work or operation, identifying first workday of each week.
- E. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.
- F. Indicate estimated percentage of completion for each item of Work at each submission.
- G. Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates.

#### 1.06 SHOP DRAWINGS

- A. Shop drawings shall include specially prepared technical data for this project including drawings, diagrams, performance curves, data sheets, schedules, templates, patterns, reports, calculations, instructions, measurements, and similar information not in standard printed form for general application to a range of similar projects. Shop drawings shall be submitted for all manufactured or fabricated items. See individual technical sections for special requirements.
- B. CONTRACTOR shall make all shop drawings accurately to scale and sufficiently large to show all pertinent aspects of the item and its method of connection to the work.
- C. Shop drawings shall be checked, approved, and stamped by CONTRACTOR in accordance with the General Conditions before transmittal to ENGINEER for review and approval.
- D. Complete shop drawings and descriptive data shall be submitted on all manufactured or fabricated items prior to 25% completion of the Work. Applications for payment beyond 25% of the Contract amount will not be recommended for payment until all shop drawings are submitted or a revised schedule for any remaining submittals is agreed to by OWNER and ENGINEER.
- E. CONTRACTOR shall submit shop drawings following the procedure described below. Except as noted, five color copies of shop drawings and descriptive data shall be submitted to ENGINEER for approval. Three copies of these will be returned to CONTRACTOR if approved. If shop drawings are not approved or if they are stamped "Approved as Noted-Resubmit," two corrected copies will be returned to CONTRACTOR

for use in resubmittal. If CONTRACTOR desires more than three approved copies, submitted quantity shall be increased accordingly.

- F. Hard copy shop drawings shall be submitted in 3-ring binders or 3-tab report covers.
- G. Shop drawings submitted to ENGINEER will be reviewed and stamped "Approved," "Approved as Noted," "Approved as Noted-Resubmit," or "Not Approved." CONTRACTOR shall resubmit the above number of corrected shop drawings for all shop drawings stamped "Approved as Noted-Resubmit" and "Not Approved" and will continue this process until shop drawings are stamped "Approved" or "Approved as Noted." If drawings are stamped "Approved as Noted-Resubmit," fabrication may proceed in accordance with the marked-up shop drawings. Installation shall not proceed until shop drawings have been resubmitted and stamped "Approved" or "Approved as Noted."
- H. If shop drawings are stamped "Approved as Noted" or "Approved as Noted-Resubmit" and CONTRACTOR does not agree with revisions or cannot conform with revisions, fabrication shall not proceed and shop drawings shall be resubmitted with explanation of CONTRACTOR's position.
- I. All shop drawings used for construction site activities shall bear the "Approved" or "Approved as Noted" stamp of ENGINEER.
- J. Arrangements may be made between CONTRACTOR and ENGINEER to provide additional copies of "Approved" shop drawings for field activity purposes.

#### 1.07 COLORS AND PATTERNS

- A. Unless the precise color and pattern is specifically described in the Contract Documents, whenever a choice of color or pattern is available in a specified product, CONTRACTOR shall submit accurate color charts and pattern charts to ENGINEER for OWNER's review and selection.
- B. Unless all available colors and patterns have identical wearing capabilities and are identically suited for the installation, CONTRACTOR shall completely describe the relative capabilities of each.

#### 1.08 PRODUCT DATA

- A. CONTRACTOR shall provide product data as required to supplement shop drawings.
- B. Product data are illustrations, standard schedules, performance charts, instructions, brochures, wiring diagrams, and other information furnished by CONTRACTOR to illustrate a material, product, or system for some portion of the work.
- C. CONTRACTOR shall collect required product data into one submittal for each unit of work or system.
- D. CONTRACTOR shall include manufacturer's standard printed recommendations for application and use, compliance with standards, performance characteristics, wiring diagrams and controls, component parts, finishes, dimensions, required clearances, and other special coordination requirements.

- E. CONTRACTOR shall mark each copy of standard printed data to identify pertinent products, models, options, and other data.
- F. CONTRACTOR shall supplement manufacturer's standard data to provide information unique to the work.

#### 1.09 RESUBMISSION REQUIREMENTS

- A. Make any corrections or changes in the submittals required by ENGINEER.
- B. Shop Drawings and Product Data:
  - 1. Revise initial drawings or data and resubmit as specified for initial submittal.
  - 2. Itemize in a cover letter any changes which have been made other than those requested by ENGINEER.

#### 1.10 MANUFACTURER'S DIRECTIONS

- A. Manufactured articles, materials, and equipment shall be stored, commissioned, operated, applied, installed, connected, erected, used, cleaned, and conditioned as directed by the manufacturer, unless specified to the contrary.
- B. Wherever specifications call for work to be performed or materials to be installed in accordance with the manufacturer's printed instructions or directions, CONTRACTOR shall furnish copies as required for shop drawings of those instructions or directions to ENGINEER before installing the material or performing the work.

#### 1.11 MAINTENANCE MANUAL

- A. Prior to 50% completion of the Contract or at a minimum of 45 days prior to the scheduled start-up date of any individual item of equipment, whichever is earlier, CONTRACTOR shall furnish to OWNER four complete copies of a maintenance manual for all equipment furnished. Applications for payment beyond 50% of the contract amount will not be recommended for payment until all maintenance manuals are submitted or a revised schedule for remaining maintenance manuals is agreed to by OWNER.
- B. The manuals shall include manufacturer's instructions for maintenance and operation for each item of electrical equipment. Manuals shall be specific for the equipment as installed; provide project specific inserts as required. Manuals shall contain: operation instructions, lubrication schedules, types and quantities, preventative maintenance program, spare parts list, parts lists, I.D. No. and exploded views, assembly instructions, parts supplier location, trouble shooting and startup procedures and, where applicable, test data and curves.
- C. All sheets shall have reduced dimensions as described for shop drawings, and shall be furnished in 3-ring binders or 3-tab report covers.

#### 1.12 MAINTENANCE MANUAL

- A. Prior to substantial completion of the Contract, CONTRACTOR shall furnish to OWNER four complete copies of a maintenance manual for all equipment furnished and an electronic format compact disk of the maintenance manual in the most recent version of Adobe (.pdf) format identical to the hard copy. Applications for payment beyond 50% of the

contract amount will not be recommended for payment until all maintenance manuals are submitted or a revised schedule for remaining maintenance manuals is agreed to by OWNER.

- B. CONTRACTOR is responsible for producing an electronic version of the Equipment Operations and Maintenance (O&M) Manuals Manual. The Electronic Equipment O&M Manual shall be delivered in Portable Document Format (PDF). The entire manual may be converted to PDF via scanning or other method of conversion. Drawings or other graphics must be converted to PDF format and made part of the PDF document. The CONTRACTOR shall provide all Equipment O&M Manuals in the electronic format as defined below.
- C. The filename for the Equipment O&M Manual submittal will be provided with the request for final Equipment O&M Manuals. Filenames use the "eight dot three" convention (XXXXX\_YY.PDF) where XXXXX is the specification section number and YY is an ID number. No one file shall be larger than 10 MB. If technical problems require that the submittal be divided into more than one file, a letter extension shall be added to the end of each filename.
- D. (Example: 19876\_01a.pdf). The number of files shall be kept to a minimum. Equipment O&M Manuals that span more than one file shall have the final Bookmark "Return to Table of Contents" which shall take the User to the first file on the Equipment O&M Manual.
- E. All text (word processed), spreadsheets, and electronic graphics shall be delivered in portable document format (\*.PDF). The resolution of all scanned images shall be a minimum of 300 dpi unless otherwise requested by OWNER. Scanned images shall be processed with the "original image with hidden text" option (Adobe Acrobat 6 or higher). This results in a clear image and provides for optical character recognition (OCR) and word search functionality. Graphical files shall be fully searchable. All submittals must be indexed with the Adobe Catalog feature. Placement and structure of index files shall be in accordance with Adobe's recommendations to minimize problems when transferring files. Successful searches for words or strings in the PDF document shall demonstrate proof of OCR.
- F. Rotate pages viewed in landscape to the appropriate position for easy reading on a computer monitor.
- G. Bookmarks shall be created in the navigation frame for each entry in the Table of Contents. Three levels deep is usually enough (i.e., "Chapter", "Section", "Subsection"); however, complex submittals like instrumentation and electrical may be required at the discretion of OWNER. When setting bookmarks for Chapter level heading, the page shall be displayed at Full Page. Section and Subsection level heading pages shall be displayed as a magnified view. Bookmarks shall be displayed as subordinate (to other bookmarks in their hierarchy set so that only the Chapter level headings are displayed).
- H. Thumbnails shall be generated and embedded in each PDF file.
- I. Files shall be delivered without Security features activated. Password protected files will be unacceptable.
- J. The opening view for PDF files shall be set as follows:
  - 1. Initial View: Bookmarks and Page.
  - 2. Magnification: Fit In Window.

3. Page Layout: Single Page.
- K. The file shall open to the cover page of the Equipment O&M Manual with bookmarks to the left. The first bookmark shall be the name of Equipment O&M Manual.
- L. The submittal shall be delivered on CD after all Equipment O&M Manuals have been received and approved. Each CD shall be labeled, at a minimum, as follows, including: 1) CD-ROM disks, 2) jewel cases, and 3) hard copies.
- M. Manufacturer name, point of contact, telephone number, facsimile number, and e-mail address as appropriate.
- N. Equipment name and/or O&M title spelled out in complete words.
- Example "Operations and Maintenance Manual"  
"Horizontal Centrifugal Nonclog Pump"
- O. Specifications section number.
- P. Project name.
- Q. Date and File Name: Example "12-20-07", "19876\_01.pdf"
- R. CONTRACTOR shall reprocess any portion of the document that does not view or print to OWNER's satisfaction.
- S. CONTRACTOR is fully responsible for obtaining any and all copyright permissions associated with conversion of this information to electronic format.
- T. The manuals shall include manufacturer's instructions for maintenance and operation for each item of mechanical and electrical equipment. Manuals shall be specific for the equipment as installed; provide project specific inserts as required. Manuals shall contain: operation instructions, lubrication schedules, types and quantities, preventive maintenance program, spare parts list, parts lists, I.D. No. and exploded views, assembly instructions, parts supplier location, trouble shooting and start-up procedures and, where applicable, test data and curves. All sheets shall have reduced dimensions as described for shop drawings, and shall be furnished in 3-ring binders or 3-tab report covers.
- U. Two copies shall be submitted in a 3-ring binder or 3-tab report cover, and the remaining copies shall be furnished in 3-tab report covers, binder clips, or large envelopes.
- V. All sheets shall have reduced dimensions as described for shop drawings, and shall be furnished in 3-ring binders or 3-tab report covers.

## PART 2-PRODUCTS

NOT APPLICABLE

PART 3-EXECUTION

NOT APPLICABLE

END OF SECTION

## SECTION 01400

### QUALITY CONTROL

#### PART 1–GENERAL

##### 1.01 SUMMARY

- A. Work Includes:
  - 1. Quality Assurance–Control of Installation.
  - 2. Tolerances.
  - 3. Manufacturers' Field Services and Reports.

##### 1.02 QUALITY ASSURANCE–CONTROL OF INSTALLATION

- A. CONTRACTOR shall monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship to produce Work of specified quality.
- B. CONTRACTOR shall comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, CONTRACTOR shall request clarification from ENGINEER before proceeding.
- D. CONTRACTOR shall comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Work shall be performed by persons qualified to produce workmanship of specified quality.
- F. CONTRACTOR shall secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

##### 1.03 TOLERANCES

- A. CONTRACTOR shall monitor tolerance control of installed products to produce acceptable work and shall not permit tolerances to accumulate.
- B. CONTRACTOR shall comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, CONTRACTOR shall request clarification from ENGINEER before proceeding.
- C. CONTRACTOR shall adjust products to appropriate dimensions; position before securing products in place.

##### 1.04 MANUFACTURERS' FIELD SERVICES AND REPORTS

- A. When specified in individual specification sections or when requested by ENGINEER, CONTRACTOR shall require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, and quality of workmanship.

- B. CONTRACTOR shall submit qualifications of observer to ENGINEER 30 days in advance of required observations.
- C. CONTRACTOR shall report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- D. CONTRACTOR shall submit report in duplicate within 30 days of observation to ENGINEER for information.

PART 2-PRODUCTS

NOT APPLICABLE

PART 3-EXECUTION

NOT APPLICABLE

END OF SECTION

## SECTION 01500

### TEMPORARY FACILITIES

#### PART 1—GENERAL

##### 1.01 SUMMARY

- A. Work Included:
  - 1. Temporary utilities.
  - 2. Temporary support facilities.
  - 3. Removal of temporary facilities.
- B. CONTRACTOR shall arrange for and provide temporary facilities as required for proper and expeditious prosecution of the Work.
- C. CONTRACTOR shall pay all costs, except as otherwise specified, until final acceptance of the Work unless OWNER makes arrangements for use of completed portions of the Work after substantial completion in accordance with the provisions of the General Conditions.
- D. CONTRACTOR shall make all temporary connections to utilities and services in locations acceptable to OWNER and local authorities having appropriate jurisdiction.
  - 1. Furnish all necessary labor and materials.
  - 2. Make all installations in a manner subject to the acceptance of such authorities and OWNER.
  - 3. Maintain such connections.
  - 4. Remove temporary installation and connection when no longer required.
  - 5. Restore services and sources of supply to proper operating conditions.

##### 1.02 TEMPORARY UTILITIES

- A. Temporary Toilets: CONTRACTOR shall provide and maintain sanitary temporary chemical toilets located where approved by OWNER and in sufficient number required for the work force employed by CONTRACTOR.
- B. Temporary Electrical Services:
  - 1. CONTRACTOR shall make all necessary arrangements, furnish, install, and maintain necessary temporary electrical services at the Site. Services shall be a minimum of 200 amperes, 1 phase, 3 wire, 120/240 volt temporary power and lighting system adequate for the construction of this Project and in accordance with OSHA Requirements for Construction Projects. Installation of the temporary power and lighting system shall begin upon notification to proceed and shall be installed and routed in a manner so as not to interfere with construction of the Project. CONTRACTOR shall remove all temporary services when Project is complete.
  - 2. The temporary light and power system shall include temporary service poles, metering facilities, driven ground, fused main disconnect switch, panelboards, branch circuits, outlets and lamps, and the maintenance thereof.
  - 3. Construction areas shall be illuminated to 5 fc.
  - 4. Temporary lights shall be equipped with heavy-duty electric cords and lamp guards. They must not be suspended by the power supply cord unless it is designed for this use.

5. Provide one general purpose, 20 ampere, 120 volt, single phase, grounding type receptacle outlet for every 1,000 feet of working area. The maximum length of a 20 ampere, 120 volt lighting or power circuit shall not be greater than 200 feet from panelboard to farthest outlet. All single phase receptacle outlet circuits shall have approved ground-fault circuit interrupter protection.
  6. All utility charges for installation of the temporary services shall be paid for by CONTRACTOR. All metering installation charges and all energy charges for electric current used for temporary lighting and power shall be paid by CONTRACTOR.
  7. No permanent electrical equipment or wiring shall be used without express written permission of OWNER. Such approval, if given, shall not affect guarantee period. If OWNER authorizes use of permanent service facilities, CONTRACTOR shall pay all metering costs until acceptance or occupancy (whichever occurs first) of building by OWNER.
- C. Weather Protection: CONTRACTOR shall provide weather protection to protect the Work from damage because of freezing, rain, snow, and other inclement weather.
- D. Temporary Water: CONTRACTOR shall supply its own water during construction.
- E. Temporary Fire Protection: CONTRACTOR and Subcontractor(s) who maintain or provide an enclosed shed or trailer shall provide and maintain in operating order in each shed or trailer a minimum of one fire extinguisher. More extinguishers shall be provided as necessary. Fire extinguishers shall be minimum dry chemical, nonfreezing-type, UL rating 2A-30BC, with 10-pound capacity for Class A, B, and C fires.
- F. CONTRACTOR's and Subcontractor(s)' personnel shall refrain from smoking during excavation, laying pipe, backfilling, and other work at the Site which may involve potential contact with explosive vapors or gasoline products.

#### 1.03 TEMPORARY SUPPORT FACILITIES

- A. CONTRACTOR shall provide whatever facilities and services which may be needed to properly support primary construction process and meet compliance requirements and governing regulations.
- B. CONTRACTOR shall not use permanent facilities except as otherwise indicated, unless authorized by OWNER.

#### 1.04 REMOVAL OF TEMPORARY FACILITIES

- A. Remove temporary materials, equipment, services, and construction as soon as practicable but no later than just prior to substantial completion inspection.
- B. Clean and repair damage caused by installation or use of temporary facilities and restore existing facilities used during construction to specified, or to original, condition.
- C. Minor temporary facilities which interfere with OWNER's operations shall be removed at the end of each Work period.

PART 2-PRODUCTS

NOT APPLICABLE

PART 3-EXECUTION

NOT APPLICABLE

END OF SECTION

## SECTION 01560

### TEMPORARY CONTROLS

#### PART 1–GENERAL

##### 1.01 SUMMARY

- A. Work Included:
  - 1. Dust Control.
  - 2. Water, Erosion, and Sediment Control.
  - 3. Noise Control.
  - 4. Traffic Control.
  - 5. Site Security.
  - 6. Daily Cleanup.

#### PART 2–PRODUCTS

NOT APPLICABLE

#### PART 3–EXECUTION

##### 3.01 DUST CONTROL

- A. CONTRACTOR shall execute the Work by methods to minimize raising dust from construction operations.
- B. CONTRACTOR shall provide positive means to prevent airborne dust from dispersing into atmosphere.

##### 3.02 WATER, EROSION, AND SEDIMENT CONTROL

- A. CONTRACTOR shall maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- B. CONTRACTOR shall protect Site from puddling or running water.
- C. CONTRACTOR shall provide erosion control measures as necessary to control discharge of sediment laden water to surface waters and wetlands.
- D. Restoration of the Site shall proceed concurrently with the construction operation. See Specifications for erosion control measures in addition to that which may be required above.
- E. Erosion control measures shall comply with DNR Conservation Practice Standards-Construction Site Erosion and Sediment Controls.

### 3.03 NOISE CONTROL

- A. Provide methods, means, and facilities to minimize noise produced by construction operations.

### 3.04 TRAFFIC CONTROL

- A. CONTRACTOR shall be responsible for providing all signs, barricades, flagmen, and other traffic control devices in the construction zone.
- B. All traffic control measures shall meet the requirements of Part 6 of the Manual on Uniform Traffic Control Devices of the State of Wisconsin.
- C. Do not close or obstruct roadways without approval of OWNER.
- D. Maintain two-way traffic on streets at all times.
- E. Conduct operations with minimum interference to roadways.

### 3.05 SITE SECURITY

- A. CONTRACTOR shall have the sole responsibility of safeguarding the Site perimeter to prevent unauthorized entry to the Site throughout the duration of the Project. CONTRACTOR shall at all times provide such permanent and temporary fencing or barricades or other measures as may be necessary to restrict unauthorized entry to its construction area including construction in public rights-of-way or easements. Site security measures shall include safeguards against attractive nuisance hazards as a result of construction activity.
- B. CONTRACTOR shall at all times be responsible for the security of the Work including materials and equipment. OWNER will not take any responsibility for missing or damaged equipment, tools, or personal belongings. CONTRACTOR shall have the sole responsibility of safeguarding the Work and the Site throughout the duration of the Project.

### 3.06 DAILY CLEANUP

- A. CONTRACTOR shall clean up the Site and remove all rubbish on a daily basis.
- B. CONTRACTOR shall clean up public streets and remove any dirt, mud, or other materials due to project traffic on daily basis and shall comply with all local and state ordinances and permit requirements.

END OF SECTION

## SECTION 01590

### FIELD OFFICES AND SHEDS

#### PART 1–GENERAL

##### 1.01 SUMMARY

- A. Work Included:
  - 1. Materials, equipment, and furnishings.
  - 2. Construction.
  - 3. Environmental control.
  - 4. CONTRACTOR office and facilities.
  - 5. Storage areas and sheds.

#### PART 2–PRODUCTS

##### 2.01 MATERIALS, EQUIPMENT, AND FURNISHINGS

- A. Materials, equipment, and furnishings shall be serviceable, new or used, and adequate for required purpose.

##### 2.02 CONSTRUCTION

- A. CONTRACTOR shall provide structurally sound, secure, weathertight enclosures for storage spaces.
- B. Exterior materials shall be weather resistant.
- C. Provide appropriate type fire extinguisher at each storage area.
- D. Interior materials in storage sheds shall be as required to provide specified conditions for storage of products.

##### 2.03 ENVIRONMENTAL CONTROL

- A. Heating and ventilation for storage spaces shall be as needed to maintain products in accordance with Contract Documents and to provide adequate lighting for maintenance and observation of products.

##### 2.04 CONTRACTOR OFFICE AND FACILITIES

- A. CONTRACTOR shall provide facilities to meet CONTRACTOR's needs.

##### 2.05 STORAGE AREAS AND SHEDS

- A. Provide storage areas and sheds of size to meet storage requirements for products of individual sections, allowing for access and orderly provision for maintenance and for observation of products to meet requirements of Section 01600–Materials and Equipment.

PART 3-EXECUTION

NOT APPLICABLE

END OF SECTION

## SECTION 01600

### MATERIALS AND EQUIPMENT

#### PART 1—GENERAL

##### 1.01 SUMMARY

- A. Work Included: CONTRACTOR shall be responsible for the delivery, handling, storage and protection of all material and equipment required to complete the Work as specified herein.
- B. Related Sections and Divisions: Specific requirements for the handling and storage of material and equipment are described in other sections of these Specifications.

##### 1.02 PRODUCTS

- A. Components required to be supplied in quantity within a Specification section shall be the same, and shall be interchangeable.
- B. CONTRACTOR shall not use materials and equipment removed from existing construction, except as specifically required, or allowed, by the Contract Documents.
- C. When any construction deviations from the Drawings and/or Specifications necessary to accommodate equipment supplied by CONTRACTOR, result in additional costs to CONTRACTOR or other contractors, such additional costs shall be borne by CONTRACTOR. CONTRACTOR shall also pay any additional costs necessary for revisions of Drawings and/or Specifications by ENGINEER.
- D. Each major component of equipment shall bear a nameplate giving the name and address of the manufacturer and the catalogue number or designation.

##### 1.03 TRANSPORTATION AND HANDLING

- A. Materials, products and equipment shall be properly containerized, packaged, boxed, and protected to prevent damage during transportation and handling.
- B. CONTRACTOR shall not overload any portion of the structure in the transporting or storage of materials.
- C. CONTRACTOR shall not damage other construction by careless transportation, handling, spillage, staining or impact of materials.
- D. CONTRACTOR shall provide equipment and personnel to handle products, including those provided by OWNER, by methods to prevent soiling and damage.
- E. CONTRACTOR shall provide additional protection during handling to prevent marring and otherwise damaging products, packaging, and surrounding surfaces.
- F. CONTRACTOR shall handle product by methods to avoid bending or overstressing. Lift large and heavy components only at designated lift points.

#### 1.04 DELIVERY AND RECEIVING

- A. CONTRACTOR shall arrange deliveries of products in accordance with the Progress Schedule, allowing time for observation prior to installation.
- B. CONTRACTOR shall coordinate deliveries to avoid conflict with the Work and conditions at the Site; limitations on storage space; availability of personnel and handling equipment and OWNER's use of premises.
- C. CONTRACTOR shall deliver products in undamaged, dry condition, in original unopened containers or packaging with identifying labels intact and legible.
- D. CONTRACTOR shall clearly mark partial deliveries of component parts of equipment to identify equipment and contents to permit easy accumulation of parts and to facilitate assembly.
- E. Immediately on delivery, CONTRACTOR shall inspect shipment to assure:
  - 1. Product complies with requirements of Contract Documents and reviewed submittals.
  - 2. Quantities are correct.
  - 3. Accessories and installation hardware are correct.
  - 4. Containers and packages are intact and labels legible.
  - 5. Products are protected and undamaged.

#### 1.05 STORAGE AND PROTECTION

- A. General:
  - 1. CONTRACTOR shall store products, immediately on delivery, in accordance with manufacturer's instructions, with all seals and labels intact and legible.
  - 2. CONTRACTOR shall allocate the available storage areas and coordinate their use by the trades on the job.
  - 3. CONTRACTOR shall arrange storage in a manner to provide access for maintenance of stored items and for observation.
- B. In enclosed storage, CONTRACTOR shall:
  - 1. Provide suitable temporary weather tight storage facilities as may be required for materials that will be damaged by storage in the open.
  - 2. Maintain temperature and humidity within ranges stated in manufacturer's instructions.
  - 3. Provide ventilation for sensitive products as required by manufacturer's instructions.
  - 4. Store unpacked and loose products on shelves, in bins, or in neat groups of like items.
  - 5. Store solid materials such as electrical equipment, fittings, and fixtures under shelter, in original packages, away from dampness and other hazards.
  - 6. Store liquid materials away from fire or intense heat and protect from freezing.
- C. At exterior storage, CONTRACTOR shall:
  - 1. Store unit materials such as poles and conduit, off ground, out of reach of dirt, water, mud and splashing.
  - 2. Store tools or equipment that carry dirt outside.
  - 3. Store large equipment so as not to damage the Work or present a fire hazard.
  - 4. Cover products subject to discoloration or deterioration from exposure to the elements, with impervious sheet material and provide ventilation to avoid condensation.

5. Completely cover and protect any equipment or material which is prime coated or finish painted with secured plastic or cloth tarps. Store out of reach of dirt, water, mud and splashing.
6. Store loose granular materials on clean, solid surfaces such as pavement, or on rigid sheet materials, to prevent mixing with foreign matter.
7. Provide surface drainage to prevent erosion and ponding of water.
8. Prevent mixing of refuse or chemically injurious materials or liquids.
9. Cover aggregates such as sand and gravel in cold wet weather.
10. Remove all traces of piled bulk materials at completion of work and return site to original or indicated condition.

#### 1.06 MAINTENANCE OF STORAGE

- A. CONTRACTOR shall periodically inspect stored products on a scheduled basis.
- B. CONTRACTOR shall verify that storage facilities comply with manufacturer's product storage requirements, and verify that manufacturer required environmental conditions are maintained continually.
- C. CONTRACTOR shall verify that surfaces of products exposed to the elements are not adversely affected and that any weathering of finishes is acceptable under requirements of Contract Documents.

#### 1.07 INSTALLATION REQUIREMENTS

- A. Manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned as directed by the respective manufacturers, unless otherwise specified.
- B. After installation, CONTRACTOR shall protect all materials and equipment against weather, dust, moisture, and mechanical damage.
- C. CONTRACTOR shall be responsible for all damages that occur in connection with the care and protection of all materials and equipment until completion and final acceptance of the Work by OWNER. Damaged material and equipment shall be immediately removed from the Site.

#### 1.08 EQUIPMENT WARRANTIES

- A. Warranties shall be nonprorated, include all parts and labor, and be in written form. Warranties shall specifically exclude buyer's indemnification language. Warranty language shall not eliminate manufacturer's responsibility for sizing of the equipment. During warranty period, manufacturer shall be responsible for any travel expenses, outside contractor fees, and rental equipment fees associated with providing warranty service. Warranties shall not exclude normal wear items. Manufacturer shall pay expenses incurred for repairs and parts replacement not made by manufacturer if manufacturer's response is not within 72 hours of notification by OWNER. Warranty language shall be provided with the shop drawings.

PART 2-PRODUCTS

NOT APPLICABLE

PART 3-EXECUTION

NOT APPLICABLE

END OF SECTION

## SECTION 01650

### STARTING OF SYSTEMS

#### PART 1—GENERAL

##### 1.01 SUMMARY

- A. Work Included:
  - 1. Starting equipment and systems.
  - 2. Demonstration and instructions.
  - 3. Start-up and testing.
- B. CONTRACTOR shall perform the Work described in the following subsections.

##### 1.02 STARTING EQUIPMENT AND SYSTEMS

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify ENGINEER and OWNER a minimum of seven days prior to start-up of each item.
- C. Verify that each piece of equipment or system has been checked for proper power, control sequence, or for other conditions that may cause damage.
- D. Verify that tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of applicable manufacturer's representative and CONTRACTOR's personnel in accordance with manufacturers' instructions.
- G. Require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up and to supervise placing equipment or system in operation.
- H. Equipment manufacturer shall provide a written report covering checkout, testing, inspections, and start-up and shall identify any deficiencies noted. Report shall be submitted to ENGINEER. CONTRACTOR shall be responsible for correcting all deficiencies noted in report.
- I. Provide lubricants as recommended by manufacturer appropriate for start-up conditions.

##### 1.03 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of products to OWNER's personnel.
- B. For all mechanical equipment or systems, demonstrate project equipment and instruct in a classroom environment at a location acceptable to OWNER and instructed by qualified manufacturers' representative who is knowledgeable about the Project.

- C. For equipment or systems requiring seasonal operation, perform demonstration for noncurrent season at start of noncurrent season.
- D. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with OWNER's personnel in detail to explain all aspects of operation and maintenance.
- E. Demonstrate start-up, operation, control, adjustment, troubleshooting, servicing, maintenance, and shutdown of each item of equipment at agreed time at equipment location.
- F. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.
- G. Supervision and Start-up: Installation of all equipment furnished under this Contract shall be supervised as required by a qualified representative of equipment manufacturer. All equipment shall be placed in operation by a qualified representative of the equipment manufacturer and the staff shall be trained to the satisfaction of OWNER by a qualified representative of the equipment manufacturer. OWNER may video-record training presentations given by manufacturer's representatives. Final payment for various items of equipment will not be made by OWNER until the equipment is operating to OWNER's satisfaction.

#### 1.04 START-UP AND TESTING

- A. Prior to acceptance of any portion of the Work, start-up and testing of all equipment and testing of all materials furnished on the Project by CONTRACTOR shall have been conducted in the presence of representatives of CONTRACTOR, OWNER, and ENGINEER and also manufacturer if requested by OWNER or ENGINEER.
- B. CONTRACTOR shall provide whatever temporary installations and conditions are necessary in order to perform start-up and testing operations on all equipment and materials furnished under the Contract. Temporary connections and equipment necessary during start-up and testing operations shall include, but not be limited to, temporary electrical equipment and devices, temporary connection from various parts of the systems and any other labor, materials, devices, or items that may be required for start-up and testing operations.
- C. All temporary installations and conditions shall be removed by CONTRACTOR upon completion of start-up and testing.

#### PART 2-PRODUCTS

NOT APPLICABLE

#### PART 3-EXECUTION

NOT APPLICABLE

END OF SECTION

## SECTION 01700

### CONTRACT CLOSEOUT

#### PART 1—GENERAL

##### 1.01 SUMMARY

- A. Work Included:
  - 1. Closeout procedures.
  - 2. Final cleaning.
  - 3. Adjusting.
  - 4. Project record documents.
  - 5. Warranties.

##### 1.02 CLOSEOUT PROCEDURES

- A. CONTRACTOR shall provide submittals to ENGINEER that are required by governing or other authorities.
- B. CONTRACTOR shall comply with General Conditions and Supplementary Conditions and complete the following before requesting ENGINEER's observation of the Work or designated portion thereof for substantial completion.
  - 1. Submit executed warranties, workmanship bonds, maintenance agreements, inspection certificates, and similar required documentation for specific units of Work, enabling OWNER's unrestricted occupancy and use.
  - 2. Submit record documentation, maintenance manuals, tools, spare parts, keys, and similar operational items.
  - 3. Submit consent of surety (if surety required in Contract).
  - 4. Complete final cleaning, touch-up work of marred surfaces, and remove temporary facilities and tools.

##### 1.03 FINAL CLEANING

- A. It is CONTRACTOR's responsibility to completely clean up the construction site at the completion of the Work.

##### 1.04 ADJUSTING

- A. CONTRACTOR shall adjust operating products and equipment to ensure smooth and unhindered operation.

##### 1.05 PROJECT RECORD DOCUMENTS

- A. CONTRACTOR shall maintain on Site one set of the following record documents to record actual revisions to the Work:
  - 1. Drawings.
  - 2. Specifications.
  - 3. Addenda.
  - 4. Change orders and other modifications to the Contract.
  - 5. Reviewed shop drawings, product data, and samples.

6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. CONTRACTOR shall ensure entries are complete and accurate, enabling future reference by OWNER.
- C. CONTRACTOR shall store record documents separate from documents used for construction.
- D. CONTRACTOR shall record information concurrent with construction progress.
- E. Specifications: CONTRACTOR shall legibly mark and record at each Product section description of actual products installed, including the following:
  1. Manufacturer's name and product model and number.
  2. Product substitutions or alternates utilized.
  3. Changes made by addenda and modifications.
- F. Record Drawings: CONTRACTOR shall legibly mark each item to record actual construction including:
  1. Measured horizontal and vertical locations of underground utilities and appurtenances referenced to permanent surface improvements.
  2. Measured locations of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of the work.
  3. Field changes of dimension and detail.
  4. Details not on original Contract drawings.

#### 1.06 WARRANTIES

- A. CONTRACTOR shall provide warranties beyond project one-year warranty as required by technical sections and as follows.
- B. Submit warranty information as follows:
  1. Provide notarized copies.
  2. Execute and assemble transferable warranty documents from Subcontractors, suppliers, and manufacturers, and provide Table of Contents and assemble in three-ring binder with durable cover.
  3. Submit with request for certificate of Substantial Completion.
  4. For items of work delayed beyond date of Substantial Completion, provide updated submittal within 10 days after acceptance listing date of acceptance as start of warranty period.

#### PART 2-PRODUCTS

NOT APPLICABLE

#### PART 3-EXECUTION

NOT APPLICABLE

END OF SECTION

## SECTION 01740

### CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

#### PART 1—GENERAL

##### 1.01 DESCRIPTION

- A. Applicable provisions of Division 1 shall govern all work under this Section.
- B. This Section specifies requirements for salvaging, recycling, and disposing of construction waste.

##### 1.02 PRECONSTRUCTION AND PREBID MEETINGS

- A. The Preconstruction Conference will include discussion of the proposed Construction Waste Management Plan to develop a mutual understanding regarding details of construction waste management implementation.

##### 1.03 WASTE MANAGEMENT GOALS

- A. The recycling goal (including reuse) to be achieved at Substantial Completion of the Project shall be by 80% by weight or volume of total waste generated by the Project and includes reuse.
- B. Reduce: The Project shall generate the least amount of waste and methods shall be used that minimize waste due to error, poor planning, breakage, mishandling, contamination, or similar factors. Promote the resourceful use of materials to the greatest extent possible.
- C. Reuse: CONTRACTOR shall reuse materials to the greatest extent possible. Salvage reusable materials for resale, for reuse on this Project, or for storage for use on future projects. Return reusable items (e.g., pallets or unused products) to the material suppliers.
- D. Recycle: As many of the waste materials not able to be eliminated in the first place or salvaged for reuse shall be recycled. Waste disposal in landfills shall be minimized to the greatest extent possible. All existing poles being removed as part of this project shall be recycled.

##### 1.04 SUBMITTALS

- A. Construction Waste Management Plan: Prior to commencing demolition or construction activities, CONTRACTOR shall develop and submit a Construction Waste Management Plan to OWNER for approval within 20 working days after Contract award or prior to any waste removal.
- B. Summary of Waste Progress Reports: Throughout the duration of the Project, CONTRACTOR shall report with their periodic Applications for Payment a Summary of Waste including the quantity of each material recycled, reused, or salvaged, the receiving party and the applicable diversion rates. CONTRACTOR shall maintain a record of related weight tickets, manifests, receipts, and invoices for review by OWNER on request.

- C. Summary of Waste Final Documentation: At Substantial Completion of the Project, CONTRACTOR shall submit a final summary of reuse and recycling results, including the quantity of each material recycled, reused, or salvaged, the receiving party, and the applicable diversion rates.

#### 1.05 CONSTRUCTION WASTE MANAGEMENT PLAN

- A. The purpose of the Construction Waste Management Plan is to achieve successful reuse and recycling with the highest possible reuse and recycling rates. The Plan shall include the following:
  - 1. A schedule identifying milestones and key reporting dates of Construction Waste Management.
  - 2. A list of waste materials expected to be generated from the Project as debris.
  - 3. A list of each material proposed to be salvaged, reused, recycled, and discarded. Identify applicable markets for reuse and/or recycling. At a minimum, all materials required by State law to be recycled shall be recycled (e.g., cardboard, cans, bottles, office paper, fluorescent bulbs, mercury, etc.), and scrap metal shall be recycled. Scrap metal with lead-based coatings shall be recycled.
  - 4. Separation and Materials Handling Procedures: Description of how waste materials identified above will be separated, cleaned (if necessary), and protected from contamination.
  - 5. Educational and Motivational Procedures: Meetings to be held and other proposed methods for educating construction personnel regarding waste reduction and recycling.
  - 6. Waste Auditing Procedures: Methods of monitoring and enforcing the Plan.
  - 7. Documentation Procedures: Methods of documenting materials leaving the Project site as waste, for reuse, or recycling to allow Summary of Waste Progress Reports to be submitted with Applications of Payment.
- B. CONTRACTOR shall distribute copies of the Construction Waste Management Plan to OWNER.

#### PART 2-PRODUCTS

NOT APPLICABLE

#### PART 3-EXECUTION

##### 3.01 CONSTRUCTION WASTE MANAGEMENT PLAN IMPLEMENTATION

- A. CONTRACTOR shall be responsible for coordinating the separation, handling, recycling, salvage, reuse, and return methods to be used by all construction personnel. CONTRACTOR shall be responsible for reporting the results of the Construction Waste Management Plan. CONTRACTOR shall designate a "Waste Manager" who is responsible for instruction construction personnel and overseeing and documenting results of the Construction Waste Management Plan.
- B. Instruction: CONTRACTOR shall provide on-site instruction regarding appropriate separation, handling, recycling, salvage, reuse, and return methods to be used by all construction personnel throughout the duration of the Project.

- C. Separation Facilities: CONTRACTOR shall lay out and identify a specific area on the Project site for separating materials for recycling, salvage, reuse, and return. CONTRACTOR shall provide clean waste bins and shall keep these bins and the recycling area neat, clean, and clearly marked to avoid contamination of materials.
- D. Sorting: The following sorting methods are acceptable:
  - 1. Sorting recyclable materials at the Project site and transporting them to recycling markets directly from the Project site.
  - 2. Employing haulers who make use of a materials-recovery facility or a transfer station where recyclable materials are sorted from the waste and recycled before disposing of the remainder. If using a hauler or recycling facility to sort out recyclables, verify that the hauler sorts out all construction waste loads and is not limited to those that are not acceptable at the landfill. Also, verify that the hauler or recycling facility recycles at least three types of materials.
- E. Hazardous Waste: Hazardous waste shall be disposed of according to State law. (Hazardous Waste is a separate category and not part of the basis on which the recycling percentage is calculated.)
- F. The following resources are provided for information only, to aid CONTRACTOR in managing the Project's construction waste:
  - 1. The Wisconsin DNR, Bureau of Waste Management: <http://www.dnr.state.wi.us/org/aw/wm/>.
  - 2. The UW-Extension's Solid and Hazardous Waste Education Center: <http://www1.uwex.edu/ces/shwec/>, email [shwec@uwm.edu](mailto:shwec@uwm.edu) or telephone: (608) 262-0385.
  - 3. WasteCap Wisconsin, Inc.: <http://www.wastecapwi.org> or telephone: (414) 961-1100 or (608) 245-1100.

END OF SECTION

## SECTION 02222

### EXCAVATION, FILL, BACKFILL, AND GRADING

#### PART 1–GENERAL

##### 1.01 SUMMARY

- A. Work Included: Excavating, filling, backfilling, and grading for this work includes, but is not necessarily limited to:
  - 1. Placing and compacting all fill and backfill.
  - 2. Placement of crushed stone mat below handholes or other structures where required.
  - 3. Rough and finish grading prior to seeding, etc.
  - 4. Excavation for all below grade conduits, mounting stands, handholes, and free-standing equipment bores.
- B. Related Sections and Divisions: Applicable provisions of Division 1 shall govern work in this section.
- C. Payment:
  - 1. General excavation shall include all excavation specified, fill, backfill and grading, including rock excavation but not including unsuitable foundation material, as hereinafter described.
  - 2. All general excavation shall be included in the Lump Sum Bid.

##### 1.02 REFERENCES

- A. ASTM D1557–Test Methods for Moisture Density Relations of Soils and Soil–Aggregate Mixtures using 10-pound Rammer and 18-inch drop.
- B. Standard Specifications: Unless otherwise indicated, Standard Specifications within this section shall refer to the State of Wisconsin Department of Transportation, Standard Specifications for Highway and Structure Construction, current edition, including all issued supplemental specifications.

##### 1.03 JOB CONDITIONS

- A. No soil borings were made for this project. CONTRACTOR shall conduct its own investigation to determine physical conditions at the site which may affect the work.

#### PART 2–PRODUCTS

##### 2.01 COMPACTED FILL

- A. All fill and backfill material designated to be compacted fill shall be granular with no stones larger than 4 inches and shall be reasonably well-graded throughout the particle size range. Of that portion of the material passing the No. 4 sieve, not more than 25% shall pass the No. 200 sieve, and material shall have less than 5% clay content. When placing fill during wet weather or in wet areas, this requirement shall be modified to not more than 5% passing the No. 200 sieve. Adequately dewatered areas are not defined as wet areas.

- B. Native material may be used as compacted fill if it meets the above specification. CONTRACTOR shall determine whether native material meets the above specification. CONTRACTOR shall provide all needed fill material whether from on-site or off-site at no additional cost to OWNER.

## 2.02 CLAY FILL

- A. Clay fill shall contain at least 25% clay minerals (material finer than 0.002 mm).

## PART 3–EXECUTION

### 3.01 GENERAL

- A. Prior to all excavating, CONTRACTOR shall become thoroughly familiar with the site and site conditions.

### 3.02 PROTECTION

- A. CONTRACTOR shall provide all necessary sheeting, shoring, or other soil retention systems including all labor, material, equipment, and tools required, or as necessary to maintain the excavation in a condition to provide safe working conditions, to permit the safe and efficient installation of all items of Contract work, and to protect adjacent property. CONTRACTOR shall be held liable for any damage which may result to property from excavation or construction operations. Sheeting, shoring, and other soil retainage systems shall be withdrawn or removed in a manner so as to prevent subsequent settlement of structures, utilities, and other improvements.
- B. Nothing in this specification shall be deemed to allow the use of protective systems less effective than those required by the Occupational Safety and Health Administration (OSHA) and other applicable code requirements.

### 3.03 UTILITIES

- A. Before starting excavations, CONTRACTOR shall locate existing underground utilities in all areas of the work.
- B. If utilities are to remain in place, CONTRACTOR shall provide adequate means of protection during earthwork operations.
- C. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, consult utility owner immediately for directions.
- D. Cooperate with OWNER and utility companies in keeping respective services and facilities in operation, and repair any damaged utilities to satisfaction of utility owner.
- E. CONTRACTOR shall not interrupt existing utilities serving facilities occupied and used by OWNER or others except when permitted in writing by OWNER.

### 3.04 FINISH ELEVATIONS AND LINES

- A. CONTRACTOR is responsible for setting and establishing finish elevations and lines.

### 3.05 EXCAVATION

- A. All excavated material that does not meet the specification for compacted fill or meets the specification but is not required for backfill shall be classified as excess material and shall be removed from the site and disposed of at CONTRACTOR's expense.
- B. CONTRACTOR shall backfill and compact all overexcavated areas.
- C. Excavations for all foundation work shall be large enough to provide adequate clearance for proper execution of the work within them.

### 3.06 PREPARATION OF SUBGRADE

- A. Remove all ruts, hummocks, and other uneven surfaces by surface grading prior to placement of fill.

### 3.07 COMPACTED FILL AND BACKFILL

- A. All fill and backfill, except as otherwise specified, shall be compacted fill placed to within 4 inches of the bottom of the topsoil or to the bottom of the structure or other improvement.
- B. No fill shall be placed under water or over unsuitable subgrade conditions.
- C. All fill and backfill, except embankment fill and clay fill, shall be compacted as follows:
  - 1. Class 1 Compaction: This class of compaction shall apply to all backfill within 10 feet of structure walls. All compacted material shall be placed in uniform layers not exceeding 8 inches in loose thickness prior to compaction. Each layer shall be uniformly compacted to a dry density at least 95% of the maximum dry density as determined by a laboratory compaction test at the optimum moisture content (ASTM Test Designation D1557). Compaction shall be obtained by compaction equipment appropriate for the conditions.
  - 2. Class 2 Compaction: This class of compaction shall be used in excavated areas beyond 10 feet of structures without any piping or adjacent foundations. Material for backfill shall be granular material as specified above. The material shall be deposited, spread, and leveled in layers generally not exceeding 12 inches in thickness before compaction. Each layer of the fill shall be compacted to at least 90% of the maximum dry density (testing same as Class 1). Compaction shall be obtained by compaction equipment appropriate for the conditions.
- D. No frozen material shall be placed nor shall any material be placed on frozen ground.
- E. Four inches of clay fill shall be placed and compacted to at least a firm consistency in areas to be seeded or sodded prior to placement of topsoil.

### 3.08 GRADING

- A. CONTRACTOR shall perform all rough and finish grading required to match the existing elevations.

END OF SECTION

## SECTION 02270

### SLOPE PROTECTION AND EROSION CONTROL

#### PART 1—GENERAL

##### 1.01 SUMMARY

- A. Work Included: Erosion control devices.
- B. Related Sections and Divisions: Applicable provisions of Division 1 shall govern work in this section.

##### 1.02 PAYMENT

- A. All costs associated with slope protection and erosion control shall be included in CONTRACTOR's Bid. This work shall include, but is not limited to, excavation, backfilling, attaching woven wire and geotextile fabric; installing sediment traps; cleaning and repairing; removing or spreading accumulated sediment to form a surface suitable for seeding; and furnishing labor, tools, equipment, and incidentals necessary to complete the work in accordance with the Contract.

##### 1.03 REFERENCES

- A. Wisconsin Department of Natural Resources Conservation Practice Standards-Construction Site Erosion and Sediment Control (Conservation Practice Standards).
- B. Erosion Control Product Applicability List for Multi-Modal Applications (PAL) Wisconsin Department of Transportation.
- C. Dane County Erosion Control and Stormwater Management Manual ([www.co.dane.wi.us/landconservation/ecswpg.htm](http://www.co.dane.wi.us/landconservation/ecswpg.htm)).

##### 1.04 REGULATORY REQUIREMENTS

- A. CONTRACTOR shall maintain site conditions where erosion and pollution are controlled.

##### 1.05 QUALITY CONTROL

- A. Construct and maintain erosion sediment control measures in accordance with the Conservation Practice Standards.
- B. Check facilities weekly and after any rainfall event, and make needed repairs within 24 hours.

## PART 2–PRODUCTS

### 2.01 EROSION CONTROL PRODUCTS

- A. Erosion control products shall be as listed in the *Erosion Control Product Acceptability List for Multi-Modal Applications (PAL)* of the Wisconsin Department of Transportation. Contractors may obtain copies of the PAL and PAL qualification procedures from the WisDOT Bureau of Highway Construction.

### 2.02 INLET PROTECTION

- A. Inlet protection shall conform to Conservation Practice Standard 1060-Storm Drain Inlet Protection for Construction Sites. Manufactured bags shall conform to Table 1 of Conservation Practice Standard 1060.

## PART 3–EXECUTION

### 3.01 GENERAL

- A. Install devices before construction activities begin.
- B. Expose the smallest practical area of soil at any given time through construction scheduling. Make the duration of such exposure before application of temporary erosion control measures or final revegetation as short as practicable.
- C. CONTRACTOR shall provide a “qualified” inspector to inspect erosion control and sediment controls once in place. Inspector shall have prior experience with and knowledge of installation and maintenance of erosion and pollution controls. Unless stricter requirements are mandated by DNR or by any local permits, project site erosion control inspection shall be conducted every seven days and after each one-half-inch rainfall or greater. CONTRACTOR shall maintain hard copies of the inspection reports for the duration of the Project.
- D. Any necessary repairs to erosion and sediment control facilities shall be provided within 24 hours to all corrective measures noted on the inspection reports to address pollution issues. CONTRACTOR shall submit to OWNER a written notice stating the times, dates and actions taken to rectify the defective erosion and sediment controls.
- E. CONTRACTOR shall also make any necessary additions for erosion and sediment control as may result from on-site conditions or the progress of the Work or as may be required by DNR or OWNER.
- F. Disturbed areas shall be stabilized with temporary or permanent measures within 14 calendar days of the soil disturbance or redisturbance.
- G. All temporary erosion and sediment control measures shall be removed within 30 days after final stabilization is achieved or after the temporary measures are no longer needed. All sediment accumulated in temporary and permanent facilities shall be removed and properly disposed of and the area restored.

### 3.02 INLET PROTECTION

- A. All storm drains that are or will be functioning during construction shall be provided with inlet protection. Inlet protection shall be provided in conformance with the criteria specified in Conservation Practice Standard 1060–Storm Drain Inlet Protection for Construction Sites.

END OF SECTION

## SECTION 03560

### CONCRETE SURFACE REPAIR

#### PART 1–GENERAL

##### 1.01 SUMMARY

- A. Work Included: Miscellaneous concrete surface repairs.
- B. Related Sections and Divisions: Applicable provisions of Division 1 shall govern work in this section.
- C. Repair Locations: Concrete light pole bases.
- D. Allowances: CONTRACTOR shall INCLUDE in the Bid the following quantities of concrete repairs: Concrete Foundation repairs: 12 cubic feet.
- E. Payment to CONTRACTOR for repairs will be adjusted, add or deduct, based upon the actual repairs performed (more or less than allowance quantities) and the unit price(s) bid for these repairs. Unit price(s) shall include all materials, labor, and incidental items associated with completing repairs as noted on drawings and in these specifications. Before any work included in this allowance begins, CONTRACTOR and ENGINEER shall agree on the extent of work. All other concrete repair work noted on the drawings and in the specifications shall be included in the Lump Sum Bid and is not included in these allowances.

##### 1.02 SUBMITTALS

- A. Comply with Section 01300–Submittals.
- B. Product Data: Submit manufacturer’s technical data sheets for each product.
- C. Submit list of project references as documented in this specification under 1.03 Quality Assurance. Include contact name and phone number of person charged with oversight of each project.

##### 1.03 QUALITY ASSURANCE

- A. Qualifications:
  - 1. Manufacturer Qualifications: Company with minimum 15 years of experience in manufacturing of specified products and systems.
  - 2. Applicator Qualifications:
    - a. Company with minimum of 5 years’ experience in application of specified products and systems on projects of similar size and scope, and is acceptable to product manufacturer.
    - b. Successful completion of a minimum of five projects of similar size and complexity to specified Work.

## 1.04 PROJECT CONDITIONS

### A. Environmental Requirements:

1. Application range of repair mortar is from 45°F (min 7°C) to 100°F (32°C). Follow ACI-recommended concreting practices for hot or cold weather.
2. Ensure that frost or frozen surfaces are thawed and dry.
3. Do not apply material if snow, rain, fog, or mist is anticipated within 12 hours after application. Allow surfaces to attain temperature and conditions specified before proceeding with application.

## PART 2–PRODUCTS

### 2.01 MANUFACTURER

- A. Repair materials shall be by BASF Building Systems, or equal.

### 2.02 MATERIALS

- A. Concrete Foundation Repairs: Repair mortar shall be one component, rheoplastic, shrinkage-compensated, fiber reinforced cementitious repair material, EMACO S88-CI by BASF Building Systems, or equal.
- B. Reinforcing Primer: Primer for reinforcing shall be a 2-component, polymer-modified, cementitious bonding agent, and anticorrosion coating, EMACO P24 by BASF Building Systems, or equal.

## PART 3–EXECUTION

### 3.01 IDENTIFICATION

- A. When existing light poles and base plates are removed from service and concrete bases are available for inspection, CONTRACTOR and ENGINEER shall observe conditions and identify areas to be repaired. Where practicable, approximate quantities of repair material shall be agreed upon prior to commencement of repairs. Where quantities may be affected by subsurface conditions not visible prior to repairs, quantities shall be determined and agreed upon as soon as practicable after removal of unsound concrete.

### 3.02 SURFACE PREPARATION

- A. Protect adjacent Work areas and finish surfaces from damage during repair work.
- B. Concrete:
1. Remove unsound or delaminated concrete, providing minimum of 1/4-inch (6 mm) substrate profile and 3/4-inch (19 mm) clearance behind corroded reinforcing steel.
  2. After removal of concrete, but before placement, mechanically abrade concrete surface to remove bond-inhibiting materials and to provide additional mechanical bond. Do not use method of surface preparation that will fracture concrete. Verify absence of microcracking or bruising according to ICRI Guideline No. 310.2.
  3. Sawcut straight edges along repair area perimeters minimum of 1 inch (25 mm) deep to eliminate feather edges. Do not cut reinforcement.

4. Report cracks that appear in interface area of patch or overlay to ENGINEER, and repair.
5. Dampen base concrete interface to be repaired to saturated surface dry (SSD) conditions by wetting, fogging, or ponding with clean water for 24 hours.

C. Reinforcing Steel:

1. Expose full circumference of corroded steel in areas to be repaired.
2. Remove oxidation and scale from exposed reinforcing steel according to ICRI Technical Guideline No. 310.1R *Guide to Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion*.
3. To prevent future steel corrosion, coat prepared reinforcing steel with reinforcing primer as specified.
4. Any existing reinforcement displaced by prior demolition operations shall be bent back into place.

3.03 INSTALLATION

- A. Substrate shall be SSD with no standing water during application.
- B. Mix components and apply concrete according to manufacturer's instructions.
- C. Repair areas shall be water-cured for 7 days or use an approved curing compound compatible with coatings if area is to be overcoated.

END OF SECTION

## SECTION 16010

### GENERAL ELECTRICAL REQUIREMENTS

#### PART 1–GENERAL

##### 1.01 SUMMARY

- A. Work includes general requirements for all electrical work.
- B. Related Sections and Divisions: Applicable provisions of Division 1 shall govern Work in this section.

##### 1.02 REFERENCES

- A. ANSI/NFPA 70–National Electrical Code.
- B. ANSI/IEEE C2–National Electrical Safety Code.

##### 1.03 CONTRACT DOCUMENTS

- A. Any equipment roughed in improperly and/or not positioned on implied centerlines or as dictated by good practice shall be repositioned at no cost to OWNER.
- B. The Drawings are generally diagrammatic, and CONTRACTOR shall coordinate the Work so that interferences are avoided. Provide all offsets in conduit, fittings, etc., necessary to properly install the Work. All offsets, fittings, etc., shall be provided without additional expense to OWNER.
- C. Classified locations, where referenced in the Specifications or on the Drawings, shall be as defined in the NEC.

##### 1.04 REGULATORY REQUIREMENTS

- A. Conform to ANSI/NFPA 70.
- B. Conform to ANSI/IEEE C2.
- C. The rules and regulations of the federal, state, local, and civil authorities and utility companies in force at the time of execution of the Contract shall become a part of this specification.
- D. Obtain electrical permits and inspections from authority having jurisdiction. Costs for permits and inspections shall be by CONTRACTOR.

##### 1.05 CODES AND ORDINANCES

- A. CONTRACTOR is expected to know or to ascertain, in general and in detail, the requirements of all codes and ordinances applicable to the construction and operation of systems covered by this Contract. CONTRACTOR shall know or ascertain the rulings and

interpretations of code requirements being made by all authorities having jurisdiction over the Work to be performed by them.

- B. In preparing Bid, CONTRACTOR shall include the cost of all items and procedures necessary to satisfy the requirements of all applicable codes, ordinances, and authorities, whether or not these are specifically covered by the Drawings and Specifications. All cases of serious conflict or omission between the Drawings, Specifications, and codes shall be brought to ENGINEER's attention, as herein before specified. CONTRACTOR shall carry out work and complete construction as required by applicable codes and ordinances and in such a manner as to obtain approval of all authorities whose approval is required.
- C. When requested by ENGINEER, CONTRACTOR shall provide written calculations to show compliance with applicable codes or the Contract Documents. This shall include, but not be limited to, conduit and wire sizing, junction and pull box fill and sizing, conductor derating, and voltage drop. CONTRACTOR shall indicate calculation method used as well as compliance with applicable code, drawing, or specification.

#### 1.06 ELECTRICAL DISTRIBUTION SYSTEM

- A. Provide a complete electrical distribution system consisting of components indicated on the Drawings or specified herein including, but not limited to:
  - 1. All coordination with the electric utility company for removal of the existing electrical services noted to be removed on the drawings.
  - 2. Lighting feeders.
  - 3. All control wiring.
  - 4. Wiring between system components if equipment is not prewired.
  - 5. Lighting fixtures, lighting controls, and associated wiring.
  - 6. Support system design and supports for electrical raceways.
- B. Provide balancing and adjusting of electrical loads.
- C. CONTRACTOR shall instruct OWNER's representative in the operation and maintenance of all equipment. The instruction shall include a complete operating cycle on all apparatus.
- D. Provide miscellaneous items for a complete and functioning system as indicated on the Drawings and specified herein.
- E. A partial list of work not included in Division 16 is as follows: Painting (except as otherwise specified herein).

#### 1.07 NOISE

- A. Eliminate any abnormal noises that are not considered by ENGINEER to be an inherent part of the systems as designed. Abnormal buzzing in equipment components will not be acceptable.

#### 1.08 DRAWINGS

- A. The Drawings indicate approximate locations of the various items of the electrical systems. These items are shown approximately to scale and attempt to show how these items should be integrated with building construction. Locate all the various items by on-the-job

measurements in conformance with Contract Documents and cooperation with other trades.

- B. Prior to locating equipment, confer with ENGINEER as to desired location in the various areas. In no case should equipment locations be determined by scaling Drawings. Relocate equipment and bear cost of redoing work or other trades' work necessitated by failure to comply with this requirement.
- C. In certain instances, electrical devices and equipment, etc., may be relocated. Where relocation is within 10 feet of location shown on the Drawings, and when CONTRACTOR is informed of necessary relocation before Work is begun on this portion of the job, the relocation shall be at CONTRACTOR's expense.
- D. The Drawings are schematic in nature and are not intended to show exact locations of conduit, but rather to indicate distribution, circuitry, and control.

#### 1.09 EXISTING UNDERGROUND UTILITIES

- A. The Drawings show approximate location of existing underground electrical based on OWNER-provided record drawings. CONTRACTOR shall excavate and verify the location of all underground electrical prior to installing new electrical equipment and prior to making modifications to existing electrical. This shall include, but not be limited to, feeders to lighting equipment, and control wiring. CONTRACTOR shall temporarily relocate existing underground electrical to keep the existing facility in operation and for any new construction, and all costs for relocating existing electrical shall be included in the Bid.

#### 1.10 SUBMITTALS

- A. CONTRACTOR shall submit to ENGINEER for approval prior to beginning work, shop drawings on the equipment and materials proposed to be furnished and installed. See Section 01300–Submittals for requirements.
- B. CONTRACTOR shall, in addition, submit drawings and/or diagrams for review and for job coordination in all cases where deviation from the Contract Drawings are contemplated because of job conditions, interference or substitution of equipment, or when requested by ENGINEER for purposes of clarification of CONTRACTOR's intent. CONTRACTOR shall also submit detailed drawings, rough-in sheets, etc., for all special or custom-built items or equipment. Drawings and details under this section shall include, but not be limited to, electrical interconnection wiring diagrams; see Section 16540–Athletic Field Lighting.
- C. These drawings and diagrams shall show applicable electrical switch and breaker sizes as well as the manufacturer's name and catalog number for each piece of equipment used.
- D. Equipment and material submittals must show sufficient data to indicate complete compliance with Contract Documents as follows:
  - 1. Proper sizes and capacities.
  - 2. That the item will fit in the available space in the manner that will allow proper service.
  - 3. Construction materials and finishes.
- E. When the manufacturer's reference numbers are different from those specified, provide correct cross-reference number for each item. The shop drawings shall be clearly marked and noted accordingly.

- F. When equipment and items specified include accessories, parts, and additional items under one designation, shop drawings shall be complete and include all components.
- G. See additional requirements of shop drawings under Division 1–General Requirements.

## PART 2–PRODUCTS

### 2.01 STANDARD PRODUCTS

- A. All equipment and products shall be of new manufacture per applicable specifications.
- B. All equipment shall be UL and NEMA approved.
- C. All equipment and wiring shall be selected and installed for conditions in which it will perform (e.g., weatherproof, raintight, or any other special type).

### 2.02 SUBSTITUTION OF MATERIALS AND EQUIPMENT

- A. While it is not the intention of OWNER to discriminate against any manufacturer of equipment which may be equivalent to specified equipment, a strict interpretation of such equivalency will be exercised in considering any equipment offered as a substitute for specified equipment. CONTRACTOR shall submit with each request for approval of substitute material or equipment sufficient data to show conclusively that it is equivalent to that specified in the following respects:
  - 1. Performance:
    - a. Capacity at conditions and operating speeds scheduled shall be equal to or greater than that of the specified equipment.
    - b. Energy consumption at the point of rating shall not exceed that of the specified equipment.
    - c. Vibration and noise production at the point of rating shall not exceed that of the specified equipment.
  - 2. Materials of construction.
  - 3. Gauges, weights, and sizes of all portions and component parts.
  - 4. Design arrangements, methods of construction, and workmanship.
  - 5. Coatings, finishes, and durability of wearing parts.
  - 6. National reputation of the manufacturer as a producer of first quality equipment of the type under consideration.
  - 7. Availability of prompt, reliable, and efficient service facilities franchised by or affiliated with the equipment manufacturer. This shall include the maintenance of local stocks of critical replacement parts equal to those maintained for the specified equipment.
- B. Requests for substitution shall include CONTRACTOR's reason for the request.
- C. If ENGINEER does not consider the items equivalent to those specified, CONTRACTOR shall provide those specified.
- D. See General Conditions for additional requirements.

## PART 3–EXECUTION

### 3.01 CLEANING UP AND REMOVAL OF RUBBISH

- A. All new and existing lighting and appliance panelboards, disconnect switch enclosures, junction boxes, and pullboxes where work is performed shall be cleaned of debris and wires neatly arranged with surplus length cut off prior to installation of covers.
- B. All lighting fixture lenses and lamps (exterior fixtures) shall be cleaned at time of installation, and all lens exteriors shall be cleaned just prior to final inspection.
- C. Equipment shall be thoroughly cleaned of all stains, paint spots, dirt, and dust. All temporary labels not used for instruction or operation shall be removed.

### 3.02 PAINTING

- A. All electrical equipment shall be provided with factory-applied prime finish, unless otherwise specified.
- B. If the factory finish on any equipment furnished by CONTRACTOR is damaged in shipment or during construction, the equipment shall be refinished by CONTRACTOR.
- C. One can of touch-up paint shall be provided for each different color factory finish which is to be the final finished surface of the product.

### 3.03 COORDINATION

- A. Provide wiring for all electrically powered or electrically controlled equipment.
- B. All disconnects, relays, wire, conduit, push buttons, pilot lights, and other devices for the power and control of electrical equipment shall be provided by CONTRACTOR except as specifically noted elsewhere in these Specifications or on the Drawings.
- C. CONTRACTOR shall provide all line voltage power and control wiring.
- D. CONTRACTOR shall connect and wire all apparatus according to approved wiring diagrams furnished by the Section 16540 System Supplier.

### 3.04 EXCAVATION AND BACKFILL

- A. Backfill of exterior trenches shall be compacted granular fill, unless otherwise noted. Compaction shall meet the requirements of Section 02222–Excavation, Fill, Backfill, and Grading.
- B. Care shall be taken to ensure no disturbance of bearing soil under foundations.

### 3.05 EQUIPMENT ACCESS AND LOCATION

- A. All equipment, junction and pull boxes, and accessories shall be installed to permit access to equipment for maintenance. Any relocation of conduits, equipment, or accessories to provide maintenance access shall be accomplished by CONTRACTOR at no additional cost.

- B. Electrical equipment, hardware, etc., shall be installed with ample space allowed for removal, repair, or changes to the equipment. Ready accessibility to equipment and wiring shall be provided without moving other equipment that is to be installed or that is already in place.

### 3.06 WORKMANSHIP

- A. Install work using procedures defined in NECA Standard of Installation.
- B. Utilization equipment and control devices required under these Specifications shall be mounted in a code-approved manner.
- C. Unless otherwise noted, equipment shall be fastened to building structure, poles, or equipment framework and not placed on the ground.
- D. Where materials, equipment apparatus, or other products are specified by manufacturer, brand name, and type or catalog number, such designation is to establish standards of desired quality and style and shall be the basis of the Bid.
- E. Materials and equipment of the types for which there are National Board of Fire Underwriters Laboratories (UL) listings shall be so labeled and shall be used by CONTRACTOR.

### 3.07 AREA CLASSIFICATION

- A. As noted on the Drawings.

### 3.08 MODIFICATIONS TO EXISTING CONSTRUCTION

- A. Alterations:
  - 1. Alter, extend, and reconnect conduits as necessary.
  - 2. Reconnect existing conduits that were reused, cut, or exposed because of construction as quickly as possible.
  - 3. Furnish and install new conduits for wires if they cannot be "pulled in" to existing conduits.
  - 4. All new conduits, wiring, and electrical items shall be connected to the existing systems so as to function as a complete unit.
- B. CONTRACTOR shall remove all conduit and wiring associated with items specified herein and/or shown on the Drawings to be removed.
- C. Include in Bid removal of existing electrical material and equipment as specified hereinafter, as noted on the Drawings, or as needed by field conditions.
- D. Seal or cap all existing conduit penetrations not being reused.

END OF SECTION

## SECTION 16110

### CONDUIT

#### PART 1–GENERAL

##### 1.01 SUMMARY

- A. Work Included:
  - 1. Rigid aluminum conduit.
  - 2. PVC externally and internally coated galvanized rigid metal conduit.
  - 3. Conduit seals and special fittings.
- B. Related Sections and Divisions: Applicable provisions of Division 1 shall govern Work in this section.

##### 1.02 REFERENCES

- A. ANSI C80.5–Electrical Rigid Aluminum Conduit (ERAC).
- B. ANSI/NEMA FB 1–Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, and Cable.
- C. NEMA RN 1–Polyvinyl-Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal.

##### 1.03 QUALITY ASSURANCE

- A. Manufacturers of Raceways: Firms regularly engaged in the manufacture of electrical raceways of the types and capacities required whose products have been in satisfactory use in similar service for not less than 5 years.
- B. Installer: A firm with at least 5 years of successful installation experience on projects with electrical wiring installation Work similar to that for the project.
- C. Code Compliance: Comply with National Electrical Code (NFPA 70) and any and all local codes as applicable to construction and installation of electrical wiring devices, material, and equipment herein specified.
- D. UL Labels: Provide electrical cable, raceways, wire, connectors, outlets, switches, etc., which have been listed and labeled by Underwriters Laboratories.
- E. Prior to shipment to the site, all conduit provided shall be new, unused material and may not have been stored outdoors or exposed to weather.
- F. NECA Standard: Comply with applicable portions of National Electrical Contractor's Association's "Standard of Installation."

##### 1.04 SUBMITTALS

- A. Submit shop drawings and product data in accordance with provisions of Section 01300–Submittals.

## 1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Provide color-coded thread protectors on the exposed threads of threaded rigid metal conduit.
- B. Handle conduit carefully to prevent end damage and to avoid scoring the finish.
- C. Store conduit inside and protect from weather. When necessary to store outdoors, elevate well abovegrade and enclose with durable, waterproof wrapping.

## PART 2–PRODUCTS

### 2.01 RIGID METAL CONDUIT AND FITTINGS

- A. Rigid Aluminum Conduit: ANSI C80.5. Heavy wall.
- B. Conduit bodies for rigid aluminum conduit shall be as manufactured by Appleton, Form 85, or equal, and be constructed of pressure-cast, copper-free aluminum for sizes 2 inches and under, and sand-cast, copper-free aluminum for sizes over 2 inches. Conduit bodies shall have built-in pulling rollers, domed gasketed covers, and stainless steel screws. CONTRACTOR shall select body style and size per application.
- C. PVC-coated conduit and fittings shall be internally and externally hot dipped galvanized rigid metal conduit with hot dipped galvanized threads and PVC coating. PVC coating shall be UL listed with rigid metal conduit as the primary means of corrosion protection for the conduit, and PVC coating shall have an external 40 mil thickness with an internal 2 mil urethane coating. Acceptable manufacturers shall be Plasti-bond RedH<sub>2</sub>OT by Robroy Industries, Ocal-Blue by Thomas & Betts, or equal. PVC-coated conduit and fittings shall meet the following listings and manufacturing standards, without exception. All installers shall be field-certified from the factory for installation and shall provide proof of certification:
  - 1. Federal Specification WW-C-581 E.
  - 2. ANSI C80.1.
  - 3. UL6.
  - 4. NEMA RN1.
  - 5. ETL PVC–001.
- D. Conduit bodies for PVC-coated rigid conduit shall be as manufactured by Plasti-bond RedH<sub>2</sub>OT by Robroy Industries, Perma-Cote by Thomas & Betts, or equal, and have a 40 mil PVC exterior coating and 2 mil red urethane interior coating. Conduit bodies shall be Form 8 style or pulling elbow and include pulling rollers, domed, gasketed covers and stainless steel screws. CONTRACTOR shall select body style and size according to application.
- E. Fittings and Conduit Bodies: ANSI/NEMA FB 1; threaded-type material to match conduit.
- F. Supports: One-hole or two-hole pipe straps may be used for surface-mounted conduit. Where one-hole straps are used, provide conduit clamp and back spacer. Where standoffs are required, provide pipe straps and supporting devices as specified in Section 16190–Supporting Devices. Support material shall match that of the conduit type provided.

## 2.02 CONDUIT SEALS AND SPECIAL FITTINGS

- A. Conduit Seals: Duct sealing compound, OZ Gedney Type DUX, or equal.
- B. Expansion Fittings: Crouse Hinds or Robroy type XJG, or equal, for rigid or PVC-coated rigid conduit.
- C. Ground Bushings: Appleton Model GIB, or equal.
- D. Watertight Hubs: Diecast, insulated and gasketed, rated for wet or dry locations indoors or outdoors. Watertight hubs shall be Appleton HUB, Crouse-Hinds Myers Hubs, or equal.

## PART 3-EXECUTION

### 3.01 CONDUIT SIZING, ARRANGEMENT, AND SUPPORT

- A. Size conduits for branch circuit conductors and control wires so as to have not less than 25% spare capacity after installation; 3/4 inch minimum size. Minimum size for liquidtight flexible metal conduit is 1/2 inch.
- B. All conduit shall be supported in accordance with the NEC and as specified herein. This shall apply to all conduit types.
- C. Provide for the proper application, installation, and location of inserts, supports, and anchor bolts for a satisfactory raceway system. Where any component of the raceway system is damaged, replace or provide new raceway system.
- D. Run conduits to permit drainage to handholes.
- E. Conduits shall be attached to surfaces and not suspended.
- F. Independently support or attach the raceway system to structural parts of construction in accordance with good industry practice.
- G. Conduit attached to surfaces that may be damp shall be spaced out to avoid rust and/or corrosion using fittings approved for the use. Use back straps on all conduit in damp or wet locations, or mount conduit with Unistrut straps, or equal. Watertight hubs shall be used in all damp locations. Damp locations shall include, but not be limited to, all areas below grade and exterior locations.
- H. Conduits shall be securely fastened at intervals not exceeding 8 feet or closer, if necessary.

### 3.02 GENERAL CONDUIT INSTALLATION REQUIREMENTS

- A. All exterior conduit shall be installed below grade and buried a minimum of 2 feet 0 inches.
- B. Conduit installed in earth shall be bedded in compacted sand with a minimum of 6-inch cover on all sides.

- C. Ream conduit smooth at ends, cap upon installation, rigidly attach to mounting surface, and securely fasten to all junction boxes, pull boxes, splicing chambers, safety switches, and all other components of the raceway system.
- D. Conduit seals shall be provided for any conduit exiting cabinets or enclosures.
- E. Liquidtight flexible conduit shall be installed in such a manner that liquids tend to run off the surfaces and not drain toward the fittings.
- F. Conduits shall be pitched so that drainage is towards handholes and away from all structures.
- G. The PVC-coated rigid conduit manufacturer's touch-up compound shall be used on all conduit interior and exterior bare steel exposed because of nicks, cuts, abrasions, thread cutting, and reaming; minimum six coats.

### 3.03 CONDUIT PENETRATIONS AND TERMINATIONS

- A. Where fittings are brought into an enclosure with a knockout, a gasket assembly consisting of an O-ring and retainer shall be installed on the outside. Fittings shall be insulated throat type.
- B. Conduit penetrations for all control panels and enclosures shall utilize watertight hubs and enter the sides or bottom of the enclosure. Conduits shall not penetrate the top of the enclosure.
- C. Provide conduit expansion fittings as specified herein for conduits protruding from earth where the conduit is terminated above finished grade.

### 3.04 CONDUIT INSTALLATION SCHEDULE

- A. The following schedule lists specific conduit types allowed in designated areas. Those areas not listed under a specific conduit type shall not have that type of conduit installed:
  - 1. Rigid aluminum: Exterior locations (except in earth) and locations exposed to weather.
  - 2. PVC-coated rigid steel:
    - a. Conduits protruding from concrete.
    - b. Exterior locations requiring mechanical protection.
    - c. Earth.
    - d. Within 6 feet of building or structure footing, wall, or handhole.

END OF SECTION

## SECTION 16120

### WIRE

#### PART 1–GENERAL

##### 1.01 SUMMARY

- A. Work Included:
  - 1. Wire.
  - 2. Terminal blocks and accessories.
  - 3. Wiring connections and terminations.
- B. Related Sections and Divisions: Applicable provisions of Division 1 shall govern Work in this section.

##### 1.02 QUALITY ASSURANCE

- A. Manufacturers of Wire: Firms regularly engaged in the manufacture of electrical wire products of the types and ratings needed whose products have been in satisfactory use in similar service for not less than 5 years.
- B. Installer: A firm with at least 5 years of successful installation experience on projects with electrical wiring installation Work similar to that in this project.
- C. Code Compliance: Comply with National Electrical Code (NFPA 70) and any and all local codes as applicable to construction and installation of electrical wiring devices, material, and equipment herein specified.
- D. UL Labels: Provide electrical raceways, wire, connectors, outlets, switches, etc., which have been listed and labeled by Underwriters Laboratories.
- E. NECA Standard: Comply with applicable portions of National Electrical Contractor's Association's "Standard of Installation."

##### 1.03 SUBMITTALS

- A. Submit shop drawings and product data under the provisions of Section 01300–Submittals.
- B. Submit shop drawings for wiring system including layout of distribution devices, branch circuit conduit and cables, circuiting arrangement, and outlet devices.
- C. Submit manufacturer's instructions.

##### 1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Provide factory-wrapped, waterproof, flexible-barrier material for covering wire on wood reels, where applicable, and weather-resistant fiberboard containers for factory-packaging of wire, connectors, boxes, lamps, fuses, etc., to protect against physical damage in transit. Do not install damaged wire or other material; remove from project site.

- B. Store wire and other material in factory-installed coverings in a clean, dry, indoor space which provides protection against the weather.

**PART 2-PRODUCTS**

**2.01 WIRE**

- A. All wire for permanent installation shall be new stranded copper delivered to project in unopened cartons or reels, except where specifically noted and be UL listed for the use intended. No wire smaller than 12 AWG shall be used unless specifically noted. The use of multiconductor cable is NOT ALLOWED.
- B. All wiring shall be type XHHW-2.
- C. All available colors shall be used; however, green shall be used only for equipment grounds. Where color-coded wire in larger sizes is not available, one wrap of 1-inch-wide colored self-adhesive tape at each terminal end shall be used for identification. Initial phase color shall be used throughout the run, even for switch legs. Colors must meet code requirements for each class voltage. Do not duplicate colors, including neutral, on different voltages.
- D. Color Coding:

|                  | 120/240 V | 480 V  |
|------------------|-----------|--------|
| A Phase          | Black     | Brown  |
| B Phase          | Red       | Orange |
| C Phase          | Blue      | Yellow |
| Neutral          | White     | Gray   |
| Travelers        | Yellow    | Orange |
| Equipment Ground | Green     | Green  |

**2.02 WIRING CONNECTIONS AND TERMINATIONS**

- A. Provide crimp type UL or ETL listed terminations for 6 AWG and smaller stranded conductor connections to electrical devices and equipment such as terminal strips. Crimp devices shall be Sta-kon, or equal.
- B. Provide insulated, **silicone-filled** spring wire connectors with plastic caps for 8 AWG conductors and smaller. Connectors shall be King Silicone-Filled Safety Connectors, or equal. Spring wire connectors shall only be allowed in junction boxes.
- C. No splices will be allowed.

**2.03 TERMINAL BLOCKS AND ACCESSORIES**

- A. Terminal Blocks: ANSI/NEMA ICS 4: UL listed.

- B. Signal and Control Terminals: Modular construction type, channel mounted; tubular pressure screw connectors, rated 600 volts, as manufactured by Phoenix Contact Model UK 5 N, or equal.

## PART 3—EXECUTION

### 3.01 INSPECTION

- A. Examine the areas and conditions under which the Work is to be installed and notify CONTRACTOR of conditions detrimental to the proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions have been corrected.

### 3.02 GENERAL WIRING METHODS

- A. Install electrical wire and connectors in accordance with the manufacturer's written instructions, applicable requirements of the NEC, the National Electrical Contractors Association's "Standard of Installation," and in accordance with recognized industry practices to ensure that products serve the intended functions. Use appropriate wiring methods and materials for the equipment or environment.
- B. Stranded conductors shall be terminated using crimp-type devices specified herein. Conductors may not be wrapped around a terminal screw.
- C. Place an equal number of conductors for each phase of a circuit in same raceway.
- D. Torque conductor connections and terminations with calibrated torque wrench to manufacturer's recommended values.
- E. Spring wire connectors shall only be used in junction boxes. Equipment wireways (e.g., panelboards, disconnects, etc.), and control panels shall not have any spring-wire connectors installed; all terminations shall be on terminal strips.
- F. Neatly train, lace, and tie wrap all wiring inside boxes, equipment, control panels, and panelboards.
- G. Make conductor lengths for parallel circuits equal.
- H. The same color shall be used for each numbered wire throughout its entire length.
- I. Terminate all wiring on terminal blocks in control panels and similar equipment. This shall include all spare or unused wires.
- J. Provide preprinted adhesive or heat shrink-type wire numbering labels at all terminations and splices. Wire numbering preprinted on the conductor, flag-type labels, and individual wraparound numbers (e.g., Brady labels) are not acceptable.
- K. Provide a dedicated neutral for each branch circuit or feeder requiring a neutral. Ampacity of neutral conductor shall match that of the branch circuit or feeder.
- L. Do not use a pulling means that can damage the raceway.

- M. Provide junction or pull boxes to facilitate the “pulling in” of wires or to make necessary connections. All raceways and apparatus shall be thoroughly blown out and cleaned of foreign matter prior to pulling in wires.
- N. Thoroughly clean wires before installing lugs and connectors.
- O. Make taps, and terminations to carry full capacity of conductors without perceptible temperature rise.
- P. Terminate spare conductors within control panels on terminal strips and label as “SPARE.” Spare wiring in pull or junction boxes may be terminated with electrical tape and labeled as “SPARE.” All spare conductor labels shall indicate where the conductors terminate. Refer to Section 16195–Electrical Identification, for additional requirements.

### 3.03 WIRING INSTALLATION IN RACEWAYS

- A. Pull all conductors into a raceway at the same time. Use UL-listed wire-pulling lubricant for pulling 4 AWG and larger wires. Wax-based pulling lubricant is not allowed unless it includes a Teflon additive.
- B. Completely and thoroughly swab raceway system before installing conductors.
- C. Conductors No. 6 AWG and larger shall be pulled into conduits utilizing a tugger with built-in tension meter. CONTRACTOR shall provide a report to ENGINEER for each pull indicating maximum tension reached during the pull along with manufacturer’s maximum pulling tension. Motorized machines of any type are NOT ALLOWED for any wire pulling.
- D. Conductors shall be installed in conduit system in such a manner that insulation is not damaged, conductors are not overstressed in pulling, and walls are not damaged. No splices are permitted.
- E. CONTRACTOR shall observe code limitation on the number and size of wires in a junction box. CONTRACTOR shall either lay out Work so that the wires do not exceed the particular box limitation or provide larger boxes approved for additional capacity.
- F. Circuiting is indicated diagrammatically on the Drawings.

### 3.04 FIELD QUALITY CONTROL

- A. Inspect wire for physical damage and proper connection.
- B. Prior to energizing, check conduit, raceways, boxes, and wire for continuity of circuitry and for short circuits. Correct malfunction when detected.
- C. Subsequent to wire hookups, energize circuitry and demonstrate functionality in accordance with these Specifications.
- D. Perform continuity test on all power and equipment branch circuit conductors. Verify proper phasing connections.
- E. Perform field inspection and testing according to provisions of this section.

### 3.05 ACCEPTANCE TESTS

- A. CONTRACTOR shall furnish all materials, labor, and equipment necessary for the acceptance tests specified herein. Acceptance tests shall be performed in the presence of OWNER or OWNER's representative and must be passed before final acceptance of the Work.
- B. CONTRACTOR shall be responsible for powered tests of each field-installed device unless specifically noted otherwise. CONTRACTOR shall be responsible for device operation as powered from its power source.
- C. Operation Test: By operational testing, OWNER will give final acceptance of the wiring system when all of the wiring is considered a complete system. All equipment shall function and operate in the proper manner as indicated in the details of the Specifications and on the Drawings. All motors shall be properly connected to protective devices, and motor rotation shall be in the correct direction.
- D. A written record of performance tests on electrical and control systems and equipment shall be supplied to OWNER. Such tests shall show compliance with governing codes.

### 3.06 WIRE INSTALLATION SCHEDULE

- A. Install all wiring in raceways.

END OF SECTION

## SECTION 16130

### BOXES

#### PART 1–GENERAL

##### 1.01 SUMMARY

- A. Work Included: Pull and junction boxes.
- B. Related Sections and Divisions: Applicable provisions of Division 1 shall govern Work in this section.

##### 1.02 REFERENCES

- A. ANSI/NEMA OS 1–Sheet-Steel Outlet Boxes, Device Boxes, Covers, and Box Supports.
- B. ANSI/NEMA OS 2–Nonmetallic Outlet Boxes, Device Boxes, Covers, and Box Supports.
- C. NEMA 250–Enclosures for Electrical Equipment (1000 Volts Maximum).

##### 1.03 QUALITY ASSURANCE

- A. Manufacturers of switches, outlets, boxes, lamps, fuses, lugs, etc.: Firms regularly engaged in the manufacture of these products, of the types and ratings required, whose products have been in satisfactory use in similar service for not less than 5 years.
- B. Installer: A firm with at least 5 years of successful installation experience on projects with electrical wiring installation Work similar to that in this project.
- C. Code Compliance: Comply with National Electrical Code (NFPA 70) and any and all local codes as applicable to construction and installation of electrical wiring devices, material, and equipment herein specified.
- D. UL Labels: Provide electrical cable, boxes, raceways, wire, connectors, outlets, switches, etc., which have been listed and labeled by Underwriters Laboratories.
- E. NECA Standard: Comply with applicable portions of National Electrical Contractor's Association's "Standard of Installation."

##### 1.04 SUBMITTALS

- A. Submit shop drawings and product data in accordance with provisions of Section 01300–Submittals.

## PART 2–PRODUCTS

### 2.01 PULL AND JUNCTION BOXES

- A. NEMA 4X Boxes: Stainless steel, as manufactured by Hoffman, or equal with continuously–hinged cover and gasket. Door shall include provisions for padlocking.
- B. Boxes specified in this section are not allowed to have knockouts and are not allowed to be used as enclosures for control panels.

## PART 3–EXECUTION

### 3.01 COORDINATION OF BOX LOCATIONS

- A. Provide electrical boxes as shown on the Drawings and as necessary for taps, wire pulling, cable bending radii, equipment connections, and code compliance.
- B. Electrical box locations shown on the Drawings are approximate. Verify location and size of boxes in all work areas prior to installation.
- C. Locate and install boxes to allow access.
- D. Locate and install to present a neat appearance.
- E. All boxes attached to building surfaces that may be damp shall be spaced to avoid rust and/or corrosion. All boxes in damp locations shall be on 1/2-inch standoffs. Damp locations shall include, but not be limited to, exterior locations and all areas below grade.

### 3.02 JUNCTION BOX INSTALLATION

- A. Support boxes independently of conduit.
- B. Control wiring shall have dedicated pull and junction boxes provided. Wiring for different voltage systems (e.g., 120 V, 480 V) shall have dedicated pull and junction boxes for each voltage.
- C. All boxes shall be NEMA 4X, stainless steel, with continuous hinge and gasketed door.
- D. Knockout punches or saws shall be used for holes; boxes with prepunched holes are not acceptable.
- E. All junction boxes shall be labeled with permanent labels (not adhesive type). Permanent labels shall include engraved laminated nameplates. Labels shall indicate circuit or load served, as well as power source.

END OF SECTION

## SECTION 16141

### WIRING DEVICES

#### PART 1–GENERAL

##### 1.01 SUMMARY

- A. Work Included:
  - 1. Control stations.
  - 2. Current switches.
- B. Related Sections and Divisions: Applicable provisions of Division 1 shall govern work in this section.

##### 1.02 QUALITY ASSURANCE

- A. Manufacturers of switches: Firms regularly engaged in the manufacture of these products, of the types and ratings required, whose products have been in satisfactory use in similar service for not less than 5 years.
- B. Installer: A firm with at least 5 years of successful installation experience on projects with electrical wiring installation work similar to that in this project.
- C. Code Compliance: Comply with National Electrical Code (NFPA 70) and any and all local codes as applicable to construction and installation of electrical wiring devices, material, and equipment herein specified.
- D. UL Labels: Provide electrical switches which have been listed and labeled by Underwriters Laboratories.
- E. NECA Standard: Comply with applicable portions of National Electrical Contractor's Association's "Standard of Installation."

##### 1.03 SUBMITTALS

- A. Submit shop drawings and product data in accordance with provisions of Section 01300–Submittals.
- B. Provide product data showing configurations, finishes, dimensions, and manufacturer's instructions.

#### PART 2–PRODUCTS

##### 2.01 CONTROL STATIONS

- A. Heavy-duty, oil-tight, 30 mm operators in NEMA 4X enclosures, unless otherwise noted. Control stations shall be Square D, Class 9001, Type SKY, Allen-Bradley Bulletin 800T, or equal, with operators as shown on the drawings. Control stations shall be mounted in hinged junction boxes with provisions for padlocking.

## 2.02 CURRENT SWITCHES

- A. Current switches shall be Veris Industries, Hawkeye H800HV, or equal, and include DIN rail mounting hardware.

## PART 3–EXECUTION

### 3.01 INSTALLATION

- A. Install devices flush and level.
- B. Provide current switches in the existing lighting control enclosure to interface with the sports lighting contactors as specified under Section 16540–Athletic Field Lighting. Provide a current switch on one phase conduct of one of the associated lighting feeders for each of Zones 1 through 3 (3 current switches total) and a spare current switch for future lighting in Zone 4. The load side of each current switch shall be wired to the walk-off lighting controller provided under Section 16540–Athletic Field Lighting. The equipment mounted within the existing lighting control enclosure shall be on the enclosure back panel, where shown on the Drawings, neatly organized, and shall be in accordance with the manufacturer’s recommendations.
  - 1. All wiring within the enclosure shall be through the plastic wiring ducts. All I/O devices shall be wired to rail mounted terminal blocks.
  - 2. All field wiring shall terminate at the rail mounted terminal blocks that shall be mounted either at the bottom or on the side of the enclosure back panel depending on where the conduits penetrate the enclosure.
  - 3. The field wiring terminals shall be clearly identified as to which terminals they are wired.
  - 4. Jumpers between adjacent terminal blocks shall be copper jumper bars supplied by the terminal block manufacturer.

END OF SECTION

SECTION 16190  
SUPPORTING DEVICES

PART 1–GENERAL

1.01 SUMMARY

- A. Work Included:
  - 1. Conduit and equipment support members.
  - 2. Fastening hardware.
- B. Related Sections and Divisions: Applicable provisions of Division 1 shall govern Work in this section.

1.02 QUALITY ASSURANCE

- A. Support systems shall be adequate for weight of equipment and conduit, including wiring, which they carry.

1.03 SUBMITTALS

- A. Submit shop drawings and product data in accordance with provisions of Section 01300–Submittals.

PART 2–PRODUCTS

2.01 MATERIAL

- A. Support Members: 316 stainless steel.
- B. Hardware: Stainless steel.
- C. Manufacturers: Unistrut P-1000, B-line, Superstrut, or equal.

PART 3–EXECUTION

3.01 INSTALLATION

- A. Fasten control panels, conduit clamps, and junction boxes to structures using expansion anchors or support members. Do not use spring steel clips and clamps. Provide standoffs as specified in other technical sections.
- B. Use self-drilling anchors or expansion anchors on concrete surfaces.
- C. Where support members are used for conduit, cutoff ends shall be ground smooth.
- D. Do not fasten supports to conduit.

- E. Do not use powder-actuated anchors.
- F. Do not drill structural steel members.
- G. Fabricate supports with welded end caps and all welds and surfaces ground smooth for neat appearance. Use hexagon head bolts with steel spring-lock washers under all nuts.
- H. Do not use chain or perforated strap hangers.
- I. All welds shall be continuous and ground smooth.

END OF SECTION

## SECTION 16195

### ELECTRICAL IDENTIFICATION

#### PART 1–GENERAL

##### 1.01 SUMMARY

- A. Work Included:
  - 1. Nameplates.
  - 2. Labeling tags.
  - 3. Wire markers.
- B. Related Sections and Divisions: Applicable provisions of Division 1 shall govern Work in this section.

##### 1.02 SUBMITTALS

- A. Submit shop drawings and product data in accordance with provisions of Section 01300–Submittals.
- B. Provide schedule for nameplates and labeling tags with shop drawings. Reference drawings for type used.

#### PART 2–PRODUCTS

##### 2.01 NAMEPLATES

- A. Type “A”:
  - 1. Use: Cabinets, enclosures, pull, and junction boxes.
  - 2. Size: 2 inch by 3 inch.
  - 3. Material: 3-layer laminated Micarta.
  - 4. Background Color: Black.
  - 5. Character Color: White.
  - 6. Character Size: 1/4 inch.
  - 7. Engraving: Label shall include voltage, destination, and origin.
  - 8. Mounting Location: Front exterior.
- B. Type “B”:
  - 1. Use: Control stations.
  - 2. Size: 3/8 inch by 2 inch.
  - 3. Material: 3-layer laminated Micarta.
  - 4. Background Color: Black.
  - 5. Character Color: White.
  - 6. Character Size: 1/8 inch.
  - 7. Engraving: Switch function and associated athletic field.
  - 8. Mounting Location: Device front at top.

- C. Type "C":
  - 1. Use:
    - a. Lighting Control Panels.
  - 2. Size: 4 inch by 4 inch.
  - 3. Material: 3-layer laminated Micarta.
  - 4. Background Color: Black.
  - 5. Character Color: White.
  - 6. Character Size: 2 1/4 inch.
  - 7. Engraving: Equipment label.
  - 8. Mounting Location: On equipment, 48 inches above finished grade.

## 2.02 WIRE MARKERS

- A. Wire markers shall be permanently attached sleeve or heat shrink-type labels. Wire numbering preprinted on the conductor, flag-type labels, and individual wraparound numbers (such as Brady preprinted markers) are not acceptable. All wire markers shall be the same throughout the project.
- B. Wire markers shall be specifically printed for this project using permanently attached computerized adhesive tags, such as Brady BMP-51 labeling printer with self-laminating vinyl, permasleeve heat-shrink polyolefin, or equal. Handwritten markers are not acceptable.

## PART 3-EXECUTION

### 3.01 INSTALLATION

- A. Degrease and clean surfaces to receive nameplates.
- B. Install nameplates parallel to equipment lines.
- C. Affix nameplates with stickyback adhesive.
- D. Prepare and install neatly-typed directions in all panels, including existing panels where Work is done under this Contract.

### 3.02 WIRE IDENTIFICATION

- A. Provide wire markers on each conductor, including neutral and spare conductors, in panelboard gutters, pull boxes, junction boxes, and at load connection. Identify with branch circuit or feeder number for power and lighting circuits, and with control wire number as indicated on schematic and interconnection diagrams for control wiring. Spare conductors shall have control wire number or shall indicate termination point of wire.
- B. Conductors in pull boxes, lighting control panels, cabinets, and panelboards shall be grouped as to circuits and arranged in a neat manner. All conductors of a feeder or branch circuit shall be grouped, bound together with nylon ties, and identified. Phase identification shall be consistent throughout the system.

END OF SECTION

## SECTION 16420

### ELECTRICAL SERVICE SYSTEM

#### PART 1–GENERAL

##### 1.01 SUMMARY

- A. Work Included:
  - 1. Utility company.
  - 2. Secondary service characteristics.
  - 3. Definitions.
  - 4. Underground electrical service removal.
- B. Allowances: CONTRACTOR shall INCLUDE in the Bid the cost of the following items specified in this Section. Refer to the individual sections listed below for a complete description of the Work required. Electric Utility Service Entrance, Section 1.07–Underground Electrical Service Removal.
- C. Related Sections and Divisions: Applicable provisions of Division 1 shall govern work in this section.

##### 1.02 UTILITY COMPANY

- A. The Utility Company is Madison Gas and Electric.

##### 1.03 SECONDARY SERVICE CHARACTERISTICS

- A. The existing secondary service to remain is 277/480-volt, 4-wire, three-phase for combined lighting and power.
- B. The existing baseball field secondary service to be removed is 2400-volt for combined lighting and power.
- C. The existing softball field secondary service to be removed is 240-volt for combined lighting and power.

##### 1.04 DEFINITIONS

- A. Service: As defined in the NEC, Article 100.
- B. Primary Voltage: Above 600 volts.
- C. Secondary Voltage: 600 volts and below.

##### 1.05 OVERHEAD ELECTRICAL SERVICE REMOVALS

- A. Remove complete underground electrical services and associated equipment as shown on the Drawings. Coordinate with the Utility for items to be removed by the Utility Company. CONTRACTOR shall remove all equipment associated with the services being removed that is not removed by the Utility Company.

- B. All Utility costs associated with electric service removals shall be included in the Lump Sum Bid. All costs associated with temporary service of any type shall be included in CONTRACTOR's Bid and will not be paid for as a part of the allowance. An allowance of \$5,000 shall be included in the Lump Sum Bid to be adjusted at final payment in accordance with actual Utility charges.

PART 2-PRODUCTS

NOT APPLICABLE

PART 3-EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 16450  
SECONDARY GROUNDING

PART 1–GENERAL

1.01 SUMMARY

- A. Work Included:
  - 1. Light pole grounding.
  - 2. Electrical equipment and raceway grounding and bonding.
- B. Related Sections and Divisions: Applicable provisions of Division 1 shall govern work in this section.

1.02 SUBMITTALS

- A. Indicate location of system grounding electrode connections and routing of grounding electrode conductor.
- B. Submit shop drawings and product data in accordance with provisions of Section 01300–Submittals.

PART 2–PRODUCTS

2.01 MATERIALS

- A. Ground Rods: Copper-bonded, 5/8-inch diameter; minimum length 10 feet.
- B. Ground Connections Below Grade: Exothermic type by Cadweld, compression type by Thomas & Betts, or equal. Compression connectors shall be prefilled with an oxide inhibitor.
- C. Ground Fittings: O-Z/Gedney, Type ABG, CG, TG, KG, GBL, or equal.

PART 3–EXECUTION

3.01 INSTALLATION

- A. Compression-type connectors shall be installed with the manufacturer recommended tools. Compression dies shall emboss index on the connector when installed correctly. An indenter crimp shall be made on ground rods prior to connection of grounding conductor.
- B. Provide a separate insulated equipment grounding conductor for each feeder and branch circuit. Provide a dedicated neutral conductor sized to match the circuit or feeder conductors for each feeder or branch circuit requiring a neutral. Terminate each end on a grounding lug, bus, or bushing.

- C. Bond together system neutrals, service equipment enclosures, exposed noncurrent carrying metal parts of electrical equipment, metal raceway systems, and grounding conductor in raceways and cables.
- D. Ground system and equipment as required by code and local ordinances.
- E. All bare copper conductors installed outdoors shall be buried a minimum of 2 feet below grade.
- F. Include ground for light fixtures as shown on drawings.
- G. Flexible connections do not qualify for ground. All flexible connections must have separate green ground wire from lighting fixture to conduit system.
- H. Provide a separate grounding conductor system for the grounding of all lighting fixtures and devices installed in the same conduit as the branch circuit conductors. Ground conductors shall be individually connected at each fixture or device.

END OF SECTION

## SECTION 16540

### ATHLETIC FIELD LIGHTING

#### PART 1–GENERAL

##### 1.01 SUMMARY

- A. Provide a fully functional athletic field lighting system for the Duane F. Bowman Park softball and baseball fields in the City of Madison, Wisconsin. The lighting system shall be comprised of all necessary components including, but not limited to poles, luminaires, ballasts, and lighting control panels.

##### 1.02 SUBMITTALS

- A. The following information shall be submitted for review:
  1. Layout Drawing: Showing number of luminaires and EPA per pole, existing pole locations, and associated mounting heights.
  2. Photometric Data: A photometric report in IES format by Independent Testing Laboratories for each NEMA type of reflector to be utilized in this project.
  3. Lighting Structure Drawing: A mechanical drawing of the lighting structure.
  4. Computer Photometric Models–Field Light Values:
    - a. Manufacturer shall submit computer-generated photometric layouts meeting the criteria specified in Section 1.06.A.1.a. The illumination levels shall consist of target points located 3 feet 0 inches above finished grade and equally spaced on a 10-foot by 10-foot grid extending 15 feet outside each baseline.
    - b. Manufacturer shall submit in writing a letter guaranteeing initial light levels, maximum to minimum ratio and total kilowatt consumption for the lighting system.
  5. Lighting control system controller cutsheets including NEMA rating, dimensions, and wiring diagrams.
  6. Lighting Structure Warranty: Written from the manufacturer covering the lighting structure equipment replacement policy and aiming alignment of the luminaire assembly.
  7. Wind Load Test: Provide wind load test results for the luminaire assembly certified by an independent structural engineer to withstand minimum 90 MPH winds.
  8. Manufacturer shall submit 25-year life cycle cost calculations. Life cycle cost shall be for the complete lighting system. Include material and labor costs for all equipment replacements anticipated after the warranty period expires, and include component useful life expectancy.
  9. UL Test Report: Provide a copy of the Underwriter's Laboratory report covering the lighting structure.
  10. Corrosive Protection: Provide Manufacturer's certification that all latches, fasteners, and hinges are of stainless steel construction; all aluminum materials are anodized and all steel is hot-dipped galvanized to ASTM 123 standards.
  11. Letter of Compliance: A written itemized statement of any exceptions to these specifications.

##### 1.03 QUALITY ASSURANCE

- A. UL Listing: The entire lighting structure shall be UL listed as a system in addition to using UL listed components.

- B. Manufacturer shall be responsible for on-site delivery within 4-6 weeks from receipt of approved submittals and receipt of complete order information.
- C. Factory-Trained Representative: Lighting manufacturer shall provide a factory-trained representative to be available as required. This representative shall also perform light test and summary report prior to final acceptance of project.

1.04 WARRANTY

- A. Manufacturer shall warrant in writing the entire structure (excluding fuses and lamps) to be free from defects in materials and workmanship for a period of 25 years or 10,000 operating hours starting from the date of delivery.
- B. Manufacturer shall warrant in writing to provide labor and materials to replace defective parts or repair defects in workmanship for a period of at least 25 years or minimum 10,000 operating hours from the date of delivery.
- C. Lamps shall be warranted by the manufacturer in writing not to fail for a period of at least 25 years or minimum 10,000 operating hours from the date of delivery.
- D. Manufacturer shall warrant in writing accurate alignment of the luminaires on the luminaire assembly, field lighting levels, and spill light control for a period of at least 25 years or minimum 10,000 operating hours from the date of delivery.
- E. Manufacturer shall include in the warranty all material and labor costs to perform group relamping of all lighting at 5,000 operating hours of operation, including lamps replaced prior to the 5,000 operating hours.

1.05 SYSTEM DESCRIPTION

- A. The manufacturer shall supply lighting equipment to meet or exceed the following performance criteria:
  - 1. Athletic Field Lighting:
    - a. Performance Criteria:

| Playing Field Type         | IESNA Class of Play | Minimum Average Maintained Footcandles | Maximum to Minimum Uniformity Ratio |
|----------------------------|---------------------|--|-------------------------------------|
| Baseball/Softball-Infield  | 3                   | 50                                     | 2.0:1.0                             |
| Baseball/Softball-Outfield | 3                   | 30                                     | 2.5:1.0                             |

- b. Performance Requirements: Playing surface shall be lit to an average constant light level and uniformity as specified in the table above. Light levels shall meet or exceed the specified performance criteria for 25 years. Lighting calculations shall be developed and field measurements taken on the grid spacing with the minimum number of grid points specified herein. Measured average illumination level shall be  $\pm 10\%$  of predicted mean in accordance with IESNA RP-6-01, and measured at the first 100 hours of operation.
- 2. Spill Light Control: Maximum horizontal footcandles at a distance of 10 feet from each baseline shall not exceed 0.5 foot-candles and shall otherwise not exceed 1.0 foot-candles. Footcandle readings shall be taken at 30 feet intervals along the

specified line. Glare for traffic along the roadway west of the playing field shall be minimized.

#### 1.06 OPERATION AND MAINTENANCE DATA

- A. Submit manufacturer data sheets for all equipment installed.
- B. Include operating, installation, and routine maintenance instructions.
- C. Include the date of installation of which the system has been tested, adjusted, and is fully operational.
- D. Include as-built point to point wiring diagrams showing wiring connections between all components.

### PART 2-PRODUCTS

#### 2.01 PRESUBMITTAL REQUIREMENTS

- A. The Drawings and Specifications were prepared based on MUSCO's Light-Structure Green system. A Qualite Sports Lighting system utilizing the manufacturer's International Visored Fixture may be submitted as a substitute for review at CONTRACTOR's expense. A complete substitute submittal shall be provided for approval as specified herein. If the substitute system is approved, CONTRACTOR shall be responsible for all costs associated with any changes required to accommodate the substitute equipment including, but not limited to, structural, electrical, and site work. CONTRACTOR shall also pay additional costs necessary for revisions of Drawings and/or Specifications by OWNER's engineer.
- B. Substitute submittals shall be submitted with adequate time to provide a resubmittal for the MUSCO Light-Structure Green system if the substitute equipment is not approved.

#### 2.02 LIGHTING STRUCTURE MATERIAL AND ASSEMBLIES

- A. The lighting structure shall consist of steel pole, pole-top luminaire assembly, wire harness, and Electrical Component Enclosure(s). The pole shall be furnished with a base plate and leveling anchor bolts such that it is capable of mounting on the existing pole foundations. Lighting manufacturer will be responsible to coordinate with and review structural modifications required to existing foundations to support new poles. All wiring shall be routed inside the pole. The light fixture assemblies shall be powered with a 480-volt, 3-phase, 3-wire electrical system.
- B. Structural Steel and Foundation Design:
  - 1. Support Structure Wind Load Strength: Poles and other support structures, brackets, arms, and anchorages shall be determined based on the 2006 edition of the International Building Code, wind speed of 90 mph, exposure category C. Luminaire, visor, and crossarm shall withstand 150 mph winds and maintain luminaire aiming alignment.
  - 2. The strength of the materials used in the structures shall be calculated based upon AASHTO pole structure criteria. The stress analysis and safety factor of the poles shall conform to AASHTO 2001 (LTS-4) pole structure criteria.

3. The poles shall be constructed from steel meeting ASTM-A595 Standard. All structural steel materials, including pole, crossarms, braces, and hubs, shall be hot-dip galvanized inside and out to the most current ASTM-123 standards. Provide vibration dampeners within poles.
- C. Pole Conduit Entries:
4. For poles BA2, 2A2, and 3A1, provide a 1-inch threaded conduit hub at 4 feet 0 inches above finished grade for installation of a junction box containing an on-off selector switch control station, provided by CONTRACTOR. Hub shall be located on the side of the pole opposite the pole-top light fixture assembly (180 degrees from fixture assembly).
  5. For poles BA1, BA2, 2A1, 2A2, 3A1, and 3A2, provide a 1-inch threaded conduit hub at 20 feet 0 inches above finished grade for installation of a walk-off light fixture, provided by CONTRACTOR. Hubs for poles BA2, 2A2, and 3A2 shall be located 270 degrees from the pole-top light fixture assembly. Hubs for poles BA1, 2A1, and 3A1 shall be located 90 degrees from the pole-top light fixture assembly.
- D. Aluminum Components: Provide high purity reflector grade aluminum. All other aluminum components shall be heavy anodized to AAC12A41 specifications and shall also be coated with an epoxy primer and heavy polyurethane enamel finish.
- E. Stainless Steel Devices: All fasteners, latches, hinges and threaded devices shall be stainless steel construction.
- F. General Electrical Requirements: Each lighting structure shall be equipped with a complete electrical system that includes the following:
1. Electrical Component Enclosure (ECE).
  2. Manufacturer shall provide all branch circuits complete from the disconnecting device to the lamp with plug-in or landing lug connections for field installation. Electrical equipment on the pole shall be in conformance with UL standards.
  3. The pole top luminaire assembly shall be completely wired to a plug-in connection by the manufacturer providing the warranty. All individual lamp circuits shall be labeled consistent with a schematic provided on the inside of the electrical component enclosure door. All electrical conductors shall be enclosed within new poles.
  4. There shall be system and equipment grounding through the lighting structure for connection to ground rods and feeder circuits.
- G. Pole Top Luminaire Assembly:
1. The pole top luminaire assembly shall be completely assembled in the factory and aimed to form a single photometric unit.
  2. The knuckle assembly and lamp cone shall be constructed of steel or die cast aluminum. The knuckle assembly shall contain a silicone gasket to prevent leakage and a rubber bushing around the through-bolt to protect the wiring. Light fixtures shall have a positive repositioning device for each luminaire on the assembly. The device shall provide for automatic repositioning of the aiming after relamping.
  3. The luminaires shall be attached to the crossarm with a minimum of two bolts. There shall be no penetrations of the top or sides of the crossarm. End caps shall be a water-tight continuous weld, hot dipped galvanized to ASTM-123 Standards. The maximum crossarm length shall be 60 inches.
  4. The crossarm, reflector and its attachment to the pole shall structurally withstand winds of 125 mph with a 1.3 gust factor without misalignment of any luminaire and without any damage to the crossarms or its components.

- H. Electrical Component Enclosure (ECE):
1. All electrical components on the lighting structure, except lamps, shall be enclosed in a NEMA 3R rated gasketed enclosure mounted where noted on the Drawings. Light poles with multiple pole top luminaire assemblies shall have a dedicated ECE for each luminaire assembly.
  2. The ECE shall be constructed of aluminum and coated with a thermally radiant polyester powder coat paint. Latches shall have padlocking hasp and staple.
  3. ECE shall have landing lugs for the feeder circuit as a part of the disconnecting device. Lugs shall be sized as required to accept feeder circuit conductor sizes shown on the Drawings.
  4. ECE shall have fuse block for individual fusing for each load carrying conductor in each lamp circuit. (Neutral conductors shall not be fused).
  5. The ECE shall be UL listed for use with 90°C rated supply wire and suitable for use in wet locations.
  6. Each ballast, capacitor, and fuse shall be labeled to identify the fixtures it services.
  7. Individual fuses shall be provided for each ballast conductor except neutral conductor.
  8. The access door shall be attached by a full-length stainless steel hinge and shall be secured when closed by lockable stainless steel latches.
  9. Distribution terminal blocks shall be factory-wired from the internal disconnect switch to the blocks. These blocks shall provide for termination of all ballast connection wiring.
  10. All lamp supply circuits in the ECE shall be color-coded and labeled. They shall terminate into a UL recognized plug-in device for plug-in to the wiring harness.
  11. Each enclosure shall be supplied with a grounding lug rigidly fastened to the enclosure, sized to accept up to a 2/0 copper conductor.
  12. ECEs shall not have conductor pass-through hubs on the back of the enclosures. Branch circuit conductors and the fixture wire-harness shall be routed in conduit to ECE. Fixture wiring harnesses shall be routed down inside of pole and out of pole hub to the ECE in conduit external to pole as shown on the Drawings. Coordinate extended wire harnesses with CONTRACTOR prior to shipment to the site.
  13. ECE shall have lightning protection as specified herein.
  14. Provide wire harness for plug-in connections between the ECE and fixture assembly, length as required. Manufacturer shall verify cable length.
- I. Lighting Control Panels and Monitoring System:
1. The lighting control system shall be UL Listed (Industrial Control Equipment). Equipment shall comply with UL standards E33316, E139944, E204954, E311491, E132445, E325078, SA7004, and E337467.
  2. The lighting control manufacturer shall provide factory assembled, wired, and tested control and monitoring cabinets, quantity as indicated on the Drawings. The cabinets shall have sufficient capacity to power and control all associated pole-mounted light fixture assemblies and all walk-off light fixtures at Bowman Field.
    - a. Provide keyed manual Off-On-Auto selector switches for control of all light fixture assemblies in each associated zone on the control panel front door.
    - b. Operating ambient temperature range: -20°C to 60°C.
    - c. All electronic assemblies shall be mounted on panels to allow for easy field maintenance.
    - d. The lighting control panel enclosures shall be rated NEMA 4 with lockable cover and shall contain all electronic equipment. Enclosures with prepunched knockouts are not allowed.

3. Athletic field lighting control panels shall control the lighting in each zone based on schedules set up via a manufacturer-maintained web interface when the control panel manual "Off-On-Auto" switch is in the "Auto" position. Each control panel shall also accept a remote "On-Off" selector switch input from each zone to control the associated light fixtures in the "Auto" position. The remote "On-Off" selector switches shall be provided by CONTRACTOR as shown on the Drawings. Control panels shall have terminal strip to accept two No. 14 AWG conductors from each remote "on-off" selector switch.
  4. Contactor Modules:
    - a. Provide contactors, quantity as required, to control all light fixtures associated with each control panel.
    - b. Contactors shall be UL listed for lighting applications. They shall be rated at full capacity, be electrically held, and utilize a 120-volt coil.
    - c. Terminal blocks shall be provided for each contactor and shall be UL listed. 30 and 60-amp contactors shall be sized to accommodate 2/0-14 gauge copper wire.
    - d. Walk-off lighting control panel shall accept signals from current switches associated with each zone installed in the lighting controls enclosure to interlock the walk-off lighting with the sports lighting as described in Section 16141-Wiring Devices. The current switches shall interface with the walk-off lighting control panel such that the walk-off lighting for each zone is energized for a time delay (0 to 30 minutes) when the associated sports lighting is de-energized.
  5. Communication Equipment:
    - a. Manufacturer shall be responsible for providing and maintaining a cellular communication link through an integral digital cellular antenna mounted on one lighting control panel in order to modify schedules and receive reports. Communication system shall also indicate equipment failures and total operating hours for lamps.
    - b. Owner shall be able to access the monitoring system remotely via a manufacturer maintained web-interface.
    - c. The communication link shall be a TCP/IP-type connection with two-way real-time communications.
    - d. Manufacturer shall include communication costs for operating the controls and monitoring system for minimum 25 years.
- J. Universal Lightning Protection:
1. All structures shall be equipped with lightning protection meeting established standards by NFPA 780 (National Fire Protection Association).
  2. CONTRACTOR shall provide at least one copper-clad steel ground rod of not less than 5/8 inches in diameter and not less than 10 feet in length at each structure.
  3. The ground rod shall be connected to the structure by a 2/0 copper main down conductor.
  4. The main down conductor shall extend from the base of the steel pole to the ground rod and shall be bonded to the steel pole and the equipment ground. All metal components on the pole shall be bonded to the pole.
  5. All main down conductors and all bonding conductors shall maintain a horizontal or downward coursing path, free from "U" or "V" (down and backup) sockets.

## PART 3-EXECUTION

### 3.01 START-UP AND TRAINING

- A. The manufacturer shall supply factory-authorized representatives to start-up all equipment and demonstrate full compliance with this specification. They shall verify that all supplied components have been properly installed and connected.
- B. CONTRACTOR shall provide a training session for up to three OWNER's representatives for one normal workday (not including start-up) at a jobsite location determined by OWNER. The training session shall be conducted by a manufacturer's qualified representative.

END OF SECTION

For more location information  
please visit [www.strand.com](http://www.strand.com)

## Office Locations

Cincinnati, Ohio | 513.861.5600

Columbus, Indiana | 812.372.9911

Columbus, Ohio | 614.835.0460

Indianapolis, Indiana | 317.423.0935

Joliet, Illinois | 815.744.4200

Lexington, Kentucky | 859.225.8500

Louisville, Kentucky | 502.583.7020

Madison, Wisconsin\* | 608.251.4843

Milwaukee, Wisconsin | 414.271.0771

Phoenix, Arizona | 602.437.3733

\*Corporate Headquarters



**SECTION E: BIDDERS ACKNOWLEDGEMENT**  
**BOWMAN LIGHTING SYSTEM - PHASE TWO**  
**CONTRACT NO. 7350**

Bidder must state a Unit Price and Total Bid for each item. The Total Bid for each item must be the product of quantity, by Unit Price. The Grand Total must be the sum of the Total Bids for the various items. In case of multiplication errors or addition errors, the Grand Total with corrected multiplication and/or addition shall determine the Grand Total bid for each contract. The Unit Price and Total Bid must be entered numerically in the spaces provided. All words and numbers shall be written in ink.

1. The undersigned having familiarized himself/herself with the Contract documents, including Advertisement for Bids, Instructions to Bidders, Form of Proposal, City of Madison Standard Specifications for Public Works Construction - 2014 Edition thereto, Form of Agreement, Form of Bond, and Addenda issued and attached to the plans and specifications on file in the office of the City Engineer, hereby proposes to provide and furnish all the labor, materials, tools, and expendable equipment necessary to perform and complete in a workmanlike manner the specified construction on this project for the City of Madison; all in accordance with the plans and specifications as prepared by the City Engineer, including Addenda to the Contract Nos. \_\_\_\_\_ through \_\_\_\_\_ issued thereto, at the prices for said work as contained in this proposal. (Electronic bids submittals shall acknowledge addendum under Section E and shall not acknowledge here)
2. If awarded the Contract, we will initiate action within seven (7) days after notification or in accordance with the date specified in the contract to begin work and will proceed with diligence to bring the project to full completion within the number of work days allowed in the Contract or by the calendar date stated in the Contract.
3. The undersigned Bidder or Contractor certifies that he/she is not a party to any contract, combination in form of trust or otherwise, or conspiracy in restraint of trade or commerce or any other violation of the anti-trust laws of the State of Wisconsin or of the United States, with respect to this bid or contract or otherwise.
4. I hereby certify that I have met the Bid Bond Requirements as specified in Section 102.5.  
*(IF BID BOND IS USED, IT SHALL BE SUBMITTED ON THE FORMS PROVIDED BY THE CITY. FAILURE TO DO SO MAY RESULT IN REJECTION OF THE BID).*
5. I hereby certify that all statements herein are made on behalf of \_\_\_\_\_ (name of corporation, partnership, or person submitting bid) a corporation organized and existing under the laws of the State of \_\_\_\_\_ a partnership consisting of \_\_\_\_\_; an individual trading as \_\_\_\_\_; of the City of \_\_\_\_\_ State of \_\_\_\_\_; that I have examined and carefully prepared this Proposal, from the plans and specifications and have checked the same in detail before submitting this Proposal; that I have fully authority to make such statements and submit this Proposal in (its, their) behalf; and that the said statements are true and correct.

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
TITLE, IF ANY

Sworn and subscribed to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
(Notary Public or other officer authorized to administer oaths)  
My Commission Expires \_\_\_\_\_  
Bidders shall not add any conditions or qualifying statements to this Proposal.

## SECTION F: DISCLOSURE OF OWNERSHIP & BEST VALUE CONTRACTING

### BOWMAN LIGHTING SYSTEM - PHASE TWO CONTRACT NO. 7350

State of Wisconsin  
Department of Workforce Development  
Equal Rights Division  
Labor Standards Bureau

## Disclosure of Ownership

|  |      |             |          |
|--|------|-------------|----------|
| <p><b>Notice required under Section 15.04(1)(m), Wisconsin Statutes.</b> The statutory authority for the use of this form is prescribed in Sections 66.0903(12)(d) and 103.49(7)(d), Wisconsin Statutes. The use of this form is mandatory. The penalty for failing to complete this form is prescribed in Section 103.005(12), Wisconsin Statutes. Personal information you provide may be used for secondary purposes.</p>   |      |             |          |
| <p>(1) On the date a contractor submits a bid to or completes negotiations with a state agency or local governmental unit, on a project subject to Section 66.0903 or 103.49, Wisconsin Statutes, the contractor shall disclose to such state agency or local governmental unit the name of any "other construction business", which the contractor, or a shareholder, officer or partner of the contractor, owns or has owned within the preceding three (3) years.</p> <p>(2) The term "other construction business" means any business engaged in the erection, construction, remodeling, repairing, demolition, altering or painting and decorating of buildings, structures or facilities. It also means any business engaged in supplying mineral aggregate, or hauling excavated material or spoil as provided by Sections 66.0903(3), 103.49(2) and 103.50(2), Wisconsin Statutes.</p> <p>(3) This form must ONLY be filed, with the state agency or local governmental unit that will be awarding the contract, if <b>both (A) and (B) are met.</b></p> <p>(A) The contractor, or a shareholder, officer or partner of the contractor:</p> <p style="margin-left: 20px;">(1) Owns at least a 25% interest in the "other construction business", indicated below, on the date the contractor submits a bid or completes negotiations.</p> <p style="margin-left: 20px;">(2) Or has owned at least a 25% interest in the "other construction business" at any time within the preceding three (3) years.</p> <p>(B) The Wisconsin Department of Workforce Development (DWD) has determined that the "other construction business" has failed to pay the prevailing wage rate or time and one-half the required hourly basic rate of pay, for hours worked in excess of the prevailing hours of labor, to any employee at any time within the preceding three (3) years.</p> |      |             |          |
| <b>Other Construction Business</b>   |      |             |          |
| Not Applicable <input type="checkbox"/>  |      |             |          |
| Name of Business   |      |             |          |
| Street Address or P O Box  | City | State       | Zip Code |
| Name of Business   |      |             |          |
| Street Address or P O Box  | City | State       | Zip Code |
| Name of Business   |      |             |          |
| Street Address or P O Box  | City | State       | Zip Code |
| <p><b>I hereby state under penalty of perjury that the information, contained in this document, is true and accurate according to my knowledge and belief.</b></p>   |      |             |          |
| Print the Name of Authorized Officer   |      |             |          |
| Signature of Authorized Officer  |      | Date Signed |          |
| Name of Corporation, Partnership or Sole Proprietorship  |      |             |          |
| Street Address or P O Box  | City | State       | Zip Code |

**If you have any questions call (608) 266-0028**

ERD-7777-E (R. 09/2003)

**BOWMAN LIGHTING SYSTEM - PHASE TWO  
CONTRACT NO. 7350**

**Best Value Contracting**

1. The Contractor shall indicate the non-apprenticeable trades used on this contract.

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2. Madison General Ordinance (M.G.O.), 33.07(7), does provide for some exemptions from the active apprentice requirement. Apprenticeable trades are those trades considered apprenticeable by the State of Wisconsin. Please check applicable box if you are seeking an exemption.

- Contractor has a total skilled workforce of four or less individuals in all apprenticeable trades combined.
- No available trade training program; The Contractor has been rejected by the only available trade training program, or there is no trade training program within 90 miles.
- Contractor is not using an apprentice due to having a journey worker on layoff status, provided the journey worker was employed by the contractor in the past six months.
- First-time Contractor on City of Madison Public Works contract requests a onetime exemption but intends to comply on all future contracts and is taking steps typical of a "good faith" effort.
- Contractor has been in business less than one year.
- Contractor doesn't have enough journeyman trade workers to qualify for a trade training program in that respective trade

3. The Contractor shall indicate on the following section which apprenticeable trades are to be used on this contract. Compliance with active apprenticeship, to the extent required by M.G.O. 33.07(7), shall be satisfied by documentation from an applicable trade training body; an apprenticeship contract with the Wisconsin Department of Workforce Development or a similar agency in another state; or the U.S Department of Labor. This documentation is required prior to the Contractor beginning work on the project site.

- The Contractor has reviewed the list and shall not use any apprenticeable trades on this project.

**LIST APPRENTICABLE TRADES** (check all that apply to your work to be performed on this contract)

- BRICKLAYER
- CARPENTER
- CEMENT MASON / CONCRETE FINISHER
- CEMENT MASON (HEAVY HIGHWAY)
- CONSTRUCTION CRAFT LABORER
- DATA COMMUNICATION INSTALLER
- ELECTRICIAN
- ENVIRONMENTAL SYSTEMS TECHNICIAN / HVAC SERVICE TECH/HVAC INSTALL / SERVICE
- GLAZIER
- HEAVY EQUIPMENT OPERATOR / OPERATING ENGINEER
- INSULATION WORKER (HEAT & FROST)
- IRON WORKER
- IRON WORKER (ASSEMBLER, METAL BLDGS)
- PAINTER & DECORATOR
- PLASTERER
- PLUMBER
- RESIDENTIAL ELECTRICIAN
- ROOFER & WATER PROOFER
- SHEET METAL WORKER
- SPRINKLER FITTER
- STEAMFITTER
- STEAMFITTER (REFRIGERATION)
- STEAMFITTER (SERVICE)
- TAPER & FINISHER
- TELECOMMUNICATIONS (VOICE, DATA & VIDEO) INSTALLER-TECHNICIAN
- TILE SETTER

## SECTION G: BID BOND

KNOW ALL MEN BY THESE PRESENT, THAT \_\_\_\_\_ (a corporation of the State of \_\_\_\_\_) (individual), (partnership), hereinafter referred to as the "Principal") and \_\_\_\_\_, a corporation of the State of \_\_\_\_\_ (hereinafter referred to as the "Surety") and licensed to do business in the State of Wisconsin, are held and firmly bound unto the City of Madison, (hereinafter referred to as the "Obligee"), in the sum of five per cent (5%) of the amount of the total bid or bids of the Principal herein accepted by the Obligee, for the payment of which the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

The conditions of this obligation are such that, whereas the Principal has submitted, to the City of Madison a certain bid, including the related alternate, and substitute bids attached hereto and hereby made a part hereof, to enter into a contract in writing for the construction of:

### **BOWMAN LIGHTING SYSTEM - PHASE TWO CONTRACT NO. 7350**

1. If said bid is rejected by the Obligee, then this obligation shall be void.
2. If said bid is accepted by the Obligee and the Principal shall execute and deliver a contract in the form specified by the Obligee (properly completed in accordance with said bid) and shall furnish a bond for his/her faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said bid, then this obligation shall be void.

If said bid is accepted by the Obligee and the Principal shall fail to execute and deliver the contract and the performance and payment bond noted in 2. above executed by this Surety, or other Surety approved by the City of Madison, all within the time specified or any extension thereof, the Principal and Surety agree jointly and severally to forfeit to the Obligee as liquidated damages the sum mentioned above, it being understood that the liability of the Surety for any and all claims hereunder shall in no event exceed the sum of this obligation as stated, and it is further understood that the Principal and Surety reserve the right to recover from the Obligee that portion of the forfeited sum which exceed the actual liquidated damages incurred by the Obligee.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by an extension of the time within which the Obligee may accept such bid, and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, on the day and year set forth below.

Seal

\_\_\_\_\_  
Principal

\_\_\_\_\_  
Date

By:

\_\_\_\_\_

\_\_\_\_\_  
Name of Surety

By:

\_\_\_\_\_

\_\_\_\_\_  
Date

This certifies that I have been duly licensed as an agent for the above company in Wisconsin under License No. \_\_\_\_\_ for the year \_\_\_\_\_, and appointed as attorney in fact with authority to execute this bid bond and the payment and performance bond referred to above, which power of attorney has not been revoked.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Agent

\_\_\_\_\_  
Address

\_\_\_\_\_  
City, State and Zip Code

\_\_\_\_\_  
Telephone Number

#### NOTE TO SURETY & PRINCIPAL

The bid submitted which this bond guarantees shall be rejected if the following instrument is not attached to this bond:

Power of Attorney showing that the agent of Surety is currently authorized to execute bonds on behalf of the Surety, and in the amounts referenced above.

## Certificate of Biennial Bid Bond

|   |
|---|
| TIME PERIOD - VALID (FROM/TO)   |
| NAME OF SURETY  |
| NAME OF CONTRACTOR  |
| CERTIFICATE HOLDER<br><p style="text-align: center;">City of Madison, Wisconsin</p> |

This is to certify that a biennial bid bond issued by the above-named Surety is currently on file with the City of Madison.

This certificate is issued as a matter of information and conveys no rights upon the certificate holder and does not amend, extend or alter the coverage of the biennial bid bond.

Cancellation: Should the above policy be cancelled before the expiration date, the issuing Surety will give thirty (30) days written notice to the certificate holder indicated above.

\_\_\_\_\_  
Signature of Authorized Contractor Representative

\_\_\_\_\_  
Date

## SECTION H: AGREEMENT

THIS AGREEMENT made this \_\_\_\_\_ day of \_\_\_\_\_ in the year Two Thousand and Fourteen between \_\_\_\_\_ hereinafter called the Contractor, and the City of Madison, Wisconsin, hereinafter called the City.

WHEREAS, the Common Council of the said City of Madison under the provisions of a resolution adopted \_\_\_\_\_, and by virtue of authority vested in the said Council, has awarded to the Contractor the work of performing certain construction.

NOW, THEREFORE, the Contractor and the City, for the consideration hereinafter named, agree as follows:

1. **Scope of Work.** The Contractor shall, perform the construction, execution and completion of the following listed complete work or improvement in full compliance with the Plans, Specifications, Standard Specifications, Supplemental Specifications, Special Provisions and contract; perform all items of work covered or stipulated in the proposal; perform all altered or extra work; and shall furnish, unless otherwise provided in the contract, all materials, implements, machinery, equipment, tools, supplies, transportation, and labor necessary to the prosecution and completion of the work or improvements:

### BOWMAN LIGHTING SYSTEM - PHASE TWO CONTRACT NO. 7350

2. **Completion Date/Contract Time.** Construction work must begin within seven (7) calendar days after the date appearing on mailed written notice to do so shall have been sent to the Contractor and shall be carried on at a rate so as to secure full completion SEE SPECIAL PROVISIONS, the rate of progress and the time of completion being essential conditions of this Agreement.
3. **Contract Price.** The City shall pay to the Contractor at the times, in the manner and on the conditions set forth in said specifications, the sum of \_\_\_\_\_ (\$ \_\_\_\_\_) Dollars being the amount bid by such Contractor and which was awarded to him/her as provided by law.
4. **Wage Rates for Employees of Public Works Contractors**

**General and Authorization.** The Contractor shall compensate its employees at the prevailing wage rate in accordance with section 66.0903, Wis. Stats., DWD 290 of the Wisconsin Administrative Code and as hereinafter provided unless otherwise noted in Section D: Special Provisions, Subsection 102.10 – Minimum Rate of Wage Scale.

“Public Works” shall include building or work involving the erection, construction, remodeling, repairing or demolition of buildings, parking lots, highways, streets, bridges, sidewalks, street lighting, traffic signals, sanitary sewers, water mains and appurtenances, storm sewers, and the grading and landscaping of public lands.

“Building or work” includes construction activity as distinguished from manufacturing, furnishing of materials, or servicing and maintenance work, except for the delivery of mineral aggregate such as sand, gravel, bituminous asphaltic concrete or stone which is incorporated into the work under contract with the City by depositing the material directly in final place from transporting vehicle.

“Erection, construction, remodeling, repairing” means all types of work done on a particular building or work at the site thereof in the construction or development of the project, including without limitation, erecting, construction, remodeling, repairing, altering, painting, and decorating, the transporting of materials and supplies to or from the building or work done by the employees of the Contractor, Subcontractor, or Agent thereof, and the manufacturing or furnishing of

materials, articles, supplies or equipment on the site of the building or work, by persons employed by the Contractor, Subcontractor, or Agent thereof.

"Employees working on the project" means laborers, workers, and mechanics employed directly upon the site of work.

"Laborers, Workers, and Mechanics" include pre-apprentices, helpers, trainees, learners and properly registered and indentured apprentices but exclude clerical, supervisory, and other personnel not performing manual labor.

**Establishment of Wage Rates.** The Department of Public Works shall periodically obtain a current schedule of prevailing wage rates from DWD. The schedule shall be used to establish the City of Madison Prevailing Wage Rate Schedule for Public Works Construction (prevailing wage rate). The Department of Public Works may include known increases to the prevailing wage rate which can be documented and are to occur on a future specific date. The prevailing wage rate shall be included in public works contracts subsequently negotiated or solicited by the City. Except for known increases contained within the schedule, the prevailing wage rate shall not change during the contract. The approved wage rate is attached hereto.

**Workforce Profile.** The Contractor shall, at the time of signature of the contract, notify the City Engineer in writing of the names and classifications of all the employees of the Contractor, Subcontractors, and Agents proposed for the work. In the alternative, the Contractor shall submit in writing the classifications of all the employees of the Contractor, Subcontractors and Agents and the total number of hours estimated in each classification for the work. This workforce profile(s) shall be reviewed by the City Engineer who may, within ten (10) days, object to the workforce profile(s) as not being reflective of that which would be required for the work. The Contractor may request that the workforce profile, or a portion of the workforce profile, be submitted after the signature of the contract but at least ten (10) days prior to the work commencing. Any costs or time loss resulting from modifications to the workforce profile as a result of the City Engineer's objections shall be the responsibility of the Contractor.

**Payrolls and Records.** The Contractor shall keep weekly payroll records setting forth the name, address, telephone number, classification, wage rate and fringe benefit package of all the employees who work on the contract, including the employees of the Contractor's subcontractors and agents. Such weekly payroll records must include the required information for all City contracts and all other contracts on which the employee worked during the week in which the employee worked on the contract. The Contractor shall also keep records of the individual time each employee worked on the project and for each day of the project. Such records shall also set forth the total number of hours of overtime credited to each such employee for each day and week and the amount of overtime pay received in that week. The records shall set forth the full weekly wages earned by each employee and the actual hourly wage paid to the employee.

The Contractor shall submit the weekly payroll records, including the records of the Contractor's subcontractors and agents, to the City Engineer for every week that work is being done on the contract. The submittal shall be within twenty-one (21) calendar days of the end of the Contractor's weekly pay period.

Employees shall receive the full amounts accrued at the time of the payment, computed at rates not less than those stated in the prevailing wage rate and each employee's rate shall be determined by the work that is done within the trade or occupation classification which should be properly assigned to the employee.

An employee's classification shall not be changed to a classification of a lesser rate during the contract. If, during the term of the contract, an employee works in a higher pay classification than the one which was previously properly assigned to the employee, then that employee shall be considered to be in the higher pay classification for the balance of the contract, receive the appropriate higher rate of pay, and she/he shall not receive a lesser rate during the balance of the

contract. For purposes of clarification, it is noted that there is a distinct difference between working in a different classification with higher pay and doing work within a classification that has varying rates of pay which are determined by the type of work that is done within the classification. For example, the classification "Operating Engineer" provides for different rates of pay for various classes of work and the Employer shall compensate an employee classified as an "Operating Engineer" based on the highest class of work that is done in one day. Therefore, an "Operating Engineer's" rate may vary on a day to day basis depending on the type of work that is done, but it will never be less than the base rate of an "Operating Engineer". Also, as a matter of clarification, it is recognized that an employee may work in a higher paying classification merely by chance and without prior intention, calculation or design. If such is the case and the performance of the work is truly incidental and the occurrence is infrequent, inconsequential and does not serve to undermine the single classification principle herein, then it may not be required that the employee be considered to be in the higher pay classification and receive the higher rate of pay for the duration of the contract. However, the Contractor is not precluded or prevented from paying the higher rate for the limited time that an employee performs work that is outside of the employee's proper classification.

Questions regarding an employee's classification, rate of pay or rate of pay within a classification, shall be resolved by reference to the established practice that predominates in the industry and on which the trade or occupation rate/classification is based. Rate of pay and classification disputes shall be resolved by relying upon practices established by collective bargaining agreements and guidelines used in such determination by appropriate recognized trade unions operating within the City of Madison.

The Contractor, its Subcontractors and Agents shall submit to interrogation regarding compliance with the provisions of this ordinance.

Mulcting of the employees by the Contractor, Subcontractor, and Agents on Public Works contracts, such as by kickbacks or other devices, is prohibited. The normal rate of wage of the employees of the Contractor, Subcontractor, and Agents shall not be reduced or otherwise diminished as a result of payment of the prevailing wage rate on a public works contract.

**Hourly contributions.** Hourly contributions shall be determined in accordance with the prevailing wage rate and with DWD. 290.01(10), Wis. Admin. Code.

**Apprentices and Subjourney persons.** Apprentices and sub journeypersons performing work on the project shall be compensated in accordance with the prevailing wage rate and with DWD 290.02, and 290.025, respectively, Wis. Admin. Code.

**Straight Time Wages.** The Contractor may pay straight time wages as determined by the prevailing wage rate and DWD 290.04, Wis. Admin. Code.

**Overtime Wages.** The Contractor shall pay overtime wages as required by the prevailing wage rate and DWD 290.05, Wis. Admin. Code.

**Posting of Wage Rates and Hours.** A clearly legible copy of the prevailing wage rate, together with the provisions of Sec. 66.0903(10)(a) and (11)(a), Wis. Stats., shall be kept posted in at least one conspicuous and easily accessible place at the project site by the Contractor and such notice shall remain posted during the full time any laborers, workers or mechanics are employed on the contract.

**Evidence of Compliance by Contractor.** Upon completion of the contract, the Contractor shall file with the Department of Public Works an affidavit stating:

- a. That the Contractor has complied fully with the provisions and requirements of Sec. 66.0903(3), Wis. Stats., and Chapter DWD 290, Wis. Admin. Code; the Contractor has received evidence of compliance from each of the agents and subcontractors; and the

names and addresses of all of the subcontractors and agents who worked on the contract.

- b. That full and accurate records have been kept, which clearly indicate the name and trade or occupation of every laborer, worker or mechanic employed by the Contractor in connection with work on the project. The records shall show the number of hours worked by each employee and the actual wages paid therefore; where these records will be kept and the name, address and telephone number of the person who will be responsible for keeping them. The records shall be retained and made available for a period of at least three (3) years following the completion of the project of public works and shall not be removed without prior notification to the municipality.

**Evidence of Compliance by Agent and Subcontractor.** Each agent and subcontractor shall file with the Contractor, upon completion of their portion of the work on the contract an affidavit stating that all the provisions of Sec. 66.0903(3), Wis. Stats., have been fully complied with and that full and accurate records have been kept, which clearly indicate the name and trade or occupation of every laborer, worker or mechanic employed by the Contractor in connection with work on the project. The records shall show the number of hours worked by each employee and the actual wages paid therefore; where these records shall be kept and the name, address and telephone number of the person who shall be responsible for keeping them. The records shall be retained and made available for a period of at least three (3) years following the completion of the project of public works and shall not be removed without prior notification to the municipality.

**Failure to Comply with the Prevailing Wage Rate.** If the Contractor fails to comply with the prevailing wage rate, she/he shall be in default on the contract.

5. **Affirmative Action.** In the performance of the services under this Agreement the Contractor agrees not to discriminate against any employee or applicant because of race, religion, marital status, age, color, sex, disability, national origin or ancestry, income level or source of income, arrest record or conviction record, less than honorable discharge, physical appearance, sexual orientation, gender identity, political beliefs, or student status. The Contractor further agrees not to discriminate against any subcontractor or person who offers to subcontract on this contract because of race, religion, color, age, disability, sex, sexual orientation, gender identity or national origin.

The Contractor agrees that within thirty (30) days after the effective date of this agreement, the Contractor will provide to the City Affirmative Action Division certain workforce utilization statistics, using a form to be furnished by the City.

If the contract is still in effect, or if the City enters into a new agreement with the Contractor, within one year after the date on which the form was required to be provided, the Contractor will provide updated workforce information using a second form, also to be furnished by the City. The second form will be submitted to the City Affirmative Action Division no later than one year after the date on which the first form was required to be provided.

The Contractor further agrees that, for at least twelve (12) months after the effective date of this contract, it will notify the City Affirmative Action Division of each of its job openings at facilities in Dane County for which applicants not already employees of the Contractor are to be considered. The notice will include a job description, classification, qualifications and application procedures and deadlines. The Contractor agrees to interview and consider candidates referred by the Affirmative Action Division if the candidate meets the minimum qualification standards established by the Contractor, and if the referral is timely. A referral is timely if it is received by the Contractor on or before the date started in the notice.

Articles of Agreement  
Article I

The Contractor shall take affirmative action in accordance with the provisions of this contract to insure that applicants are employed, and that employees are treated during employment without regard to race, religion, color, age, marital status, disability, sex, sexual orientation, gender identity or national origin and that the employer shall provide harassment free work environment for the realization of the potential of each employee. 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 insofar as it is within the control of the Contractor. The Contractor agrees to post in conspicuous places available to employees and applicants notices to be provided by the City setting out the provisions of the nondiscrimination clauses in this contract.

Article II

The Contractor shall in all solicitations or advertisements for employees placed by or on behalf of the Contractor state that all qualified or qualifiable applicants will be employed without regard to race, religion, color, age, marital status, disability, sex, sexual orientation, gender identity or national origin.

Article III

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 by the City advising the labor union or worker's representative of the Contractor's equal employment opportunity and affirmative action commitments. Such notices shall be posted in conspicuous places available to employees and applicants for employment.

Article V

The Contractor agrees that it will comply with all provisions of the Affirmative Action Ordinance of the City of Madison, including the contract compliance requirements. The Contractor agrees to submit the model affirmative action plan for public works contractors in a form approved by the Affirmative Action Division Manager.

Article VI

The Contractor will maintain records as required by Section 39.02(9)(f) of the Madison General Ordinances and will provide the City Affirmative Action Division with access to such records and to persons who have relevant and necessary information, as provided in Section 39.02(9)(f). The City agrees to keep all such records confidential, except to the extent that public inspection is required by law.

Article VII

In the event of the Contractor's or subcontractor's failure to comply with the Equal Employment Opportunity and Affirmative Action Provisions of this contract or Section 39.03 and 39.02 of the Madison General Ordinances, it is agreed that the City at its option may do any or all of the following:

1. Cancel, terminate or suspend this Contract in whole or in part.
2. Declare the Contractor ineligible for further City contracts until the Affirmative Action requirements are met.

3. Recover on behalf of the City from the prime Contractor 0.5 percent of the contract award price for each week that such party fails or refuses to comply, in the nature of liquidated damages, but not to exceed a total of five percent (5%) of the contract price, or five thousand dollars (\$5,000), whichever is less. Under public works contracts, if a subcontractor is in noncompliance, the City may recover liquidated damages from the prime Contractor in the manner described above. The preceding sentence shall not be construed to prohibit a prime Contractor from recovering the amount of such damage from the non-complying subcontractor.

#### Article VIII

The Contractor shall include the above provisions of this contract in every subcontract so that such provisions will be binding upon each subcontractor. The Contractor shall take such action with respect to any subcontractor as necessary to enforce such provisions, including sanctions provided for noncompliance.

#### Article IX

The Contractor shall allow the maximum feasible opportunity to small business enterprises to compete for any subcontracts entered into pursuant to this contract. (In federally funded contracts the terms "DBE, MBE and WBE" shall be substituted for the term "small business" in this Article.)

**BOWMAN LIGHTING SYSTEM - PHASE TWO  
CONTRACT NO. 7350**

IN WITNESS WHEREOF, the Contractor has hereunto set his/her hand and seal and the City has caused these presents to be sealed with its corporate seal and to be subscribed by its Mayor and City Clerk the day and year first above written.

Countersigned:

|         |      |              |      |
|---------|------|--------------|------|
|         |      | _____        |      |
|         |      | Company Name |      |
| _____   | Date | _____        | Date |
| Witness |      | President    |      |
| _____   | Date | _____        | Date |
| Witness |      | Secretary    |      |

CITY OF MADISON, WISCONSIN

Provisions have been made to pay the liability that will accrue under this contract.

Approved as to form:

|   |  |               |      |
|---|--|---------------|------|
| _____                                   |  | _____         |      |
| Finance Director                        |  | City Attorney |      |
| Signed this _____ day of _____, 20_____ |  |               |      |
| _____                                   |  | _____         | Date |
| Witness                                 |  | Mayor         |      |
| _____                                   |  | _____         | Date |
| Witness                                 |  | City Clerk    |      |

**SECTION I: PAYMENT AND PERFORMANCE BOND**

KNOW ALL MEN BY THESE PRESENTS, that we \_\_\_\_\_  
as \_\_\_\_\_ principal, \_\_\_\_\_ and

Company of \_\_\_\_\_ as surety, are held and firmly bound unto the City of Madison, Wisconsin, in the sum of \_\_\_\_\_ (\$\_\_\_\_\_) Dollars, lawful money of the United States, for the payment of which sum to the City of Madison, we hereby bind ourselves and our respective executors and administrators firmly by these presents.

The condition of this Bond is such that if the above bounden shall on his/her part fully and faithfully perform all of the terms of the Contract entered into between him/herself and the City of Madison for the construction of:

**BOWMAN LIGHTING SYSTEM - PHASE TWO  
CONTRACT NO. 7350**

in Madison, Wisconsin, and shall pay all claims for labor performed and material furnished in the prosecution of said work, and save the City harmless from all claims for damages because of negligence in the prosecution of said work, and shall save harmless the said City from all claims for compensation (under Chapter 102, Wisconsin Statutes) of employees and employees of subcontractor, then this Bond is to be void, otherwise of full force, virtue and effect.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_

Countersigned:

\_\_\_\_\_  
Company Name (Principal)

\_\_\_\_\_  
Witness

\_\_\_\_\_  
President Seal

\_\_\_\_\_  
Secretary

Approved as to form:

\_\_\_\_\_  
Surety Seal

Salary Employee       Commission

\_\_\_\_\_  
City Attorney

By \_\_\_\_\_  
Attorney-in-Fact

This certifies that I have been duly licensed as an agent for the above company in Wisconsin under License No. \_\_\_\_\_ for the year 20\_\_\_\_\_, and appointed as attorney-in-fact with authority to execute this payment and performance bond which power of attorney has not been revoked.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Agent Signature

## SECTION J: PREVAILING WAGE RATES

**PREVAILING WAGE RATE DETERMINATION**

Issued by the State of Wisconsin  
Department of Workforce Development  
Pursuant to s. 66.0903, Wis. Stats.  
Issued On: 01/06/2014  
Amended On: 02/28/2014

**DETERMINATION NUMBER:** 201400001

**EXPIRATION DATE:** Prime Contracts MUST Be Awarded or Negotiated On Or Before 12/31/2014. If NOT, You MUST Reapply.

**PROJECT NAME:** ALL PUBLIC WORKS PROJECTS UNDER SEC 66.0903, STATS - CITY OF MADISON

**PROJECT LOCATION:** MADISON CITY, DANE COUNTY, WI

**CONTRACTING AGENCY:** CITY OF MADISON-ENGINEERING

|                         |  |
|-------------------------|--|
| <b>CLASSIFICATION:</b>  | Contractors are responsible for correctly classifying their workers. Either call the Department of Workforce Development (DWD) with trade or classification questions or consult DWD's Dictionary of Occupational Classifications & Work Descriptions on the DWD website at: <a href="http://dwd.wisconsin.gov/er/prevailing_wage_rate/Dictionary/dictionary_main.htm">dwd.wisconsin.gov/er/prevailing_wage_rate/Dictionary/dictionary_main.htm</a> .  |
| <b>OVERTIME:</b>        | <p>Time and one-half must be paid for all hours worked:</p> <ul style="list-style-type: none"><li>- over 10 hours per day on prevailing wage projects</li><li>- over 40 hours per calendar week</li><li>- Saturday and Sunday</li><li>- on all of the following holidays: January 1; the last Monday in May; July 4; the 1st Monday in September; the 4th Thursday in November; December 25;</li><li>- The day before if January 1, July 4 or December 25 falls on a Saturday;</li><li>- The day following if January 1, July 4 or December 25 falls on a Sunday.</li></ul> <p>Apply the time and one-half overtime calculation to whichever is higher between the Hourly Basic Rate listed on this project determination or the employee's regular hourly rate of pay. Add any applicable Premium or DOT Premium to the Hourly Basic Rate before calculating overtime.</p> <p>A DOT Premium (discussed below) may supersede this time and one-half requirement.</p> |
| <b>FUTURE INCREASE:</b> | When a specific trade or occupation requires a future increase, you MUST add the full hourly increase to the "TOTAL" on the effective date(s) indicated for the specific trade or occupation.  |
| <b>PREMIUM PAY:</b>     | If indicated for a specific trade or occupation, the full amount of such pay MUST be added to the "HOURLY BASIC RATE OF PAY" indicated for such trade or occupation, whenever such pay is applicable.  |
| <b>DOT PREMIUM:</b>     | This premium only applies to highway and bridge projects owned by the Wisconsin Department of Transportation and to the project type heading "Airport Pavement or State Highway Construction." DO NOT apply the premium calculation under any other project type on this determination.  |
| <b>APPRENTICES:</b>     | Pay apprentices a percentage of the applicable journey person's hourly basic rate of pay and hourly fringe benefit contributions specified in this determination. Obtain the appropriate percentage from each apprentice's contract or indenture.  |
| <b>SUBJOURNEY:</b>      | Subjourney wage rates may be available for some of the trades or occupations indicated below with the exception of laborers, truck drivers and heavy equipment operators. Any employer interested in using a subjourney classification on this project MUST complete Form ERD-10880 and request the applicable wage rate from the Department of Workforce Development PRIOR to using the subjourney worker on this project.  |

This document **MUST BE POSTED** by the **CONTRACTING AGENCY** in at least one conspicuous and easily accessible place **on the site of the project**. A local governmental unit may post this document at the place normally used to post public notices if there is no common site on the project. This document **MUST** remain posted during the entire time any worker is employed on the project and **MUST** be physically incorporated into the specifications and all contracts and subcontracts. If you have any questions, please write to the Equal Rights Division, Labor Standards Bureau, P.O. Box 8928, Madison, Wisconsin 53708 or call (608) 266-6861.

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**The following statutory provisions apply to local governmental unit projects of public works and are set forth below pursuant to the requirements of s. 66.0903(8), Stats.**

**s. 66.0903 (1) (f) & s. 103.49 (1) (c) "PREVAILING HOURS OF LABOR"** for any trade or occupation in any area means 10 hours per day and 40 hours per week and may not include any hours worked on a Saturday or Sunday or on any of the following holidays:

1. January 1.
2. The last Monday in May.
3. July 4.
4. The first Monday in September.
5. The 4th Thursday in November.
6. December 25.
7. The day before if January 1, July 4 or December 25 falls on a Saturday.
8. The day following if January 1, July 4 or December 25 falls on a Sunday.

**s. 66.0903 (10) RECORDS; INSPECTION; ENFORCEMENT.**

(a) Each contractor, subcontractor, or contractor's or subcontractor's agent performing work on a project of public works that is subject to this section shall keep full and accurate records clearly indicating the name and trade or occupation of every person performing the work described in sub. (4) and an accurate record of the number of hours worked by each of those persons and the actual wages paid for the hours worked.

**s. 66.0903 (11) LIABILITY AND PENALTIES.**

(a) 1. Any contractor, subcontractor, or contractor's or subcontractor's agent who fails to pay the prevailing wage rate determined by the department under sub. (3) or who pays less than 1.5 times the hourly basic rate of pay for all hours worked in excess of the prevailing hours of labor is liable to any affected employee in the amount of his or her unpaid wages or his or her unpaid overtime compensation and in an additional amount as liquidated damages as provided under subd. 2., 3., whichever is applicable.

2. If the department determines upon inspection under sub. (10) (b) or (c) that a contractor, subcontractor, or contractor's or subcontractor's agent has failed to pay the prevailing wage rate determined by the department under sub. (3) or has paid less than 1.5 times the hourly basic rate of pay for all hours worked in excess of the prevailing hours of labor, the department shall order the contractor to pay to any affected employee the amount of his or her unpaid wages or his or her unpaid overtime compensation and an additional amount equal to 100 percent of the amount of those unpaid wages or that unpaid overtime compensation as liquidated damages within a period specified by the department in the order.

3. In addition to or in lieu of recovering the liability specified in subd. 1. as provided in subd. 2., any employee for and in behalf of that employee and other employees similarly situated may commence an action to recover that liability in any court of competent jurisdiction. If the court finds that a contractor, subcontractor, or contractor's or subcontractor's agent has failed to pay the prevailing wage rate determined by the department under sub. (3) or has paid less than 1.5 times the hourly basic rate of pay for all hours worked in excess of the prevailing hours of labor, the court shall order the contractor, subcontractor, or agent to pay to any affected employee the amount of his or her unpaid wages or his or her unpaid overtime compensation and an additional amount equal to 100 percent of the amount of those unpaid wages or that unpaid overtime compensation as liquidated damages.

5. No employee may be a party plaintiff to an action under subd. 3. unless the employee consents in writing to become a party and the consent is filed in the court in which the action is brought. Notwithstanding s. 814.04 (1), the court shall, in addition to any judgment awarded to the plaintiff, allow reasonable attorney fees and costs to be paid by the defendant.

|                                       |
|---------------------------------------|
| <b>BUILDING OR HEAVY CONSTRUCTION</b> |
|---------------------------------------|

Includes sheltered enclosures with walk-in access for the purpose of housing persons, employees, machinery, equipment or supplies and non-sheltered work such as canals, dams, dikes, reservoirs, storage tanks, etc. A sheltered enclosure need not be "habitable" in order to be considered a building. The installation of machinery and/or equipment, both above and below grade level, does not change a project's character as a building. On-site grading, utility work and landscaping are included within this definition. Residential buildings of four (4) stories or less, agricultural buildings, parking lots and driveways are NOT included within this definition.

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**SKILLED TRADES**

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| Fringe Benefits Must Be Paid On <u>All</u> Hours Worked |  | HOURLY<br>BASIC RATE<br>OF PAY | HOURLY<br>FRINGE<br>BENEFITS | TOTAL |
|---|--|--------------------------------|------------------------------|-------|
| <u>CODE</u>   | <u>TRADE OR OCCUPATION</u>   | \$                             | \$                           | \$    |
| 101   | Acoustic Ceiling Tile Installer  | 30.48                          | 15.90                        | 46.38 |
| 102   | Boilermaker<br>Future Increase(s):<br>Add \$1.50/hr on 1/01/2015; Add \$1.50/hr. on<br>01/01/2016  | 32.05                          | 28.04                        | 60.09 |
| 103   | Bricklayer, Blocklayer or Stonemason<br>Premium Increase(s):<br>DOT PREMIUM: Pay two times the hourly basic rate on<br>Sunday, New Year's Day, Memorial Day, Independence<br>Day, Labor Day, Thanksgiving Day & Christmas Day. | 32.01                          | 17.35                        | 49.36 |
| 104   | Cabinet Installer  | 30.48                          | 15.90                        | 46.38 |
| 105   | Carpenter  | 30.48                          | 15.90                        | 46.38 |
| 106   | Carpet Layer or Soft Floor Coverer   | 30.48                          | 15.90                        | 46.38 |
| 107   | Cement Finisher  | 31.58                          | 16.13                        | 47.71 |
| 108   | Drywall Taper or Finisher  | 24.80                          | 16.60                        | 41.40 |
| 109   | Electrician<br>Premium Increase(s):<br>DOT PREMIUM: Pay two times the hourly basic rate on<br>Sunday, New Year's Day, Memorial Day, Independence<br>Day, Labor Day, Thanksgiving Day & Christmas Day.                          | 34.07                          | 19.25                        | 53.32 |
| 110   | Elevator Constructor   | 42.86                          | 23.84                        | 66.70 |
| 111   | Fence Erector  | 24.72                          | 0.00                         | 24.72 |
| 112   | Fire Sprinkler Fitter  | 36.07                          | 18.73                        | 54.80 |
| 113   | Glazier  | 38.03                          | 13.42                        | 51.45 |
| 114   | Heat or Frost Insulator  | 33.68                          | 24.31                        | 57.99 |
| 115   | Insulator (Batt or Blown)  | 15.00                          | 9.50                         | 24.50 |
| 116   | Ironworker   | 31.25                          | 19.46                        | 50.71 |
| 117   | Lather   | 30.48                          | 15.90                        | 46.38 |

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |  | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|--|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>   | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 118  | Line Constructor (Electrical)  | 38.25                                   | 17.31                                 | 55.56        |
| 119  | Marble Finisher  | 26.89                                   | 19.18                                 | 46.07        |
| 120  | Marble Mason   | 32.01                                   | 17.35                                 | 49.36        |
| 121  | Metal Building Erector   | 22.00                                   | 10.00                                 | 32.00        |
| 122  | Millwright   | 32.11                                   | 15.95                                 | 48.06        |
| 123  | Overhead Door Installer  | 20.95                                   | 4.94                                  | 25.89        |
| 124  | Painter  | 24.50                                   | 16.60                                 | 41.10        |
| 125  | Pavement Marking Operator  | 30.00                                   | 0.00                                  | 30.00        |
| 126  | Piledriver   | 30.98                                   | 15.90                                 | 46.88        |
| 127  | Pipeline Fuser or Welder (Gas or Utility)  | 30.79                                   | 19.74                                 | 50.53        |
| 129  | Plasterer  | 31.03                                   | 17.71                                 | 48.74        |
| 130  | Plumber<br>Future Increase(s):<br>Add \$1/hr on 6/1/2014.  | 36.42                                   | 16.87                                 | 53.29        |
| 132  | Refrigeration Mechanic   | 41.60                                   | 16.71                                 | 58.31        |
| 133  | Roofer or Waterproofer   | 29.40                                   | 6.25                                  | 35.65        |
| 134  | Sheet Metal Worker   | 34.45                                   | 22.57                                 | 57.02        |
| 135  | Steamfitter<br>Future Increase(s):<br>Add \$1.70/hr on 6/1/2014.   | 42.95                                   | 17.81                                 | 60.76        |
| 137  | Teledata Technician or Installer<br>Premium Increase(s):<br>DOT PREMIUM: Pay two times the hourly basic rate on<br>Sunday, New Year's Day, Memorial Day, Independence<br>Day, Labor Day, Thanksgiving Day & Christmas Day. | 22.25                                   | 12.24                                 | 34.49        |
| 138  | Temperature Control Installer  | 32.94                                   | 18.80                                 | 51.74        |
| 139  | Terrazzo Finisher  | 26.89                                   | 19.18                                 | 46.07        |
| 140  | Terrazzo Mechanic  | 30.20                                   | 18.42                                 | 48.62        |
| 141  | Tile Finisher  | 23.85                                   | 17.18                                 | 41.03        |
| 142  | Tile Setter  | 29.81                                   | 17.18                                 | 46.99        |
| 143  | Tuckpointer, Caulker or Cleaner  | 35.25                                   | 13.15                                 | 48.40        |
| 144  | Underwater Diver (Except on Great Lakes)   | 34.48                                   | 15.90                                 | 50.38        |
| 146  | Well Driller or Pump Installer   | 25.32                                   | 15.65                                 | 40.97        |
| 147  | Siding Installer   | 25.92                                   | 18.04                                 | 43.96        |

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |  | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|--|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>                                   | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 150  | Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY | 29.16                                   | 14.34                                 | 43.50        |
| 151  | Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY  | 30.60                                   | 14.86                                 | 45.46        |
| 152  | Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY       | 26.78                                   | 13.63                                 | 40.41        |
| 153  | Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY       | 24.86                                   | 12.97                                 | 37.83        |
| 154  | Groundman - ELECTRICAL LINE CONSTRUCTION ONLY                | 21.75                                   | 12.70                                 | 34.45        |

**TRUCK DRIVERS**

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |  | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|--|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>                             | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 201  | Single Axle or Two Axle                                | 32.39                                   | 18.46                                 | 50.85        |
| 203  | Three or More Axle                                     | 18.00                                   | 22.88                                 | 40.88        |
| 204  | Articulated, Euclid, Dumptor, Off Road Material Hauler | 32.89                                   | 18.96                                 | 51.85        |
| 205  | Pavement Marking Vehicle                               | 18.00                                   | 22.88                                 | 40.88        |
| 207  | Truck Mechanic   | 18.00                                   | 22.88                                 | 40.88        |

**LABORERS**

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |   | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|---|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>  | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 301  | General Laborer<br>Premium Increase(s):<br>Add \$1.00/hr for certified welder; Add \$.25/hr for mason tender  | 24.21                                   | 14.63                                 | 38.84        |
| 302  | Asbestos Abatement Worker   | 24.36                                   | 14.44                                 | 38.80        |
| 303  | Landscaper  | 21.01                                   | 9.37                                  | 30.38        |
| 310  | Gas or Utility Pipeline Laborer (Other Than Sewer and Water)  | 21.01                                   | 13.63                                 | 34.64        |
| 311  | Fiber Optic Laborer (Outside, Other Than Concrete Encased)<br>Premium Increase(s):<br>DOT PREMIUMS: Pay two times the hourly basic rate on New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. | 18.33                                   | 13.65                                 | 31.98        |
| 314  | Railroad Track Laborer  | 23.46                                   | 3.30                                  | 26.76        |
| 315  | Final Construction Clean-Up Worker  | 16.00                                   | 0.00                                  | 16.00        |

**HEAVY EQUIPMENT OPERATORS  
SITE PREPARATION, UTILITY OR LANDSCAPING WORK ONLY**

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |  | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|--|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>   | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 501  | Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Milling Machine; Boring Machine (Directional, Horizontal or Vertical); Backhoe (Track Type) Having a Mfgr's Rated Capacity of 130,000 Lbs. or Over; Backhoe (Track Type) Having a Mfgr's Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Bulldozer or Endloader (Over 40 hp); Compactor (Self-Propelled 85 Ft Total Drum Width & Over, or Tractor Mounted, Towed & Light Equipment); Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Crane, Shovel, Dragline, Clamshells; Forklift (Machinery Moving or Steel Erection, 25 Ft & Over); Gradall (Cruz-Aire Type); Grader or Motor Patrol; Master Mechanic; Mechanic or Welder; Robotic Tool Carrier (With or Without Attachments); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Tractor or Truck Mounted Hydraulic Backhoe; Tractor or Truck Mounted Hydraulic Crane (10 Tons or Under); Tractor (Scraper, Dozer, Pusher, Loader); Trencher (Wheel Type or Chain Type Having Over 8 Inch Bucket). | 33.42                                   | 18.96                                 | 52.38        |
| 502  | Backfiller; Broom or Sweeper; Bulldozer or Endloader (Under 40 hp); Environmental Burner; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Jeep Digger; Screed (Milling Machine); Skid Rig; Straddle Carrier or Travel Lift; Stump Chipper; Trencher (Wheel Type or Chain Type Having 8 Inch Bucket & Under).   | 32.89                                   | 18.96                                 | 51.85        |
| 503  | Air Compressor (&/or 400 CFM or Over); Augers (Vertical & Horizontal); Compactor (Self-Propelled 84 Ft Total Drum Width & Under, or Tractor Mounted, Towed & Light Equipment); Crusher, Screening or Wash Plant; Farm or Industrial Type Tractor; Forklift; Generator (&/or 150 KW or Over); Greaser; High Pressure Utility Locating Machine (Daylighting Machine); Mulcher; Oiler; Post Hole Digger or Driver; Pump (3 Inch or Over) or Well Points; Refrigeration Plant or Freeze Machine; Rock, Stone Breaker; Skid Steer Loader (With or Without Attachments); Vibratory Hammer or Extractor, Power Pack.  | 30.82                                   | 18.96                                 | 49.78        |
| 504  | Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.  | 38.80                                   | 20.17                                 | 58.97        |
| 505  | Work Performed on the Great Lakes Including Crane or Backhoe Operator; Assistant Hydraulic Dredge Engineer; Hydraulic Dredge Leverman or Diver's Tender; Mechanic or Welder; 70 Ton & Over Tug Operator.<br>Premium Increase(s):<br>Add \$.50/hr for Friction Crane, Lattice Boom or Crane Certification (CCO).  | 41.65                                   | 21.71                                 | 63.36        |
| 506  | Work Performed on the Great Lakes Including Deck Equipment Operator or Machineryman (Maintains Cranes Over 50 Tons or Backhoes 115,000 Lbs. or More); Tug, Launch or Loader, Dozer or Like Equipment When Operated on a Barge, Breakwater Wall, Slip, Dock or Scow, Deck Machinery.  | 37.10                                   | 21.57                                 | 58.67        |

|     |   |       |       |       |
|-----|---|-------|-------|-------|
| 507 | Work Performed on the Great Lakes Including Deck Equipment Operator, Machineryman or Fireman (Operates 4 Units or More or Maintains Cranes 50 Tons or Under or Backhoes 115,000 Lbs. or Under); Deck Hand, Deck Engineer or Assistant Tug Operator; Off Road Trucks - Great Lakes ONLY. | 34.50 | 20.04 | 54.54 |
|-----|---|-------|-------|-------|

**HEAVY EQUIPMENT OPERATORS  
EXCLUDING SITE PREPARATION, UTILITY, PAVING LANDSCAPING WORK**

| <b>CODE</b> | <b>TRADE OR OCCUPATION</b>  | <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |                                       |              |
|-------------|---|--|---------------------------------------|--------------|
|             |   | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b>                        | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|             |   | <b>\$</b>  | <b>\$</b>                             | <b>\$</b>    |
| 508         | Boring Machine (Directional); Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity of Over 4,000 Lbs., Crane With Boom Dollies; Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 176 Ft or Over; Master Mechanic.<br>Premium Increase(s):<br>Add \$.50/hr for >200 Ton / Add \$1/hr at 300 Ton / Add \$1.50/hr at 400 Ton / Add \$2/hr at 500 Ton & Over.  | 35.62  | 18.96                                 | 54.58        |
| 509         | Backhoe (Track Type) Having a Mfgr's Rated Capacity of 130,000 Lbs. or Over; Boring Machine (Horizontal or Vertical); Caisson Rig; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With A Lifting Capacity Of 4,000 Lbs. & Under; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Pile Driver; Versi Lifts, Tri-Lifts & Gantrys (20,000 Lbs. & Over).   | 36.35  | 6.95                                  | 43.30        |
| 510         | Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump (Over 46 Meter), Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Concrete Spreader & Distributor; Dredge (NOT Performing Work on the Great Lakes); Forklift (Machinery Moving or Steel Erection, 25 Ft & Over); Gradall (Cruz-Aire Type); Hydro-Blaster (10,000 PSI or Over); Milling Machine; Skid Rig; Traveling Crane (Bridge Type).   | 33.42  | 18.96                                 | 52.38        |
| 511         | Air, Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Bulldozer or Endloader (Over 40 hp); Compactor (Self-Propelled 85 Ft Total Drum Width & Over, or Tractor Mounted, Towed & Light Equipment); Concrete Pump (46 Meter & Under), Concrete Conveyor (Rotec or Bidwell Type); Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Environmental Burner; Gantrys (Under 20,000 Lbs.); Grader or Motor Patrol; High Pressure Utility Locating Machine (Daylighting Machine); Manhoist; Material or Stack Hoist; Mechanic or Welder; Railroad Track Rail Leveling Machine, Tie Placer, Extractor, Tamper, Stone Leveler or Rehabilitation Equipment; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yd or More Capacity; Screed (Milling Machine); Sideboom; Straddle Carrier or Travel Lift; Tining or Curing Machine; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Tractor or Truck Mounted Hydraulic Crane (10 Tons or Under); Trencher (Wheel Type or Chain Type Having Over 8-Inch Bucket). | 32.89  | 18.96                                 | 51.85        |

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |   | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|---|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>  | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 512  | Backfiller; Broom or Sweeper; Bulldozer or Endloader (Under 40 hp); Compactor (Self-Propelled 84 Ft Total Drum Width & Under, or Tractor Mounted, Towed & Light Equipment); Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Concrete Conveyor System; Concrete Finishing Machine (Road Type); Fireman (Pile Driver & Derrick NOT Performing Work on the Great Lakes); Grout Pump; Hoist (Tugger, Automatic); Industrial Locomotives; Jeep Digger; Lift Slab Machine; Mulcher; Roller (Rubber Tire, 5 Ton or Under); Screw or Gypsum Pumps; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Stump Chipper; Trencher (Wheel Type or Chain Type Having 8-Inch Bucket & Under); Winches & A-Frames. | 30.82                                   | 18.96                                 | 49.78        |
| 513  | Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Boatmen (NOT Performing Work on the Great Lakes); Boiler (Temporary Heat); Crusher, Screening or Wash Plant; Elevator; Farm or Industrial Type Tractor; Fireman (Asphalt Plant NOT Performing Work on the Great Lakes); Forklift; Generator (&/or 150 KW or Over); Greaser; Heaters (Mechanical); Loading Machine (Conveyor); Oiler; Post Hole Digger or Driver; Prestress Machine; Pump (3 Inch or Over) or Well Points; Refrigeration Plant or Freeze Machine; Robotic Tool Carrier (With or Without Attachments); Rock, Stone Breaker; Skid Steer Loader (With or Without Attachments); Vibratory Hammer or Extractor, Power Pack.               | 24.19                                   | 17.89                                 | 42.08        |
| 514  | Gas or Utility Pipeline, Except Sewer & Water (Primary Equipment).  | 36.34                                   | 21.14                                 | 57.48        |
| 515  | Gas or Utility Pipeline, Except Sewer & Water (Secondary Equipment).<br>Future Increase(s):<br>Add \$1.60/hr on 06/01/2014; Add \$1.65/hr on 06/01/2015.  | 32.32                                   | 18.55                                 | 50.87        |
| 516  | Fiber Optic Cable Equipment<br>Future Increase(s):<br>Add \$1.75/hr on 02/01/2014.  | 27.89                                   | 17.20                                 | 45.09        |

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| <b>SEWER, WATER OR TUNNEL CONSTRUCTION</b> |
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Includes those projects that primarily involve public sewer or water distribution, transmission or collection systems and related tunnel work (excluding buildings).

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**SKILLED TRADES**

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| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |   | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|---|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>  | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 103  | Bricklayer, Blocklayer or Stonemason<br>Premium Increase(s):<br>DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.  | 35.10                                   | 18.40                                 | 53.50        |
| 105  | Carpenter<br>Future Increase(s):<br>Add \$1.25/hr on 6/2/2014.<br>Premium Increase(s):<br>DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.  | 33.68                                   | 19.81                                 | 53.49        |
| 107  | Cement Finisher<br>Future Increase(s):<br>Add \$1.87 on 6/1/14; Add \$1.87 on 6/1/15; Add \$1.75 on 6/1/16.<br>Premium Increase(s):<br>DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.40/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise. | 33.51                                   | 16.13                                 | 49.64        |
| 109  | Electrician<br>Premium Increase(s):<br>DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.   | 32.82                                   | 22.61                                 | 55.43        |
| 111  | Fence Erector   | 24.72                                   | 0.00                                  | 24.72        |
| 116  | Ironworker  | 31.25                                   | 19.46                                 | 50.71        |
| 118  | Line Constructor (Electrical)   | 38.25                                   | 17.31                                 | 55.56        |
| 125  | Pavement Marking Operator   | 16.00                                   | 7.35                                  | 23.35        |
| 126  | Piledriver  | 30.98                                   | 15.90                                 | 46.88        |
| 130  | Plumber   | 33.75                                   | 14.07                                 | 47.82        |
| 135  | Steamfitter   | 42.45                                   | 16.71                                 | 59.16        |
| 137  | Teledata Technician or Installer  | 21.89                                   | 11.85                                 | 33.74        |

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |  | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|--|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>                                   | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 143  | Tuckpointer, Caulker or Cleaner                              | 35.25                                   | 13.15                                 | 48.40        |
| 144  | Underwater Diver (Except on Great Lakes)                     | 38.80                                   | 20.17                                 | 58.97        |
| 146  | Well Driller or Pump Installer                               | 25.32                                   | 15.65                                 | 40.97        |
| 150  | Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY | 29.16                                   | 14.34                                 | 43.50        |
| 151  | Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY  | 30.60                                   | 14.86                                 | 45.46        |
| 152  | Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY       | 26.78                                   | 13.63                                 | 40.41        |
| 153  | Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY       | 24.86                                   | 12.97                                 | 37.83        |
| 154  | Groundman - ELECTRICAL LINE CONSTRUCTION ONLY                | 21.75                                   | 12.70                                 | 34.45        |

**TRUCK DRIVERS**

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |  | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|--|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>                             | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 201  | Single Axle or Two Axle                                | 30.00                                   | 15.00                                 | 45.00        |
| 203  | Three or More Axle                                     | 16.00                                   | 7.35                                  | 23.35        |
| 204  | Articulated, Euclid, Dumptor, Off Road Material Hauler | 32.89                                   | 18.96                                 | 51.85        |
| 205  | Pavement Marking Vehicle                               | 16.00                                   | 7.35                                  | 23.35        |
| 207  | Truck Mechanic   | 16.00                                   | 7.35                                  | 23.35        |

**LABORERS**

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |  | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|--|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>   | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 301  | General Laborer<br>Premium Increase(s):<br>Add \$.20 for blaster, bracer, manhole builder, caulker, bottomman and power tool; Add \$.55 for pipelayer; Add \$1.00 for tunnel work 0-15 lbs. compressed air; Add \$2.00 for over 15-30 lbs. compressed air; Add \$3.00 for over 30 lbs. compressed air. | 25.60                                   | 14.62                                 | 40.22        |
| 303  | Landscaper   | 25.28                                   | 11.46                                 | 36.74        |
| 304  | Flagperson or Traffic Control Person   | 24.70                                   | 10.72                                 | 35.42        |
| 311  | Fiber Optic Laborer (Outside, Other Than Concrete Encased)   | 18.31                                   | 12.67                                 | 30.98        |
| 314  | Railroad Track Laborer   | 23.46                                   | 3.30                                  | 26.76        |

**HEAVY EQUIPMENT OPERATORS  
SEWER, WATER OR TUNNEL WORK**

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |   | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|---|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>  | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 521  | Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of 130,000 Lbs. or Over; Caisson Rig; Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 176 Ft or Over; Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity Of Over 4,000 Lbs., Crane With Boom Dollies; Master Mechanic; Pile Driver.<br>Premium Increase(s):<br>Add \$.25/hr for all >45 Ton lifting capacity cranes  | 34.62                                   | 18.96                                 | 53.58        |
| 522  | Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Boring Machine (Directional); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump (Over 46 Meter), Concrete Conveyor (Rotec or Bidwell Type); Concrete Spreader & Distributor; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With a Lifting Capacity of 4,000 Lbs. & Under; Dredge (NOT Performing Work on the Great Lakes); Milling Machine; Skid Rig; Telehandler; Traveling Crane (Bridge Type).  | 33.42                                   | 18.96                                 | 52.38        |
| 523  | Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Boring Machine (Horizontal or Vertical); Bulldozer or Endloader (Over 40 hp); Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Concrete Pump (46 Meter & Under), Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Hydro-Blaster (10,000 PSI or Over); Manhoist; Material or Stack Hoist; Mechanic or Welder; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yd or More Capacity; Screed (Milling Machine); Sideboom; Straddle Carrier or Travel Lift; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Tractor or Truck Mounted Hydraulic Crane (10 Tons or Under); Trencher (Wheel Type or Chain Type Having Over 8-Inch Bucket). | 32.89                                   | 18.96                                 | 51.85        |

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |  | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|--|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>   | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 524  | Backfiller; Broom or Sweeper; Bulldozer or Endloader (Under 40 hp); Compactor (Self-Propelled 85 Ft Total Drum Width & Over, or Tractor Mounted, Towed & Light Equipment); Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Concrete Conveyor System; Concrete Finishing Machine (Road Type); Environmental Burner; Fireman (Pile Driver & Derrick NOT Performing Work on the Great Lakes); Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Hoist (Tugger, Automatic); Grout Pump; Jeep Digger; Lift Slab Machine; Mulcher; Power Subgrader; Pump (3 Inch or Over) or Well Points; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Screw or Gypsum Pumps; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Stump Chipper; Tining or Curing Machine; Trencher (Wheel Type or Chain Type Having 8-Inch Bucket & Under); Winches & A-Frames.<br>Future Increase(s):<br>Add \$1.05/hr on 6/2/2014; Add \$1.55/hr on 6/1/2015.<br>Premium Increase(s):<br>Add \$.25/hr for operating tower crane. | 35.11                                   | 19.45                                 | 54.56        |
| 525  | Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Compactor (Self-Propelled 84 Ft Total Drum Width & Under, or Tractor Mounted, Towed & Light Equipment); Crusher, Screening or Wash Plant; Farm or Industrial Type Tractor; Fireman (Asphalt Plant NOT Performing Work on the Great Lakes); Generator (&/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Loading Machine (Conveyor); Post Hole Digger or Driver; Refrigeration Plant or Freeze Machine; Rock, Stone Breaker; Skid Steer Loader (With or Without Attachments); Vibratory Hammer or Extractor, Power Pack.  | 30.19                                   | 20.94                                 | 51.13        |
| 526  | Boiler (Temporary Heat); Forklift; Greaser; Oiler.   | 24.19                                   | 17.89                                 | 42.08        |
| 527  | Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.  | 38.80                                   | 20.17                                 | 58.97        |
| 528  | Work Performed on the Great Lakes Including 70 Ton & Over Tug Operator; Assistant Hydraulic Dredge Engineer; Crane or Backhoe Operator; Hydraulic Dredge Leverman or Diver's Tender; Mechanic or Welder.   | 38.80                                   | 20.17                                 | 58.97        |
| 529  | Work Performed on the Great Lakes Including Deck Equipment Operator or Machineryman (Maintains Cranes Over 50 Tons or Backhoes 115,000 Lbs. or More); Tug, Launch or Loader, Dozer or Like Equipment When Operated on a Barge, Breakwater Wall, Slip, Dock or Scow, Deck Machinery.  | 34.50                                   | 20.04                                 | 54.54        |
| 530  | Work Performed on the Great Lakes Including Deck Equipment Operator; Machineryman or Fireman (Operates 4 Units or More or Maintains Cranes 50 Tons or Under or Backhoes 115,000 Lbs. or Under), Deck Hand, Deck Engineer or Assistant Tug Operator; Off Road Trucks - Great Lakes ONLY.  | 34.50                                   | 20.04                                 | 54.54        |

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|---|
| <b>AIRPORT PAVEMENT OR STATE HIGHWAY CONSTRUCTION</b> |
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Includes all airport projects (excluding buildings) and all projects awarded by the Wisconsin Department of Transportation (excluding buildings).

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**SKILLED TRADES**

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| <u>CODE</u> | <u>TRADE OR OCCUPATION</u>  | <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |   |                    |
|-------------|---|--|---|--------------------|
|             |   | <u>HOURLY<br/>BASIC RATE<br/>OF PAY</u><br>\$                  | <u>HOURLY<br/>FRINGE<br/>BENEFITS</u><br>\$ | <u>TOTAL</u><br>\$ |
| 103         | Bricklayer, Blocklayer or Stonemason  | 32.01  | 17.35                                       | 49.36              |
| 105         | Carpenter   | 30.48  | 15.90                                       | 46.38              |
| 107         | Cement Finisher<br>Future Increase(s):<br>Add \$1.87 on 6/1/14; Add \$1.87 on 6/1/15; Add \$1.75 on 6/1/16.<br>Premium Increase(s):<br>DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.40/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise. | 33.51  | 16.13                                       | 49.64              |
| 109         | Electrician<br>Premium Increase(s):<br>DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.   | 34.07  | 19.25                                       | 53.32              |
| 111         | Fence Erector   | 24.72  | 0.00  | 24.72              |
| 116         | Ironworker  | 31.25  | 19.46                                       | 50.71              |
| 118         | Line Constructor (Electrical)   | 38.25  | 17.31                                       | 55.56              |
| 124         | Painter   | 21.87  | 11.37                                       | 33.24              |
| 125         | Pavement Marking Operator   | 30.00  | 0.00  | 30.00              |
| 126         | Piledriver  | 30.98  | 15.90                                       | 46.88              |
| 133         | Rofer or Waterproofer   | 29.40  | 6.25  | 35.65              |
| 137         | Teledata Technician or Installer  | 21.89  | 11.85                                       | 33.74              |
| 143         | Tuckpointer, Caulker or Cleaner   | 35.25  | 13.15                                       | 48.40              |
| 144         | Underwater Diver (Except on Great Lakes)  | 34.48  | 15.90                                       | 50.38              |
| 150         | Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY  | 34.43  | 15.24                                       | 49.67              |
| 151         | Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY   | 35.50  | 15.89                                       | 51.39              |

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |  | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|--|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>                             | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 152  | Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY | 26.78                                   | 13.63                                 | 40.41        |
| 153  | Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY | 24.86                                   | 12.97                                 | 37.83        |
| 154  | Groundman - ELECTRICAL LINE CONSTRUCTION ONLY          | 21.75                                   | 12.70                                 | 34.45        |
| <b>TRUCK DRIVERS</b>   |  |   |                                       |              |

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |   | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|---|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>  | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 201  | Single Axle or Two Axle   | 34.22                                   | 19.90                                 | 54.12        |
| 203  | Three or More Axle<br>Future Increase(s):<br>Add \$1.30/hr on 6/1/2014.<br>Premium Increase(s):<br>DOT PREMIUM: Pay two times the hourly basic rate on<br>Sunday, New Year's Day, Memorial Day, Independence<br>Day, Labor Day, Thanksgiving Day & Christmas Day.   | 24.52                                   | 17.77                                 | 42.29        |
| 204  | Articulated, Euclid, Dumptor, Off Road Material Hauler<br>Future Increase(s):<br>Add \$1.75/hr on 6/1/14); Add \$1.25/hr on 6/1/15); Add<br>\$1.30/hr on 6/1/16); Add \$1.25/hr on 6/1/17.<br>Premium Increase(s):<br>DOT PREMIUMS: 1) Pay two times the hourly basic<br>rate on Sunday, New Year's Day, Memorial Day,<br>Independence Day, Labor Day, Thanksgiving Day &<br>Christmas Day. 2) Add \$1.50/hr night work premium.<br>See DOT'S website for details about the applicability of<br>this night work premium at: <a href="http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm">http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm</a> . | 29.27                                   | 20.40                                 | 49.67        |
| 205  | Pavement Marking Vehicle  | 23.31                                   | 17.13                                 | 40.44        |
| 206  | Shadow or Pilot Vehicle   | 34.22                                   | 19.90                                 | 54.12        |
| 207  | Truck Mechanic  | 23.31                                   | 17.13                                 | 40.44        |

## LABORERS

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |   | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|---|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>  | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 301  | General Laborer<br>Future Increase(s):<br>Add \$1.60/hr on 6/1/2014.<br>Premium Increase(s):<br>Add \$.10/hr for topman, air tool operator, vibrator or tamper operator (mechanical hand operated), chain saw operator and demolition burning torch laborer; Add \$.15/hr for bituminous worker (raker and luteman), formsetter (curb, sidewalk and pavement) and strike off man; Add \$.20/hr for blaster and powderman; Add \$.25/hr for bottomman; Add \$.35/hr for line and grade specialist; Add \$.45/hr for pipelayer. / DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period). | 29.32                                   | 14.63                                 | 43.95        |
| 302  | Asbestos Abatement Worker   | 24.36                                   | 14.44                                 | 38.80        |
| 303  | Landscaper<br>Future Increase(s):<br>Add \$1.60/hr on 6/1/14.<br>Premium Increase(s):<br>DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).  | 29.32                                   | 14.63                                 | 43.95        |
| 304  | Flagperson or Traffic Control Person<br>Future Increase(s):<br>Add \$1.60/hr on 6/1/2014.<br>Premium Increase(s):<br>DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.   | 25.67                                   | 14.63                                 | 40.30        |
| 311  | Fiber Optic Laborer (Outside, Other Than Concrete Encased)  | 18.31                                   | 12.67                                 | 30.98        |
| 314  | Railroad Track Laborer  | 23.46                                   | 3.30                                  | 26.76        |

**HEAVY EQUIPMENT OPERATORS  
AIRPORT PAVEMENT OR STATE HIGHWAY CONSTRUCTION**

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |   | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|---|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>  | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 531  | Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 176 Ft or Over; Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity Of Over 4,000 Lbs., Crane With Boom Dollies; Traveling Crane (Bridge Type).<br>Future Increase(s):<br>Add \$1.75/hr on 6/1/2014); Add \$1.25/hr on 6/1/2015);<br>Add \$1.30/hr on 6/1/2016); Add \$1.25/hr on 6/1/2017.<br>Premium Increase(s):<br>DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.50/hr night work premium.<br>See DOT'S website for details about the applicability of this night work premium at: <a href="http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm">http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm</a> .   | 36.72                                   | 20.40                                 | 57.12        |
| 532  | Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of 130,000 Lbs. or Over; Caisson Rig; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With A Lifting Capacity Of 4,000 Lbs., & Under; Dredge (NOT Performing Work on the Great Lakes); Licensed Boat Pilot (NOT Performing Work on the Great Lakes); Pile Driver.<br>Future Increase(s):<br>Add \$1.75/hr on 6/1/2014); Add \$1.25/hr on 6/1/2015);<br>Add \$1.30/hr on 6/1/2016); Add \$1.25/hr on 6/1/2017.<br>Premium Increase(s):<br>DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.50/hr night work premium.<br>See DOT'S website for details about the applicability of this night work premium at: <a href="http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm">http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm</a> . | 36.22                                   | 20.40                                 | 56.62        |

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |  | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|--|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>   | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 533  | <p>Air Track, Rotary or Percussion Drilling Machine &amp;/or Hammers, Blaster; Asphalt Heater, Planer &amp; Scarifier; Asphalt Milling Machine; Asphalt Screed; Automatic Subgrader (Concrete); Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. &amp; Under); Bituminous (Asphalt) Plant &amp; Paver, Screed; Boatmen (NOT Performing Work on the Great Lakes); Boring Machine (Directional, Horizontal or Vertical); Bridge (Bidwell) Paver; Bulldozer or Endloader; Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Conveyor System; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump, Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb &amp; Gutter Machine; Concrete Spreader &amp; Distributor; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane Wlth a Lifting Capacity of 25 Tons or Under; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Grout Pump; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Sideboom; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Straddle Carrier or Travel Lift; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Trencher (Wheel Type or Chain Type); Tube Finisher; Tugger (NOT Performing Work on the Great Lakes); Winches &amp; A-Frames.</p> <p>Future Increase(s):<br/>                     Add \$1.75/hr on 6/1/2014); Add \$1.25/hr on 6/1/2015);<br/>                     Add \$1.30/hr on 6/1/2016); Add \$1.25/hr on 6/1/2017.</p> <p>Premium Increase(s):<br/>                     DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day &amp; Christmas Day. 2) Add \$1.50/hr night work premium.<br/>                     See DOT'S website for details about the applicability of this night work premium at: <a href="http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm">http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm</a>.</p> | 35.72                                   | 20.40                                 | 56.12        |

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |  | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|--|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>   | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 534  | <p>Belting, Burlap, Texturing Machine; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed &amp; Light Equipment); Concrete Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Asphalt Plant, Pile Driver &amp; Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; Hoist (Tugger, Automatic); Jeep Digger; Joint Sawyer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Self Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or Without Attachments); Telehandler; Tining or Curing Machine.</p> <p>Future Increase(s):<br/>           Add \$1.75/hr on 6/1/2014); Add \$1.25/hr on 6/1/2015);<br/>           Add \$1.30/hr on 6/1/2016); Add \$1.25/hr on 6/1/2017.</p> <p>Premium Increase(s):<br/>           DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day &amp; Christmas Day. 2) Add \$1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: <a href="http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm">http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm</a>.</p> | 35.46                                   | 20.40                                 | 55.86        |
| 535  | <p>Air Compressor (&amp;/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical &amp; Horizontal); Automatic Belt Conveyor &amp; Surge Bin; Boiler (Temporary Heat); Concrete Proportioning Plant; Crusher, Screening or Wash Plant; Generator (&amp;/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Mudjack; Oiler; Prestress Machine; Pug Mill; Pump (3 Inch or Over) or Well Points; Rock, Stone Breaker; Screed (Milling Machine); Stump Chipper; Tank Car Heaters; Vibratory Hammer or Extractor, Power Pack.</p> <p>Future Increase(s):<br/>           Add \$1.75/hr on 6/1/2014); Add \$1.25/hr on 6/1/2015);<br/>           Add \$1.30/hr on 6/1/2016); Add \$1.25/hr on 6/1/2017.</p> <p>Premium Increase(s):<br/>           DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day &amp; Christmas Day. 2) Add \$1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: <a href="http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm">http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm</a>.</p>   | 35.17                                   | 20.40                                 | 55.57        |
| 536  | Fiber Optic Cable Equipment.   | 26.69                                   | 16.65                                 | 43.34        |
| 537  | Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.  | 38.80                                   | 20.17                                 | 58.97        |
| 538  | Work Performed on the Great Lakes Including 70 Ton & Over Tug Operator; Assistant Hydraulic Dredge Engineer; Crane or Backhoe Operator; Hydraulic Dredge Leverman or Diver's Tender; Mechanic or Welder.   | 38.80                                   | 20.17                                 | 58.97        |

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |   | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|---|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>  | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 539  | Work Performed on the Great Lakes Including Deck Equipment Operator or Machineryman (Maintains Cranes Over 50 Tons or Backhoes 115,000 Lbs. or More); Tug, Launch or Loader, Dozer or Like Equipment When Operated on a Barge, Breakwater Wall, Slip, Dock or Scow, Deck Machinery.   | 34.50                                   | 20.04                                 | 54.54        |
| 540  | Work Performed on the Great Lakes Including Deck Equipment Operator, Machineryman or Fireman (Operates 4 Units or More or Maintains Cranes 50 Tons or Under or Backhoes 115,000 Lbs. or Under); Deck Hand, Deck Engineer or Assistant Tug Operator; Off Road Trucks-Great Lakes ONLY. | 34.50                                   | 20.04                                 | 54.54        |

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| <b>LOCAL STREET OR MISCELLANEOUS PAVING CONSTRUCTION</b> |
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Includes roads, streets, alleys, trails, bridges, paths, racetracks, parking lots and driveways (except residential or agricultural), public sidewalks or other similar projects (excluding projects awarded by the Wisconsin Department of Transportation).

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**SKILLED TRADES**

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| Fringe Benefits Must Be Paid On <u>All</u> Hours Worked |  | HOURLY<br>BASIC RATE<br>OF PAY | HOURLY<br>FRINGE<br>BENEFITS | TOTAL |
|---|--|--------------------------------|------------------------------|-------|
| <u>CODE</u>   | <u>TRADE OR OCCUPATION</u>                                   | \$                             | \$                           | \$    |
| 103   | Bricklayer, Blocklayer or Stonemason                         | 32.01                          | 17.35                        | 49.36 |
| 105   | Carpenter  | 32.93                          | 19.93                        | 52.86 |
| 107   | Cement Finisher  | 31.48                          | 15.68                        | 47.16 |
| 109   | Electrician  | 31.27                          | 22.81                        | 54.08 |
| 111   | Fence Erector  | 24.72                          | 0.00                         | 24.72 |
| 116   | Ironworker   | 31.25                          | 19.46                        | 50.71 |
| 118   | Line Constructor (Electrical)                                | 38.25                          | 17.31                        | 55.56 |
| 124   | Painter  | 24.50                          | 16.60                        | 41.10 |
| 125   | Pavement Marking Operator                                    | 30.00                          | 0.00                         | 30.00 |
| 126   | Piledriver   | 30.98                          | 15.90                        | 46.88 |
| 133   | Rofer or Waterproofer  | 29.40                          | 6.25                         | 35.65 |
| 137   | Teledata Technician or Installer                             | 21.89                          | 11.85                        | 33.74 |
| 143   | Tuckpointer, Caulker or Cleaner                              | 35.25                          | 13.15                        | 48.40 |
| 144   | Underwater Diver (Except on Great Lakes)                     | 38.80                          | 20.17                        | 58.97 |
| 150   | Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY | 34.43                          | 15.24                        | 49.67 |
| 151   | Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY  | 30.60                          | 14.86                        | 45.46 |
| 152   | Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY       | 26.78                          | 13.63                        | 40.41 |
| 153   | Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY       | 24.86                          | 12.97                        | 37.83 |
| 154   | Groundman - ELECTRICAL LINE CONSTRUCTION ONLY                | 21.75                          | 12.70                        | 34.45 |

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**TRUCK DRIVERS**

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| Fringe Benefits Must Be Paid On <u>All</u> Hours Worked |                            | HOURLY<br>BASIC RATE<br>OF PAY | HOURLY<br>FRINGE<br>BENEFITS | TOTAL |
|---|----------------------------|--------------------------------|------------------------------|-------|
| <u>CODE</u>   | <u>TRADE OR OCCUPATION</u> | \$                             | \$                           | \$    |
| 201   | Single Axle or Two Axle    | 30.00                          | 15.00                        | 45.00 |

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |  | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|--|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>                             | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 203  | Three or More Axle                                     | 17.00                                   | 0.00                                  | 17.00        |
| 204  | Articulated, Euclid, Dumptor, Off Road Material Hauler | 32.89                                   | 18.96                                 | 51.85        |
| 205  | Pavement Marking Vehicle                               | 17.00                                   | 0.00                                  | 17.00        |
| 206  | Shadow or Pilot Vehicle                                | 30.00                                   | 15.00                                 | 45.00        |
| 207  | Truck Mechanic   | 17.00                                   | 0.00                                  | 17.00        |

**LABORERS**

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |  | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|--|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>   | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 301  | General Laborer  | 28.07                                   | 13.25                                 | 41.32        |
| 303  | Landscaper<br>Future Increase(s):<br>Add \$1.60/hr on 6/1/14.<br>Premium Increase(s):<br>DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period). | 29.04                                   | 14.63                                 | 43.67        |
| 304  | Flagperson or Traffic Control Person   | 24.70                                   | 10.72                                 | 35.42        |
| 311  | Fiber Optic Laborer (Outside, Other Than Concrete Encased)   | 18.31                                   | 12.67                                 | 30.98        |
| 314  | Railroad Track Laborer   | 23.46                                   | 3.30                                  | 26.76        |

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**HEAVY EQUIPMENT OPERATORS  
CONCRETE PAVEMENT OR BRIDGE WORK**

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| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |   | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|---|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>  | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 541  | <p>Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity Of Over 4,000 Lbs., Crane With Boom Dollies; Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &amp;/or Jib Lengths Measuring 176 Ft or Over; Master Mechanic.</p> <p>Future Increase(s):<br/>Add \$1.75/hr on 6/1/2014); Add \$1.25/hr on 6/1/2015);<br/>Add \$1.30/hr on 6/1/2016); Add \$1.25/hr on 6/1/2017.</p> <p>Premium Increase(s):<br/>DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day &amp; Christmas Day. 2) Add \$1.50/hr night work premium.<br/>See DOT'S website for details about the applicability of this night work premium at: <a href="http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm">http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm</a>.</p>   | 36.72                                   | 20.40                                 | 57.12        |
| 542  | <p>Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of 130,000 Lbs. or Over; Caisson Rig; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With a Lifting Capacity of 4,000 Lbs. &amp; Under; Crane, Tower Crane Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &amp;/or Jib Lengths Measuring 175 Ft or Under; Dredge (NOT Performing Work on the Great Lakes); Licensed Boat Pilot (NOT Performing Work on the Great Lakes); Pile Driver.</p> <p>Future Increase(s):<br/>Add \$1.75/hr on 6/1/2014); Add \$1.25/hr on 6/1/2015);<br/>Add \$1.30/hr on 6/1/2016); Add \$1.25/hr on 6/1/2017.</p> <p>Premium Increase(s):<br/>DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day &amp; Christmas Day. 2) Add \$1.50/hr night work premium.<br/>See DOT'S website for details about the applicability of this night work premium at: <a href="http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm">http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm</a>.</p> | 36.22                                   | 20.40                                 | 56.62        |

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |  | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|--|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>   | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 543  | <p>Air Track, Rotary or Percussion Drilling Machine &amp;/or Hammers, Blaster; Automatic Subgrader (Concrete); Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. &amp; Under); Boring Machine (Directional, Horizontal or Vertical); Bridge (Bidwell) Paver; Bulldozer or Endloader; Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Conveyor System; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump, Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb &amp; Gutter Machine; Concrete Spreader &amp; Distributor; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane With a Lifting Capacity of 25 Tons or Under; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Grout Pump; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Manhoist; Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Sideboom; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Straddle Carrier or Travel Lift; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Trencher (Wheel Type or Chain Type); Tube Finisher; Tugger (NOT Performing Work on the Great Lakes); Winches &amp; A-Frames.</p> <p>Future Increase(s):<br/>           Add \$1.75/hr on 6/1/2014); Add \$1.25/hr on 6/1/2015);<br/>           Add \$1.30/hr on 6/1/2016); Add \$1.25/hr on 6/1/2017.</p> <p>Premium Increase(s):<br/>           DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day &amp; Christmas Day. 2) Add \$1.50/hr night work premium.<br/>           See DOT'S website for details about the applicability of this night work premium at: <a href="http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm">http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm</a>.</p> | 35.72                                   | 20.40                                 | 56.12        |
| 544  | <p>Backfiller; Belting, Burlap, Texturing Machine; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed &amp; Light Equipment); Concrete Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Pile Driver &amp; Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; Jeep Digger; Joint Sawyer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Self Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or Without Attachments); Telehandler; Tining or Curing Machine.</p>  | 33.96                                   | 19.79                                 | 53.75        |
| 545  | <p>Air Compressor (&amp;/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Automatic Belt Conveyor &amp; Surge Bin; Boiler (Temporary Heat); Concrete Proportioning Plant; Crusher, Screening or Wash Plant; Generator (&amp;/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Mudjack; Oiler; Prestress Machine; Pug Mill; Pump (3 Inch or Over) or Well Points; Rock, Stone Breaker; Screed (Milling Machine); Stump Chipper; Tank Car Heaters; Vibratory Hammer or Extractor, Power Pack.</p>  | 30.32                                   | 18.46                                 | 48.78        |
| 546  | Fiber Optic Cable Equipment.   | 26.69                                   | 16.65                                 | 43.34        |

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |   |                                 |                               |              |
|--|---|---------------------------------|-------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>  | <b>HOURLY BASIC RATE OF PAY</b> | <b>HOURLY FRINGE BENEFITS</b> | <b>TOTAL</b> |
|  |   | <b>\$</b>                       | <b>\$</b>                     | <b>\$</b>    |
| 547  | Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.   | 38.80                           | 20.17                         | 58.97        |
| 548  | Work Performed on the Great Lakes Including 70 Ton & Over Tug Operator; Assistant Hydraulic Dredge Engineer; Crane or Backhoe Operator; Hydraulic Dredge Leverman or Diver's Tender; Mechanic or Welder.  | 38.80                           | 20.17                         | 58.97        |
| 549  | Work Performed on the Great Lakes Including Deck Equipment Operator or Machineryman (Maintains Cranes Over 50 Tons or Backhoes 115,000 Lbs. or more); Tug, Launch or Loader, Dozer or Like Equipment When Operated on a Barge, Breakwater Wall, Slip, Dock or Scow, Deck Machinery.     | 34.50                           | 20.04                         | 54.54        |
| 550  | Work Performed on the Great Lakes Including Deck Equipment Operator; Machineryman or Fireman (Operates 4 Units or More or Maintains Cranes 50 Tons or Under or Backhoes 115,000 Lbs. or Under); Deck Hand, Deck Engineer or Assistant Tug Operator; Off Road Trucks - Great Lakes ONLY. | 34.50                           | 20.04                         | 54.54        |

**HEAVY EQUIPMENT OPERATORS  
ASPHALT PAVEMENT OR OTHER WORK**

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |   |                                 |                               |              |
|--|---|---------------------------------|-------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>  | <b>HOURLY BASIC RATE OF PAY</b> | <b>HOURLY FRINGE BENEFITS</b> | <b>TOTAL</b> |
|  |   | <b>\$</b>                       | <b>\$</b>                     | <b>\$</b>    |
| 551  | Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self Erecting Tower Crane With a Lifting Capacity of Over 4,000 Lbs., Crane With Boom Dollies; Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads and/or Jib Lengths Measuring 176 Ft or Over; Master Mechanic.  | 35.12                           | 18.46                         | 53.58        |
| 552  | Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of 130,000 Lbs. or Over; Caisson Rig; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With a Lifting Capacity Of 4,000 Lbs. & Under; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Dredge (NOT Performing Work on the Great Lakes); Licensed Boat Pilot (NOT Performing Work on the Great Lakes); Pile Driver.<br>Future Increase(s):<br>Add \$1.75/hr on 6/1/2014); Add \$1.25/hr on 6/1/2015);<br>Add \$1.30/hr on 6/1/2016); Add \$1.25/hr on 6/1/2017.<br>Premium Increase(s):<br>DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: <a href="http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm">http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm</a> . | 36.22                           | 20.40                         | 56.62        |

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |   | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|---|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>  | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 553  | Air, Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Heater, Planer & Scarifier; Asphalt Milling Machine; Asphalt Screed; Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Bituminous (Asphalt) Plant & Paver, Screed; Boring Machine (Directional, Horizontal or Vertical); Bulldozer or Endloader; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Concrete Conveyor System; Concrete Laser/Screed; Concrete Slipform Placer Curb & Gutter Machine; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane With a Lifting Capacity of 25 Tons or Under; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Manhoist; Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Railroad Track Rail Leveling Machine, Tie Placer, Extractor, Tamper, Stone Leveler or Rehabilitation Equipment; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Sideboom; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Trencher (Wheel Type or Chain Type); Tube Finisher; Tugger (NOT Performing Work on the Great Lakes); Winches & A-Frames. | 32.89                                   | 18.96                                 | 51.85        |
| 554  | Backfiller; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed & Light Equipment); Concrete Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Asphalt Plant, Pile Driver & Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; Hoist (Tugger, Automatic); Jeep Digger; Joint Sawyer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Self-Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or Without Attachments); Telehandler.  | 33.67                                   | 19.48                                 | 53.15        |
| 555  | Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Automatic Belt Conveyor & Surge Bin; Boiler (Temporary Heat); Crusher, Screening or Wash Plant; Generator (&/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Mudjack; Oiler; Prestress Machine; Pug Mill; Pump (3 Inch or Over) or Well Points; Rock, Stone Breaker; Screed (Milling Machine); Stump Chipper; Tank Car Heaters; Vibratory Hammer or Extractor, Power Pack.<br>Future Increase(s):<br>Add \$1.75/hr on 6/1/2014); Add \$1.25/hr on 6/1/2015);<br>Add \$1.30/hr on 6/1/2016); Add \$1.25/hr on 6/1/2017.<br>Premium Increase(s):<br>DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.50/hr night work premium.<br>See DOT'S website for details about the applicability of this night work premium at: <a href="http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm">http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm</a> .   | 35.17                                   | 20.40                                 | 55.57        |
| 556  | Fiber Optic Cable Equipment.  | 26.69                                   | 16.65                                 | 43.34        |

|   |
|---|
| <b>RESIDENTIAL OR AGRICULTURAL CONSTRUCTION</b> |
|---|

Includes single family houses or apartment buildings of no more than four (4) stories in height and all buildings, structures or facilities that are primarily used for agricultural or farming purposes, excluding commercial buildings. For classification purposes, the exterior height of a residential building, in terms of stories, is the primary consideration. All incidental items such as site work, driveways, parking lots, private sidewalks, private septic systems or sewer and water laterals connected to a public system and swimming pools are included within this definition. Residential buildings of five (5) stories and above are NOT included within this definition.

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**SKILLED TRADES**

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| <u>CODE</u> | <u>TRADE OR OCCUPATION</u>   | Fringe Benefits Must Be Paid On <u>All</u> Hours Worked |   |                    |
|-------------|--|---|---|--------------------|
|             |  | <u>HOURLY<br/>BASIC RATE<br/>OF PAY</u><br>\$           | <u>HOURLY<br/>FRINGE<br/>BENEFITS</u><br>\$ | <u>TOTAL</u><br>\$ |
| 101         | Acoustic Ceiling Tile Installer<br>Future Increase(s):<br>Add \$1.25/hr on 6/2/2014. | 33.68   | 19.81                                       | 53.49              |
| 102         | Boilermaker  | 26.00   | 4.73  | 30.73              |
| 103         | Bricklayer, Blocklayer or Stonemason   | 32.01   | 13.26                                       | 45.27              |
| 104         | Cabinet Installer  | 22.00   | 1.05  | 23.05              |
| 105         | Carpenter  | 30.48   | 3.24  | 33.72              |
| 106         | Carpet Layer or Soft Floor Coverer   | 23.68   | 3.20  | 26.88              |
| 107         | Cement Finisher  | 20.93   | 5.94  | 26.87              |
| 108         | Drywall Taper or Finisher  | 22.50   | 0.88  | 23.38              |
| 109         | Electrician  | 27.50   | 7.47  | 34.97              |
| 110         | Elevator Constructor   | 42.86   | 23.84                                       | 66.70              |
| 111         | Fence Erector  | 18.52   | 4.89  | 23.41              |
| 112         | Fire Sprinkler Fitter  | 52.82   | 5.54  | 58.36              |
| 113         | Glazier  | 38.03   | 13.42                                       | 51.45              |
| 114         | Heat or Frost Insulator  | 30.00   | 0.00  | 30.00              |
| 115         | Insulator (Batt or Blown)  | 19.00   | 14.33                                       | 33.33              |
| 116         | Ironworker   | 31.25   | 19.46                                       | 50.71              |
| 117         | Lather   | 30.48   | 3.24  | 33.72              |
| 119         | Marble Finisher  | 26.89   | 19.18                                       | 46.07              |
| 120         | Marble Mason   | 32.01   | 13.26                                       | 45.27              |
| 121         | Metal Building Erector   | 17.00   | 3.82  | 20.82              |
| 123         | Overhead Door Installer  | 12.00   | 0.00  | 12.00              |
| 124         | Painter  | 20.00   | 4.22  | 24.22              |

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |                                  | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|----------------------------------|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>       | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 125  | Pavement Marking Operator        | 30.00                                   | 0.00                                  | 30.00        |
| 129  | Plasterer                        | 25.00                                   | 0.00                                  | 25.00        |
| 130  | Plumber                          | 30.00                                   | 10.62                                 | 40.62        |
| 132  | Refrigeration Mechanic           | 19.75                                   | 8.56                                  | 28.31        |
| 133  | Roofer or Waterproofor           | 17.00                                   | 3.72                                  | 20.72        |
| 134  | Sheet Metal Worker               | 21.03                                   | 3.40                                  | 24.43        |
| 135  | Steamfitter                      | 31.72                                   | 16.10                                 | 47.82        |
| 137  | Teledata Technician or Installer | 24.75                                   | 8.09                                  | 32.84        |
| 138  | Temperature Control Installer    | 22.50                                   | 0.70                                  | 23.20        |
| 139  | Terrazzo Finisher                | 26.89                                   | 19.18                                 | 46.07        |
| 140  | Terrazzo Mechanic                | 30.20                                   | 18.42                                 | 48.62        |
| 141  | Tile Finisher                    | 23.77                                   | 16.50                                 | 40.27        |
| 142  | Tile Setter                      | 21.00                                   | 0.00                                  | 21.00        |
| 143  | Tuckpointer, Caulker or Cleaner  | 32.50                                   | 0.02                                  | 32.52        |
| 146  | Well Driller or Pump Installer   | 27.60                                   | 5.80                                  | 33.40        |
| 147  | Siding Installer                 | 20.18                                   | 0.00                                  | 20.18        |

**TRUCK DRIVERS**

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |                            | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|----------------------------|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b> | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 201  | Single Axle or Two Axle    | 28.05                                   | 4.16                                  | 32.21        |
| 203  | Three or More Axle         | 18.00                                   | 2.37                                  | 20.37        |
| 205  | Pavement Marking Vehicle   | 18.00                                   | 2.37                                  | 20.37        |
| 207  | Truck Mechanic             | 19.00                                   | 1.85                                  | 20.85        |

**LABORERS**

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |                            | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|----------------------------|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b> | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 301  | General Laborer            | 18.14                                   | 10.16                                 | 28.30        |
| 302  | Asbestos Abatement Worker  | 17.00                                   | 3.86                                  | 20.86        |

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |  | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|--|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>                                 | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 303  | Landscaper   | 30.00                                   | 0.00                                  | 30.00        |
| 311  | Fiber Optic Laborer (Outside, Other Than Concrete Encased) | 18.31                                   | 12.67                                 | 30.98        |
| 315  | Final Construction Clean-Up Worker                         | 16.00                                   | 0.00                                  | 16.00        |

**HEAVY EQUIPMENT OPERATORS  
RESIDENTIAL OR AGRICULTURAL CONSTRUCTION**

| <b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b> |  | <b>HOURLY<br/>BASIC RATE<br/>OF PAY</b> | <b>HOURLY<br/>FRINGE<br/>BENEFITS</b> | <b>TOTAL</b> |
|--|--|---|---------------------------------------|--------------|
| <b>CODE</b>  | <b>TRADE OR OCCUPATION</b>   | <b>\$</b>                               | <b>\$</b>                             | <b>\$</b>    |
| 557  | Asphalt Heater, Planer & Scarifier; Asphalt Milling Machine; Asphalt Screed; Backhoe (Track Type); Backhoe (Mini, 15,000 Lbs. & Under); Bituminous (Asphalt) Plant & Paver, Screed; Boring Machine (Directional, Horizontal or Vertical); Bulldozer or Endloader; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Conveyor System; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump, Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Concrete Spreader & Distributor; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane With a Lifting Capacity of 25 Tons or Under; Crane, Shovel, Dragline, Clamshells; Forestry Equipment, TImbco, Tree Shear, Tub Grinder, Processor; Grader or Motor Patrol; Grout Pump; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Manhoist; Material or Stack Hoist; Mechanic or Welder; Milling Machine; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Tractor or Truck Mounted Hydraulic Crane (10 Tons or Under); Trencher (Wheel Type or Chain Type); Winches & A-Frames. | 29.70                                   | 20.08                                 | 49.78        |
| 558  | Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Backfiller; Belting, Burlap, Texturing Machine; Boiler (Temporary Heat); Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed & Light Equipment); Concrete Finishing Machine (Road Type); Farm or Industrial Type Tractor; Forklift; Generator (&/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Jeep Digger; Lift Slab Machine; Mulcher; Oiler; Post Hole Digger or Driver; Power Subgrader; Pump (3 Inch or Over) or Well Points; Robotic Tool Carrier (With or Without Attachments); Rock, Stone Breaker; Roller (Rubber Tire, 5 Tons or Under); Screed (Milling Machine); Self Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or Without Attachments); Stump Chipper; Telehandler; Vibratory Hammer or Extractor, Power Pack.   | 29.70                                   | 16.00                                 | 45.70        |

\*\*\*\*\* END OF RATES \*\*\*\*\*