



**Department
of
Public Works
Infrastructure
Services Division
Facilities Development
& Management Section**

**POLICE ADMINISTRATION BUILDING
MILWAUKEE MUNICIPAL COURT, ROOM 140
DATA ROOM AIR CONDITIONING REPLACEMENT**

951 North James Lovell Street
Milwaukee, Wisconsin

May, 2012

Project Number RM5445146701
Official Notice No. 98

CITY OF MILWAUKEE, WISCONSIN
DEPARTMENT OF PUBLIC WORKS
INFRASTRUCTURE SERVICES DIVISION
FACILITIES DEVELOPMENT &
MANAGEMENT SECTION

PROJECT MANUAL

GOVERNING THE

POLICE ADMINISTRATION BUILDING – MILWAUKEE MUNICIPAL COURT, ROOM 140

DATA ROOM AIR CONDITIONING REPLACEMENT

951 NORTH JAMES LOVELL STREET

MILWAUKEE, WISCONSIN

Project No. RM5445146701

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CITY OF MILWAUKEE
GENERAL OFFICIAL NOTICE
TO CONTRACTORS

Separate sealed bids for each project will be received until 10:30 A.M. of the bid opening date at which time bids will be publicly opened and read for furnishing all material and doing all work for each project in accordance with the requirements of the respective Official Notice on the bid form furnished in accordance with plans, specifications, contract documents, and proposed form of contract on file in the office of the Department of Public Works, Municipal Building, 841 N. Broadway, Room 506, Milwaukee, Wisconsin, 53202.

PROSPECTIVE BIDDERS ARE TO CAREFULLY EXAMINE AND REVIEW ALL CONTRACT DOCUMENTS AND MATERIALS IN SAID OFFICE BEFORE SUBMITTING BID.

AFFIDAVITS OF NO INTEREST MUST ACCOMPANY THE BIDS, AND THE FAILURE OF PROSPECTIVE BIDDERS TO COMPLY WITH THESE REQUIREMENTS MAY DISQUALIFY THE BID.

THE CONTRACTOR/LESSEE AGREES TO COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT OF 1990, 42 U.S.C. § 12101, ET. SEQ. THE TDD NUMBER FOR PUBLIC WORKS IS (414) 286-2025.

As part of the bid each bidder shall submit a list of anticipated subcontractors and the class of work to be performed by each, which list should not be added to nor altered without the written consent of the Commissioner of Public Works.

All contractor(s) and subcontractor(s) are required to furnish or have on file a certificate of insurance in accordance with the insurance provisions of the General Specifications.

All contractor(s) and subcontractor(s) are subject to the prevailing wage rates and hours of labor as prescribed by the Common Council of the City of Milwaukee consistent with provisions of Section 66.0903 of the Wisconsin Statutes.

Copies of the actual work classifications and wage and fringe benefit rates enforced on this project are available in Room 506 of the Municipal Building.

Corporate surety will be required on performance and payment bonds for all projects listed in the following Official Notices. All applicable charter and Statutory provisions and ordinances, all the provisions of this official notice, invitation to bid, general and detailed specifications, special provisions, proposal, schedule of fixed prices, addendum and plans for this project and all other contract documents set forth in the invitation to bid will be incorporated and made part of the contract as if therein set forth in full.

Tie bids, when the lowest ones, will be decided by the Commissioner of Public Works.

The Commissioner of Public Works reserves the right to reject any or all bids.

Signed: GHASSAN KORBAN,
Commissioner of Public Works

Countersigned: MARTIN MATSON,
City Comptroller

00031/1

CITY OF MILWAUKEE
SPECIFIC OFFICIAL NOTICE NO. 98

Important Notice:

The Invitation to Bid, all bid documents and the Plans & Specifications for the project listed will be available electronically to prospective bidders via <http://www.mpw.net/bids/docs/98-2012>. Any required addenda or responses related to the listed projects will be posted on said website. Bidders are encouraged to utilize this electronic method of obtaining bid documents as the Department of Public Works intends to solely use this method for future projects. At this time however, a limited number of hard copies of the above documents will also be available at address listed below. **IF YOU ONLY PRINT THE DOCUMENTS FROM THE WEBSITE AND WOULD LIKE YOUR COMPANY'S NAME PLACED ON THE PLAN HOLDERS' LIST, PLEASE CALL 414-286-3314.**

Sealed bids will be opened on Tuesday, July 03, 2012 at 10:30 A.M. for the **DATA ROOM AIR CONDITONING REPLACEMENT**, located at Police Administration Building Milwaukee Municipal Court, Room 140, 951 North James Lovell Street, Milwaukee, WI.

Bid Security Required: Bond, Certified Check, Cashier's Check, or Cash to accompany bid: 10% of Contractor's Base Bid

Time for Completion: 30 Working Days.

Liquidated Damages, per diem: \$150.00

The MWSBE requirement for this project is 25% of the contract base bid.

(African-American: 5.57%, SBE: 19.43%)

For a complete listing of City of Milwaukee certified M/W/SBE firms, see the Office of Small Business Development's (OSBD) website at <http://city.milwaukee.gov/osbd>. If there are any questions regarding M/W/S/B/E certified firms, please contact OSBD office at (414) 286-5553.

The residency requirement for this project is 40% of all hours worked on the project.

The apprenticeship requirements for this project are: N/A

The contractor shall specifically note the MWSBE, residency, and apprenticeship forms for this project. If the forms are not filled out properly, it will be cause for rejection of the bid.

Plans and project manual will be furnished to the prospective bidders upon payment of a \$10.00 non-refundable fee in room 506, Frank P. Zeidler Municipal Building, 841 North Broadway, Milwaukee, Wisconsin 53202. For general questions call 414-286-3314.

A \$10.00 per set additional non-refundable fee is required to obtain bid documents by mail. Plans are sent via U.S. mail unless other arrangements are made by the contractor.

Contractor must comply with all provisions of the CITY OF MILWAUKEE GENERAL OFFICIAL NOTICE TO CONTRACTORS published herein and at http://mpw.milwaukee.gov/services/bids_home

Pre-Bid Meeting: A Pre-Bid Meeting is scheduled for Tuesday, June 26, 2012, at 2:00 p.m. in Room 606 of the Frank P. Zeidler Municipal Building, 841 North Broadway, Milwaukee, Wisconsin. Bidder participation is urged to become familiar with all aspects of the project and bidding requirements.

Signed:

GHASSAN KORBAN
Commissioner of Public Works

SECTION 00100: INSTRUCTIONS TO BIDDERS

See also Instructions to Bidders in the "General Specifications" of the Department of Public Works, City of Milwaukee, Wisconsin, dated January 31, 1992, and all subsequent addenda.

BID FORM:

Submit a lump sum price for the work as indicated on the drawings and specified herein, complete in every respect.

Bids will not be accepted in any form except on the bid form included with this project manual.

The contractor must recognize and abide by the right of the Owner (City of Milwaukee) to accept or reject any or all bids in the best interests of the City.

CONTRACT AWARD:

The Commissioner of Public Works will award the contract on the basis of the Base Bid only and as funds permit.

CONTRACT BREAKDOWN:

Shortly after the award of the contract, each contractor shall submit a list showing the cost breakdown of the items in his contract. This list will be used as a basis for estimates of work completed for partial payment.

SITE VISIT:

All contractors shall visit the site, consult the drawings and project manual, be familiar with the work of other contractors and determine for himself all conditions affecting the work.

Failure by a contractor to be familiar with the project shall not release him from any obligation under this contract to complete the work in strict conformity with the plans and project manual and all City, State and Federal Codes or regulations pertaining to the work.

TIME FOR COMPLETION:

The time for completion is stated in the Specific Official Notice. The contractor may begin procuring materials and off-site fabricating (as appropriate and approved by engineer) on the date on the Notice to Proceed. The Notice to Proceed will be sent to the contractor directly following the signing of the contract.

ADDITIONAL PLANS/PROJECT MANUALS

The successful contractor will be responsible for furnishing all additional copies of plans, project manuals, addenda, etc., as may be needed by the contractor and subcontractors. The City will cooperate by making originals available to the contractor's printer of choice.

SECTION 00700: GENERAL CONDITIONS1. SCOPE:A. Index:

1. Scope
2. DPW General Specifications
3. Definitions
4. Control of Work and Materials
5. Samples and Tests
6. Project Coordination
7. Supervision of Work
8. Technical Specifications and Drawings
9. Safety Regulations
10. Code Rules

2. Department of Public Works General Specifications:

Provisions of the Department of Public Works General Specifications dated January 31, 1992, and subsequent addenda except as may be modified or expanded upon in this project manual, shall apply to all contractors and subcontractors working on the project. Copies of the General Specifications may be obtained from the Department of Public Works General Office, Room 501 Zeidler Municipal Building, 841 North Broadway, Milwaukee, Wisconsin, or from Facilities Development and Management Section, Room 602, Zeidler Municipal Building.

3. Definitions:

- A. Owner: City of Milwaukee.
- B. Facilities Manager: The Facilities Manager of Facilities Development and Management Section.
- C. Project Inspector: The authorized representative of the Commissioner assigned to make detailed inspection of any or all portions of the work and materials thereof. These inspections are not a substitute to those required by the Department of Neighborhood Services for permit and code compliance.
- D. Addenda: Written or graphic instruments issued prior to the execution of the contract which modify or interpret the bidding documents, including drawings and project manual by additions, deletions, clarifications or corrections. Addenda will become part of the contract documents when the contract is executed.
- E. Contract Drawings: Drawings of the work to be done as listed hereafter in Section 00850 Drawing Schedule and/or Section 00870 Plans and Details.
- F. Utility: WE Energies.
- G. End User: City of Milwaukee.

4. Control of Work and Materials:

- A. Detail and Shop Drawings: Shop drawings and other additional drawings which may be required for each contract of the work shall be prepared by each respective contractor unless

otherwise directed by the Facilities Manager. Prints shall be the same size as contract documents when practical. Prints of each drawing shall be submitted to the Facilities Manager for approval before proceeding with the work. Changes ordered by the Facilities Manager shall be made and revised prints submitted as above. The Facilities Manager's approval of drawings shall not relieve the contractor of responsibility for errors.

- B. Primary Lines and Grades: The City of Milwaukee will mark two building corners along a line and will establish a benchmark, with a relative elevation, within close proximity to the site. Once established by the City, the contractor shall preserve all points and benchmark as long as needed during construction. The contractor will bear all costs associated with re-establishing points and benchmark.
 - C. Construction Lines and Grades: The contractor must bear sole responsibility for the correct transfer of all construction lines and grades from the primary lines and grades points. He shall take such measurements from existing work as may be necessary to insure the proper construction of his work.
 - D. Material Orders and Shipping Statements: The contractor shall furnish to the Facilities Manager at least two (2) copies of all material orders and shipping statements. Itemized weights of the materials and individual units of finished work shall be shown.
 - E. Weighing of Materials and Fabricated Units: The weighing of materials and fabricated units such as structural steel, casings, etc., when required, shall be done in the presence of the Commissioner's representative. The contractor shall be responsible for the satisfactory weighing of such materials and units.
 - F. Consignment and Delivery of Materials: The materials for the work shall be consigned to the contractor and he shall be responsible for the delivery of all materials required for the completion of the contract.
5. Samples and Tests:
- A. Method of Sampling: Samples of the materials proposed or furnished for the work may be taken by the Commissioner at any time; at the point of manufacture, point of delivery or site of work. They will be selected, as far as practicable, in accordance with standard methods of sampling such materials as specified in the standard of the American Society for Testing Material. All sampling shall be done by authorized representatives of the Commissioner. Selections will be in an orderly and systematic manner, insuring samples representative of the lot.
 - B. A.S.T.M. Standards: Wherever the abbreviation A.S.T.M. is used in connection with the number of a standard specification, the specification referred to shall be the Standard of the American Society for Testing Materials, designated by that number, including all revisions in effect on the date of award of the contract. Should a revised or amended standard be issued by the American Society for Testing Materials which, in the opinion of the Commissioner, conflicts with or causes undesirable changes in the standards referred to herein, the Commissioner reserves the right, by means of addenda to the project manual, to continue under the provisions of the pertinent standard referred to herein.
 - C. Cost of Test Specimens and Samples: All test specimens of metals and all samples of non-metals required for tests shall be furnished by the contractor without cost to the City.
 - D. Costs of Tests: All tests on test specimens of metals will be made at the expense of the contractor and the original test on samples of non-metals will be made at the expense of the

City. In all cases, the testing procedure will be in accordance with Standard A.S.T.M. tests for such materials. Subsequent tests of non-metals requested by the contractor, when such tests are permitted by A.S.T.M. Specifications and approved by the Commissioner or subsequent tests ordered by the Commissioner will be made at the expense of the contractor.

6. Project Coordination:

- A. Contractors are required, so far as possible, to arrange work and to dispose of materials so as not to interfere with the work or storage of materials of other contractors or City forces engaged upon the work.
- B. Contractors shall give full cooperation to other trades and furnish any information necessary to permit the work of all trades to be installed satisfactorily and with the least possible interference or delay.
- C. Where the work of a contractor will be installed in close proximity to the work of other trades, or where there is evidence that the work of a contractor will interfere with the work of other trades, he shall assist in working out space conditions to make satisfactory adjustments.
- D. If a contractor installs work before coordinating it with other trades or so as to cause interference with work of other trades, he shall make necessary changes in his work to correct the condition without extra charge.
- E. Contractors are required to join their work to that of others in a proper manner, and in accordance with the spirit of the plans and project manual, and to perform the work in the proper sequence in relation to that of other contractors, and as may be directed by the Project Inspector.

7. Supervision of Work:

- A. Contractors shall furnish the services of an experienced engineer or superintendent.
- B. He shall be constantly in charge of the installation of the work together with all subcontractors, skilled workers, helpers, and labor required to unload, transfer, erect, connect up, adjust, start, operate and test each system.
- C. He shall be thoroughly acquainted with and be responsible for the various subcontractors' work so that it is properly coordinated and supervised to the satisfaction of the Commissioner of Public Works or his representative.
- D. Upon written notice to a contractor of the lack of such coordination and supervision, the Commissioner of Public Works may authorize such services as may be required and deduct the cost of this service at an hourly rate of \$60.00 per hour per worker from the contract for the work.

8. Technical Specifications and Drawings:

A. Governing order of Contract Documents:

- 1. The following provision modifies DPW General Specifications Item 2.1.3.1:

Anything mentioned in the Technical Specifications and not shown on the drawings or shown on the drawings and not mentioned in the Technical Specifications, shall be as if shown on or mentioned in both. In case of difference between drawings and Technical

Specifications, the Technical Specifications shall govern. In case of any discrepancy in drawings or Technical Specifications, the matter shall be immediately submitted to Facilities Development and Management Section for decision. Said discrepancy shall not be adjusted by the contractor.

B. All contractors shall have complete sets of plans and project manuals on the job site at all times.

9. Safety Regulations:

All work shall be done in accordance with the safety requirements referenced in the International Building Code, as adopted and amended by the State of Wisconsin and OSHA.

10. Code Rules:

The rulings, regulations and laws of the following shall be complied with in the completion of this project:

- International IBC Existing Building Code, as amended and adopted by the State of Wisconsin (Renovations/Remodeling)
- International Building Code, as amended and adopted by the State of Wisconsin (New Construction)
- Plumbing and Drainage Codes of the City of Milwaukee
- Ordinances of the City of Milwaukee
- National Board of Fire Underwriters
- OSHA
- NFPA
- FAA
- NEC
- IEEE
- UL

00821/1

SECTION 00821: INSPECTION CHARGES

The contractor will be charged a fee for inspection for each and every day such inspection is required after the time allowed for completion has expired.

The amount of the fee for inspection shall be \$325.00 per day.

Rev. 2/08

The time allowed for completion is stated in the Specific Official Notice and shall start with the date on the Notice to Proceed which will be sent to the contractor directly following the signing of the contract. The time allowed includes the time required for fabricating and procuring material and doing the work at the building site.

PREVAILING WAGE RATE DETERMINATION

Issued by the State of Wisconsin
Department of Workforce Development
Pursuant to s. 66.0903, Wis. Stats.
Issued On: 01/13/2012
Amended On: 03/02/2012

DETERMINATION NUMBER: 201200107

EXPIRATION DATE: Prime Contracts MUST Be Awarded or Negotiated On Or Before 12/31/2012. If NOT, You MUST Reapply.

PROJECT NAME: ALL PUBLIC WORKS PROJECTS UNDER SEC. 66.0903, STATS.-CITY OF MILWAUKEE

PROJECT LOCATION: MILWAUKEE CITY, MILWAUKEE COUNTY, WI

CONTRACTING AGENCY: CITY OF MILWAUKEE-DEPT OF PUBLIC WORKS

CLASSIFICATION:	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: dwd.wisconsin.gov/er/prevailing_wage_rate/Dictionary/dictionary_main.htm .
OVERTIME:	<p>Time and one-half must be paid for all hours worked:</p> <ul style="list-style-type: none">- over 10 hours per day on prevailing wage projects- over 40 hours per calendar week- Saturday and Sunday- 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;- The day before if January 1, July 4 or December 25 falls on a Saturday;- The day following if January 1, July 4 or December 25 falls on a Sunday. <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>
FUTURE INCREASE:	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.
PREMIUM PAY:	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.
DOT PREMIUM:	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.
APPRENTICES:	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.
SUBJOURNEY:	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.

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.

BUILDING OR HEAVY CONSTRUCTION

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.

SKILLED TRADES

<u>CODE</u>	<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u>	<u>HOURLY FRINGE BENEFITS</u>	<u>TOTAL</u>
		\$	\$	\$
101	Acoustic Ceiling Tile Installer	33.43	19.31	52.74
102	Boilermaker	31.09	21.87	52.96
103	Bricklayer, Blocklayer or Stonemason Future Increase(s): Add \$.50 on 6/01/2012; Add \$1.45/hr on 6/01/2013 Premium Increase(s): 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.	35.58	16.37	51.95
104	Cabinet Installer	29.06	15.16	44.22
105	Carpenter Premium Increase(s): 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.	33.43	19.31	52.74
106	Carpet Layer or Soft Floor Coverer	31.68	18.55	50.23
107	Cement Finisher	30.87	16.33	47.20
108	Drywall Taper or Finisher Future Increase(s): Add \$2.20/hr on 6/1/2012	28.97	17.74	46.71
109	Electrician Future Increase(s): Add \$1.40/hr on 6/1/2012. Add \$1.60/hr on 6/1/2013. Premium Increase(s): 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.	31.54	20.95	52.49
110	Elevator Constructor	43.79	25.48	69.27
111	Fence Erector	27.00	0.00	27.00
112	Fire Sprinkler Fitter	36.82	19.03	55.85
113	Glazier	32.25	16.20	48.45
114	Heat or Frost Insulator	33.28	22.45	55.73

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
115	Insulator (Batt or Blown)	23.62	11.55	35.17
116	Ironworker	31.31	21.54	52.85
117	Lather	31.68	18.41	50.09
118	Line Constructor (Electrical)	35.97	18.08	54.05
119	Marble Finisher	31.16	16.27	47.43
120	Marble Mason	35.53	15.92	51.45
121	Metal Building Erector	21.05	7.82	28.87
122	Millwright	28.30	23.29	51.59
123	Overhead Door Installer	26.53	0.00	26.53
124	Painter Future Increase(s): Add \$2.20/hr on 6/1/2012. Premium Increase(s): Add \$.20/hr for paperhanging; Add \$.35/hr for bridge, iron and drywall; Add \$.75/hr for spraying and sandblasting; Add \$.60/hr for EIFS work; Add \$1.00/hr for lead based paint removal.	28.97	17.74	46.71
125	Pavement Marking Operator	26.00	0.00	26.00
126	Piledriver	28.11	23.94	52.05
127	Pipeline Fuser or Welder (Gas or Utility)	30.52	18.84	49.36
129	Plasterer	20.13	1.03	21.16
130	Plumber	36.97	17.47	54.44
132	Refrigeration Mechanic	37.21	19.04	56.25
133	Rofer or Waterproofor Future Increase(s): Add \$.50/hr. effective 06/01/2012	29.40	15.05	44.45
134	Sheet Metal Worker	37.20	16.37	53.57
135	Steamfitter	38.26	19.49	57.75
137	Teledata Technician or Installer Premium Increase(s): 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.	24.65	15.67	40.32
138	Temperature Control Installer	29.63	19.17	48.80
139	Terrazzo Finisher	18.00	5.35	23.35
140	Terrazzo Mechanic	31.16	16.27	47.43

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
141	Tile Finisher	23.76	16.05	39.81
142	Tile Setter	29.95	15.64	45.59
143	Tuckpointer, Caulker or Cleaner Premium Increase(s): 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.	34.35	15.92	50.27
144	Underwater Diver (Except on Great Lakes)	36.20	18.81	55.01
146	Well Driller or Pump Installer	25.32	15.30	40.62
147	Siding Installer	36.60	16.37	52.97
150	Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	27.42	15.10	42.52
151	Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	28.78	15.16	43.94
152	Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	17.80	9.00	26.80
153	Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	23.38	12.48	35.86
154	Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.30	10.97	32.27

TRUCK DRIVERS

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
201	Single Axle or Two Axle	32.32	16.75	49.07
203	Three or More Axle Future Increase(s): Add \$1.75/hr on 6/1/2012; Add \$1.85/hr on 6/1/2013. Premium Increase(s): 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.	22.50	16.19	38.69
204	Articulated, Euclid, Dumptor, Off Road Material Hauler	33.32	17.60	50.92
205	Pavement Marking Vehicle	19.25	10.84	30.09
207	Truck Mechanic	24.91	15.35	40.26

LABORERS

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
301	General Laborer Premium Increase(s): Add \$.11 for mortar mixer, fork lift operator, air and electric equipment and power buggy operators; Add \$.22 for jackhammer operator, certified welder, gunite machineman.	28.82	15.61	44.43
302	Asbestos Abatement Worker	21.58	17.83	39.41
303	Landscaper	12.50	2.20	14.70
310	Gas or Utility Pipeline Laborer (Other Than Sewer and Water)	19.14	15.53	34.67
311	Fiber Optic Laborer (Outside, Other Than Concrete Encased) Premium Increase(s): DOT PREMIUMS: Pay two times the hourly basic rate on New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.	17.24	15.00	32.24
314	Railroad Track Laborer	17.00	1.06	18.06

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

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
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).	32.32	18.18	50.50
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).	33.32	17.60	50.92

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
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.	32.32	17.59	49.91
504	Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	36.20	18.81	55.01
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. Premium Increase(s): Add \$.50/hr for friction crane, lattice boom or crane certification (CCO).	37.45	19.45	56.90
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.	26.80	18.52	45.32
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.	27.75	19.15	46.90

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

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
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. Premium Increase(s): Crane Operators with CCO certification add \$.50/hr. Cranes with boom length over 200 ft. not exceeding 300 ft. OR lifting capacity over 200 ton not exceeding 300 ton add \$.50/hr. Over 300 ton OR 300 ft. add \$.01/hr. per foot OR ton whichever is greater.	39.16	19.10	58.26

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
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). Premium Increase(s): Crane Operators with CCO certification add \$.50/hr.	38.66	19.10	57.76
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). Premium Increase(s): Crane Operators with CCO certification add \$.50/hr.	38.16	19.10	57.26
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). Premium Increase(s): Crane Operators with CCO certification add \$.50/hr.	38.16	19.10	57.26
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; 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; Trencher (Wheel Type or Chain Type Having 8-Inch Bucket & Under); Winches & A-Frames.	37.47	19.10	56.57

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
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; Rock, Stone Breaker; Skid Steer Loader (With or Without Attachments); Vibratory Hammer or Extractor, Power Pack.	30.44	19.10	49.54
514	Gas or Utility Pipeline, Except Sewer & Water (Primary Equipment). Future Increase(s): Add \$2/hr. on 1/1/2013.	34.89	19.68	54.57
515	Gas or Utility Pipeline, Except Sewer & Water (Secondary Equipment).	31.26	17.40	48.66
516	Fiber Optic Cable Equipment	25.74	15.85	41.59

SEWER, WATER OR TUNNEL CONSTRUCTION
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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).

SKILLED TRADES

CODE	TRADE OR OCCUPATION	Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		
		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
		\$	\$	\$
103	Bricklayer, Blocklayer or Stonemason	35.53	15.92	51.45
105	Carpenter Premium Increase(s): 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.	33.43	19.31	52.74
107	Cement Finisher Future Increase(s): Add \$1.86 on 6/1/12; Add \$1.87 on 6/1/13; Add \$1.87 on 6/1/14; Add \$1.87 on 6/1/15; Add \$1.75 on 6/1/16. Premium Increase(s): 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.	27.14	19.22	46.36
109	Electrician Future Increase(s): Add \$1.40/hr on 6/1/2012. Add \$1.60/hr on 6/1/2013. Premium Increase(s): 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.	31.54	20.95	52.49
111	Fence Erector	27.00	0.00	27.00
116	Ironworker Premium Increase(s): 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.	31.31	22.22	53.53
118	Line Constructor (Electrical)	35.97	18.08	54.05
125	Pavement Marking Operator	26.00	0.00	26.00
126	Piledriver	28.11	23.94	52.05
130	Plumber	36.18	16.86	53.04
135	Steamfitter	35.81	19.04	54.85
137	Teledata Technician or Installer	24.65	15.17	39.82

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
143	Tuckpointer, Caulker or Cleaner	34.30	15.47	49.77
144	Underwater Diver (Except on Great Lakes)	36.20	18.81	55.01
146	Well Driller or Pump Installer	24.22	14.80	39.02
150	Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	27.42	15.10	42.52
151	Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	28.78	15.16	43.94
152	Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	17.80	9.00	26.80
153	Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	23.38	12.48	35.86
154	Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.30	10.97	32.27

TRUCK DRIVERS

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
201	Single Axle or Two Axle	23.00	8.64	31.64
203	Three or More Axle	17.54	13.41	30.95
204	Articulated, Euclid, Dumptor, Off Road Material Hauler Future Increase(s): Add \$1.75/hr on 6/1/2012; Add \$1.85/hr on 6/1/2013. Premium Increase(s): 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.	22.50	16.19	38.69
205	Pavement Marking Vehicle	19.25	10.84	30.09
207	Truck Mechanic	17.54	13.41	30.95

LABORERS

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
301	General Laborer Future Increase(s): Add \$1.73/hr on 6/4/2012. Premium Increase(s): Add \$1.92 for bottomman; Add \$2.03 for concrete manhole builder, bracer, jointman, or pipelayer; Add \$4.83 for blaster. Add \$2.00 for all tunnel work under 15 lbs. compressed air; Add \$2.00 for 0-30 lbs. compressed air; Add \$3.00 for over 30 lbs. compressed air.	27.72	15.61	43.33

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked				
CODE	TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
		\$	\$	\$
303	Landscaper	12.50	2.20	14.70
304	Flagperson or Traffic Control Person	22.50	12.90	35.40
311	Fiber Optic Laborer (Outside, Other Than Concrete Encased)	17.09	14.40	31.49
314	Railroad Track Laborer	17.00	1.06	18.06

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

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked				
CODE	TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
		\$	\$	\$
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. Premium Increase(s): Crane Operators with CCO certification add \$.50/hr. Cranes with boom length over 200 ft. not exceeding 300 ft. OR lifting capacity over 200 ton not exceeding 300 ton add \$.50/hr. Over 300 ton OR 300 ft. add \$.01/hr. per foot OR ton whichever is greater.	39.16	19.10	58.26
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). Future Increase(s): Add \$2.05/hr on 6/4/2012. Premium Increase(s): Add \$.25/hr for operating tower crane.	33.91	18.55	52.46

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
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). Future Increase(s): Add \$2.05/hr on 6/4/2012. Premium Increase(s): Add \$.25/hr for operating tower crane.	32.96	18.55	51.51
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.	30.89	18.12	49.01
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. Future Increase(s): Add \$2.05/hr on 6/4/2012. Premium Increase(s): Add \$.25/hr for operating tower crane.	30.51	18.55	49.06
526	Boiler (Temporary Heat); Forklift; Greaser; Oiler.	29.44	18.10	47.54
527	Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	36.20	18.81	55.01

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
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.	36.20	18.81	55.01
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.	26.80	18.52	45.32
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.	26.80	18.52	45.32

AIRPORT PAVEMENT OR STATE HIGHWAY CONSTRUCTION

Includes all airport projects (excluding buildings) and all projects awarded by the Wisconsin Department of Transportation (excluding buildings).

SKILLED TRADES

CODE	TRADE OR OCCUPATION	Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		
		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
		\$	\$	\$
103	Bricklayer, Blocklayer or Stonemason	32.66	15.92	48.58
105	Carpenter Premium Increase(s): 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.	33.43	19.31	52.74
107	Cement Finisher Future Increase(s): Add \$1.86 on 6/1/12; Add \$1.87 on 6/1/13; Add \$1.87 on 6/1/14; Add \$1.87 on 6/1/15; Add \$1.75 on 6/1/16. Premium Increase(s): 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.	29.33	17.03	46.36
109	Electrician	31.64	23.78	55.42
111	Fence Erector	35.62	0.00	35.62
116	Ironworker	31.31	21.54	52.85
118	Line Constructor (Electrical)	35.97	18.08	54.05
124	Painter	27.87	14.39	42.26
125	Pavement Marking Operator	27.87	14.39	42.26
126	Piledriver Premium Increase(s): Add \$.65/hr for Piledriver Loftsmen; Add \$.75/hr for Sheet Piling Loftsmen. 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.	29.56	24.96	54.52
133	Rofer or Waterproofer	28.85	14.60	43.45
137	Teledata Technician or Installer	24.65	15.17	39.82
143	Tuckpointer, Caulker or Cleaner	34.30	15.47	49.77
144	Underwater Diver (Except on Great Lakes)	36.20	18.81	55.01

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
150	Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	33.87	16.10	49.97
151	Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY Premium Increase(s): 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.	29.64	14.64	44.28
152	Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	25.18	13.07	38.25
153	Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	23.38	12.48	35.86
154	Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.30	10.97	32.27

TRUCK DRIVERS

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
201	Single Axle or Two Axle Future Increase(s): Add \$1.75/hr on 6/1/2012; Add \$1.85/hr on 6/1/2013. Premium Increase(s): 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.	22.35	16.19	38.54
203	Three or More Axle	24.91	15.63	40.54
204	Articulated, Euclid, Dumptor, Off Road Material Hauler Future Increase(s): Add \$1.75/hr on 6/1/2012; Add \$1.85/hr on 6/1/2013. Premium Increase(s): 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.	22.50	16.19	38.69
205	Pavement Marking Vehicle	23.84	14.70	38.54
206	Shadow or Pilot Vehicle	24.76	15.35	40.11
207	Truck Mechanic	24.91	15.63	40.54

LABORERS

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
301	General Laborer Future Increase(s): Add \$1.60/hr on 6/1/2012; Add \$1.70/hr on 6/1/2013; Add \$1.60/hr on 6/1/2014. Premium Increase(s): Add \$.15/hr for air tool operator, joint sawer and filler (pavement), vibrator or tamper operator (mechanical hand operated), chain saw operator and demolition burning torch laborer; Add \$.35/hr for bituminous worker (raker and luteman), formsetter (curb, sidewalk and pavement) and strike off man; Add \$.50/hr for line and grade specialist; Add \$.65/hr for blaster and powderman; Add \$2.01/hr for topman; Add \$2.46/hr for bottomman; Add \$3.23/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).	24.34	17.85	42.19
302	Asbestos Abatement Worker	22.00	16.86	38.86
303	Landscaper	23.71	15.03	38.74
304	Flagperson or Traffic Control Person Future Increase(s): Add \$1.60/hr on 6/1/2012; Add \$1.70/hr on 6/1/2013; Add \$1.60/hr on 6/1/2014. Premium Increase(s): 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.	20.83	17.85	38.68
311	Fiber Optic Laborer (Outside, Other Than Concrete Encased)	17.09	14.40	31.49
314	Railroad Track Laborer	17.00	1.06	18.06

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

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
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). Future Increase(s): Add \$2/hr on 6/1/12; Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Increase(s): 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).	34.22	18.90	53.12
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. Future Increase(s): Add \$2/hr on 6/1/12; Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Increase(s): 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).	33.72	18.90	52.62

Fringe Benefits Must Be Paid On All Hours Worked

<u>CODE</u>	<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u> \$	<u>HOURLY FRINGE BENEFITS</u> \$	<u>TOTAL</u> \$
533	<p>Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Heater, Planer & 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. & Under); Bituminous (Asphalt) Plant & 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 & Gutter Machine; Concrete Spreader & 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 & A-Frames.</p> <p>Future Increase(s): Add \$2/hr on 6/1/12; Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14.</p> <p>Premium Increase(s): 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).</p>	33.22	18.90	52.12

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
534	<p>Belting, Burlap, Texturing Machine; 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; Tining or Curing Machine.</p> <p>Future Increase(s): Add \$2/hr on 6/1/12; Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14.</p> <p>Premium Increase(s): 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).</p>	32.96	18.90	51.86
535	<p>Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Automatic Belt Conveyor & Surge Bin; Boiler (Temporary Heat); Concrete Proportioning Plant; 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.</p> <p>Future Increase(s): Add \$2/hr on 6/1/12; Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14.</p> <p>Premium Increase(s): 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).</p>	32.67	18.90	51.57
536	Fiber Optic Cable Equipment.	24.39	15.45	39.84
537	Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	36.20	18.81	55.01

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
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.	36.20	18.81	55.01
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.	26.80	18.52	45.32
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.	26.80	18.52	45.32

LOCAL STREET OR MISCELLANEOUS PAVING CONSTRUCTION
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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).

SKILLED TRADES

CODE	TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
		\$	\$	\$
103	Bricklayer, Blocklayer or Stonemason	35.53	15.92	51.45
105	Carpenter	29.06	15.16	44.22
107	Cement Finisher	27.57	16.33	43.90
109	Electrician Future Increase(s): Add \$.50/hr. effective 06/04/2012. Premium Increase(s): 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.	28.74	17.86	46.60
111	Fence Erector	27.00	0.00	27.00
116	Ironworker	31.31	21.54	52.85
118	Line Constructor (Electrical)	35.97	18.08	54.05
124	Painter	28.47	16.74	45.21
125	Pavement Marking Operator	26.00	0.00	26.00
126	Piledriver	28.11	23.94	52.05
133	Rofer or Waterproofer	28.85	14.60	43.45
137	Teledata Technician or Installer	24.65	15.17	39.82
143	Tuckpointer, Caulker or Cleaner	34.30	15.47	49.77
144	Underwater Diver (Except on Great Lakes)	36.20	18.81	55.01
150	Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	35.42	12.90	48.32
151	Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	28.78	14.42	43.20
152	Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	25.18	13.07	38.25
153	Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	23.38	12.48	35.86
154	Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.30	10.97	32.27

TRUCK DRIVERS

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
201	Single Axle or Two Axle	15.00	0.00	15.00
203	Three or More Axle	20.00	6.00	26.00
204	Articulated, Euclid, Dumptor, Off Road Material Hauler Future Increase(s): Add \$1/hr on 6/3/2012; Add \$1/hr on 6/2/2013.	31.89	17.98	49.87
205	Pavement Marking Vehicle	19.25	10.84	30.09
206	Shadow or Pilot Vehicle	15.00	0.00	15.00
207	Truck Mechanic	20.00	6.00	26.00

LABORERS

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
301	General Laborer	21.73	17.04	38.77
303	Landscaper	22.96	15.37	38.33
304	Flagperson or Traffic Control Person Future Increase(s): Add \$1.60/hr on 6/1/2012; Add \$1.70/hr on 6/1/2013; Add \$1.60/hr on 6/1/2014. Premium Increase(s): 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.	23.55	13.45	37.00
311	Fiber Optic Laborer (Outside, Other Than Concrete Encased)	17.09	14.40	31.49
314	Railroad Track Laborer	17.00	1.06	18.06

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

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
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 &/or Jib Lengths Measuring 176 Ft or Over; Master Mechanic.</p> <p>Future Increase(s): Add \$2/hr on 6/1/12; Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14.</p> <p>Premium Increase(s): 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).</p>	34.22	18.90	53.12
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. & 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.</p> <p>Future Increase(s): Add \$2/hr on 6/1/12; Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14.</p> <p>Premium Increase(s): 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).</p>	33.72	18.90	52.62

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
543	Air Track, Rotary or Percussion Drilling Machine &/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. & 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 & 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; 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 & A-Frames.	31.89	18.22	50.11
544	Backfiller; Belting, Burlap, Texturing Machine; 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 (Pile Driver & 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. Future Increase(s): Add \$2/hr on 6/1/12; Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Increase(s): 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).	33.22	18.90	52.12

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
545	Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Automatic Belt Conveyor & Surge Bin; Boiler (Temporary Heat); Concrete Proportioning Plant; 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.	30.42	17.58	48.00
546	Fiber Optic Cable Equipment.	24.39	15.45	39.84
547	Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	36.20	18.81	55.01
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.	36.20	18.81	55.01
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.	26.80	18.52	45.32
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.	26.80	18.52	45.32

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

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
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.	38.06	18.10	56.16

Fringe Benefits Must Be Paid On All Hours Worked

<u>CODE</u>	<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u> \$	<u>HOURLY FRINGE BENEFITS</u> \$	<u>TOTAL</u> \$
552	<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. & 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.</p> <p>Future Increase(s): Add \$2/hr on 6/1/12; Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14.</p> <p>Premium Increase(s): 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).</p>	33.72	18.90	52.62
553	<p>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.</p>	31.52	17.50	49.02

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	<u>TOTAL</u>
<u>CODE</u>	<u>TRADE OR OCCUPATION</u>	\$	\$	\$
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. Future Increase(s): Add \$2/hr on 6/1/12; Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14.	32.67	18.55	51.22
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. Future Increase(s): Add \$2/hr on 6/1/12; Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14.	32.67	18.55	51.22
556	Fiber Optic Cable Equipment.	24.39	15.45	39.84

RESIDENTIAL OR AGRICULTURAL CONSTRUCTION

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.

SKILLED TRADES

<u>CODE</u>	<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u>	<u>HOURLY FRINGE BENEFITS</u>	<u>TOTAL</u>
		\$	\$	\$
101	Acoustic Ceiling Tile Installer	27.00	1.16	28.16
102	Boilermaker	31.09	21.87	52.96
103	Bricklayer, Blocklayer or Stonemason	26.22	13.80	40.02
104	Cabinet Installer	26.00	2.33	28.33
105	Carpenter	31.68	7.03	38.71
106	Carpet Layer or Soft Floor Coverer	21.40	6.01	27.41
107	Cement Finisher	28.00	10.10	38.10
108	Drywall Taper or Finisher Future Increase(s): Add \$2.20/hr on 6/1/2012	28.97	17.74	46.71
109	Electrician	31.10	6.01	37.11
110	Elevator Constructor	43.79	25.48	69.27
111	Fence Erector	17.64	4.66	22.30
112	Fire Sprinkler Fitter	36.39	16.97	53.36
113	Glazier	36.23	8.04	44.27
114	Heat or Frost Insulator	29.04	19.73	48.77
115	Insulator (Batt or Blown)	11.00	2.51	13.51
116	Ironworker	23.05	4.06	27.11
117	Lather	28.15	15.14	43.29
119	Marble Finisher	31.16	16.27	47.43
120	Marble Mason	35.53	15.92	51.45
121	Metal Building Erector	15.19	2.00	17.19
123	Overhead Door Installer	23.00	8.00	31.00
124	Painter	23.00	2.81	25.81

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
125	Pavement Marking Operator	26.00	0.00	26.00
129	Plasterer	30.36	7.15	37.51
130	Plumber	37.42	17.92	55.34
132	Refrigeration Mechanic	25.00	0.51	25.51
133	Rofer or Waterproofor Future Increase(s): Add \$.50/hr. effective 06/01/2012	29.40	15.05	44.45
134	Sheet Metal Worker	28.15	15.14	43.29
135	Steamfitter	32.59	11.05	43.64
137	Teledata Technician or Installer	19.23	5.32	24.55
138	Temperature Control Installer	22.00	2.64	24.64
139	Terrazzo Finisher	18.00	5.35	23.35
140	Terrazzo Mechanic	31.16	16.27	47.43
141	Tile Finisher	23.96	15.50	39.46
142	Tile Setter	27.00	1.91	28.91
143	Tuckpointer, Caulker or Cleaner	32.50	1.62	34.12
146	Well Driller or Pump Installer	27.60	0.00	27.60
147	Siding Installer	16.00	0.00	16.00

TRUCK DRIVERS

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
201	Single Axle or Two Axle	16.25	2.25	18.50
203	Three or More Axle	17.00	7.63	24.63
205	Pavement Marking Vehicle	19.25	10.84	30.09
207	Truck Mechanic	19.00	1.75	20.75

LABORERS

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
301	General Laborer	17.50	6.16	23.66
302	Asbestos Abatement Worker	17.00	2.21	19.21
303	Landscaper	11.00	2.07	13.07
311	Fiber Optic Laborer (Outside, Other Than Concrete Encased)	17.09	14.40	31.49

**HEAVY EQUIPMENT OPERATORS
RESIDENTIAL OR AGRICULTURAL CONSTRUCTION**

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
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, Timberco, 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.	32.56	10.76	43.32
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.	17.40	0.44	17.84

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

SECTION 00850: DRAWING SCHEDULE

The following listed drawings accompany and form a part of the project contract documents along with this project manual and generally illustrate the nature of the work.

See Section 00870 for additional drawings which are included within this project manual.

<u>Sheet No.</u>	<u>Title</u>
H-1	First Floor HVAC Plan
H-2	Second Floor HVAC Plan
H-3	Third Floor HVAC Plan

SECTION 01010: SUMMARY OF WORK:

1. SCOPE:

A. Index:

1. Scope
2. Project Description
3. Work by Others
4. Scheduling of Work

2. PROJECT DESCRIPTION:

A. In general, the project encompasses the Data Room Air Conditioning Replacement at the Milwaukee Municipal Court, Room 140, Milwaukee, Wisconsin.

B. Furnish all labor, materials, equipment and incidentals required for the Data Room Air conditioning Replacement in the Milwaukee Municipal Court, Room 140 as outlined in the plans and project manual. The controls shall be extended to monitoring status to the Police Administration Building's Trane Tracer Summit BAS Network.

C. The Milwaukee Municipal Court will occupy the site during construction. The contractor is required to coordinate all construction with Milwaukee Municipal Court, to minimize impact to Milwaukee Municipal Court operations and to ensure the safety of Milwaukee Municipal Court employees, the public and property.

C. Examine Documents and Visit Site:

1. Before submitting a bid proposal, bidders should carefully examine the drawings and specifications; visit the site of work; fully inform themselves as to all existing conditions and limitations, including those of labor; and shall include in the bid proposal a sum sufficient to cover the cost of all items contemplated by the construction documents.
2. Each sub-bidder further represents that he has inspected the site of the proposed work to ascertain any obstacles that might be encountered and other matters and conditions relevant to this work.
3. The nature of the work required demands thorough review of all drawings and the project manual, and diligent and careful site inspection by all prospective sub-bidders as a means of determining the extent of work and conditions under which the work is to be performed.
4. Additional charges will not be as considered for work which, prior to bidding, could reasonably be inferred as appropriate by examination of the drawings and specifications, visiting the site, and closely reviewing the work as indicated above. No representations as to subsurface conditions are made.

D. The following outline is intended to serve as a general guide only and not as a complete listing of work, operations, or materials. Consult the Table of Contents for complete listing of items included. Refer to plans and project manual for complete overview.

1. Take all measurements and check all elevations and dimensions given on the drawings or required for this work.

2. Procure all necessary permits and arrange for Project Inspector to be on the job when necessary.
3. Demolish power sources to demolished equipment and provide power to each new device.
4. Remove abandoned finned pipe radiation and cap piping as indicated.
5. Remove and properly dispose of exiting Liebert Unit and associated accessories.
6. Drain refrigerant from air conditioning unit, collect, and remove refrigerant piping and condensing unit. Drain Glycol from system and drycooler, remove drycooler, glycol pump, expansion tank and piping.
7. Furnish and install glycol cooled direct drive dry cooler, expansion tank glycol pump, self-contained air conditioning unit (Liebert Challenger 3000 Air Cooled, 5 Ton Unit, R407C refrigerant, infrared humidifier), piping, valves, controls, etc, as shown or required.
8. Engage the services of a qualified roofing contractor to install pipe portal on the roof and to flash equipment supports as required.
9. Provide all required penetrations through interior walls, exterior walls and floors where shown on plans. Provide curbs, curb adapters, and safing and seal air and water tight.
10. Furnish and install sleeves for all pipes passing through roof, masonry wall and floors.
11. Start-up, test and balance the air conditioning system and check for proper operation.
12. Contractor shall provide all temporary cooling as required to keep the Data Room operational during construction.
13. Provide warranty, start-up services, O & M manuals, record as-built drawings and all other specified documentation.
14. All required approvals and necessary permits and fees shall be obtained for this project.
15. Make all necessary connections to existing systems.
16. Coordinate with the Building Manager for all systems tie-ins.
17. All work of this project shall comply with City of Milwaukee and State of Wisconsin codes, NEC and the NFPA.
18. Attend regularly scheduled construction meeting until project completion.
19. Demolition, Removal, and Disposal:
 - a. Contractor shall be responsible for all costs associated with demolition, removal, and disposal of indicated equipment and material.
 - b. Contractor shall be responsible for repairing any damage caused to building or

building components through demolition and removal process.

- c. Contractor shall follow all Wisconsin Department of Natural Resources and Environmental Protection Agency, as well as any other state or national regulations, regarding disposal of equipment or materials removed from building.

- 20. Contractors shall maintain any special security procedures that are in place at the site.
- 21. Due to the nature of the operation of the building, that building security is high.
- 22. Contractors shall maintain access to parking lot at all times.
- 23. Contractor shall provide a list of workers including subcontractor's workers that will be on the job site. The list shall include company name, employee name, and employee date of birth, sex and race. MPD will do a background check on all workers.
- 24. Temperature Control contractor shall install a room temperature and humidity sensor in the Data Room. The sensors shall report high/low humidity and temperature alarms to the Trane Tracer Summit BAS system.
- 25. The temperature controls contractor shall coordinate their installation with the Trane Company to allow for information exchange between the buildings' BAS and the information shared with the Trane Supervisory Controller. Any questions regarding the existing controls or the interface shall be directed to Allan Lantz of the Trane Company at 414 266-5222.

3. WORK BY OTHERS:

- A. None.

4. SCHEDULING OF WORK:

- A. All of the work on this project shall be accomplished between 7:00 AM and 5:00 PM on regular work days unless it will be disruptive to City personnel (excessive noise, welding, soldering, torching, domestic water shutdown, etc.) then it must be accomplished between 6:00 PM and 6:00 AM on workdays or on weekends. Work may also be scheduled on evenings and weekends as necessary to meet project schedule.
- B. This contractor shall protect existing equipment by covering, moving, and/or relocating this equipment from all construction debris.
- C. The contractor shall sign in and identify all personnel working at the site on a daily basis with the supervisor in charge at the site.
- D. Work is scheduled to be completed in the time shown on the Official Notice.
- E. The City reserves the right of not allowing the contractor to work when special events are scheduled for the building. These changes in work schedule shall be done at no additional cost to the City.
- F. Shut downs of existing equipment and connections to existing equipment must be arranged in advance with the Project Inspector from DPW, ISD - Facilities Development and Management Section. Power outages must be scheduled for Saturdays.

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- G. Dispose of all removed materials in legal manner.

SECTION 01210: PROJECT MEETINGS1. SCOPE:A. Index:

1. Scope
2. Pre-Construction Meeting
3. Progress Meetings

2. PRE-CONSTRUCTION MEETING:

- A. Soon after the award of the contract and prior to the start of construction, the contractor shall attend a pre-construction conference with representatives of the City.
- B. The contractor shall have at the meeting responsible representatives from subcontractors who are to perform major work on the project.
- C. The purpose of the meeting is to discuss in detail the plans and specifications. The discussion shall include:
 1. Schedule
 2. Equipment
 3. Material Storage
 4. Traffic Control
 5. Inspection Requirements
 6. Protection Procedures for the structure, adjacent facilities, environment, and personnel.
 7. Hours of Work
- D. The contractor shall submit the construction schedule to the architect/engineer at this meeting and a listing of subcontractors and their work. The contractor shall describe, in detail, when each portion of the work is expected to be accomplished. The subcontractors shall participate in the discussion. The architect/engineer will serve to interpret the contract documents should such questions arise.
- E. Any other questions that the contractor or his subcontractors have about the work or its scheduling shall be raised at these meetings.
- F. Requirements for contract administration and construction operations will be defined for participants.
- G. The architect/engineer will determine time, date, and place of the meeting.

3. PROGRESS MEETINGS:

- A. Bi-weekly meetings will be held for the purpose of coordinating and expediting the work.
- B. Attendance at project meetings by the contractor is mandatory. These meetings shall also be attended by representatives of each subcontractor who is either working at the site or is affected by work being done at the site. The contractor shall submit an updated construction schedule at these meetings and a short narrative should be written, describing the cause of any delays and intended action to remedy these delays.

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- C. Contractors shall give a verbal report of progress on the project, discuss the work schedule for the coming period, and present all conflicts, discrepancies, or other difficulties for resolution.

SECTION 01300: SUBMITTALS/PERMITS

1. SCOPE:

A. Index:

1. Scope
2. Submittals
3. Permits
4. Inspection

2. SUBMITTALS:

A. Comply with the requirements of the General Conditions and as follows:

1. Forward Submittals not more than 20 calendar days after the Notice to Proceed date. No work, as indicated on any shop drawing, samples, hardware list, etc., shall be started until those submittals have been reviewed and work authorized.
2. All submittals must be thoroughly reviewed by the prime contractor for conformance to contract documents, prior to submission to the City, or its agents, for review. Shop drawings and catalog information shall be stamped "Reviewed By" and signed by the contractor's reviewer. The prime contractor shall review all subcontractor submittals prior to submittal to the City for compliance with contract documents and to coordinate all work.
3. Include with each submittal a transmittal letter signed and dated by the prime contractor containing the following:
 - a. Name of Contractor
 - b. Name of Project
 - c. List of Submittals
 - d. Name of Manufacturer or Supplier
 - e. Additional information as required for the items being provided.

B. Shop Drawings, Catalog Information, Calculations, and Samples:

1. Shop Drawings: Submit one blue/black line print review. The City will notify the contractor in writing and return one copy marked "REVIEWED - NO EXCEPTIONS TAKEN" with minor or no notations. The City will also notify the contractor in writing and return one copy, along with comments, when the drawings are marked either "REJECTED" or "REVISE AND RESUBMIT". For those shop drawings, the contractor will be responsible for resubmitting a new print.
2. Catalog Information and Calculations: Submit four copies for City's record and additional numbers of copies required for the contractor's purpose. The City will notify the contractor in writing and return the contractor's copies, with or without notation,

marked either "REVIEWED - NO EXCEPTIONS TAKEN", "REVISE AND RESUBMIT", OR "REJECTED". Catalog information or calculations marked "REVISE AND RESUBMIT" or "REJECTED" must be resubmitted in the same quantities as originally required.

3. Samples: Submit two samples of requested materials for the City's records and additional samples, if desired, to be returned to the contractor. The City will notify the contractor in writing, whether the samples are approved or rejected. If they are rejected, new samples must be resubmitted as originally required.
 4. Corrections or comments made on the submittals during the review do not relieve the contractor from compliance with requirements of the contract documents. The check is only for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. Contractors are responsible for conforming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating their work with that of all other trades; and performing their work in a safe manner.
- C. "Or Equal": Whenever the words "or equal" or similar term is used, it shall mean as determined by the Commissioner of Public Works or agent. All drawings, data and bulletins necessary to make an "or equal" determination shall be submitted to the Facilities Manager of Buildings & Fleet Services. Such review shall apply to design only and shall in no way relieve the contractor from the responsibilities as outlined in Item 2B above. Evaluation of "or equal" products will be made at the time of shop drawing submission. Any change required in design and coordination between all contractors, subcontractors, or trades due to the use of "or equal" materials shall become the contractor's responsibility. Any costs for detailed engineering reviews and/or any costs to incorporate "or equal" products will be borne by the contractor.
3. PERMITS:
 - A. The City of Milwaukee will provide the general building and occupancy permits.
 - B. Contractors shall obtain, from the City of Milwaukee Department of City Development and/or other government or private agencies, all special permits as may be necessary in their work.
 - C. Contractors shall obtain all permits to occupy or work in the public way as may be necessary for their work.
 - D. Contractors shall notify the City and/or appropriate utilities when making utility connections as part of the project.
 4. INSPECTION:
 - A. Facilities Development and Management Section, project inspector will provide daily inspection to verify compliance with contract documents, identify contractors and crews on the job, verify compliance with contract conditions (MWSBE, residency, wage requirements), and record job progress and conditions.

- B. Contractors shall arrange with the Department of Neighborhood Services/Construction Trades Division and permit issuing agencies for all code compliance inspections as required by all permits including, but not limited to, the general building and all special permits issued by that agency.**
- C. Contractors shall arrange with the appropriate City agency for compliance inspections, as required, for all permits including, but not limited to, curb and pavement cuts and patches, and public way occupancy and utility connections.**

SECTION 01500: JOB SITE UTILITIES, FACILITIES, AND SECURITY1. SCOPE:A. Index:

1. Scope
2. Building Security
3. Temporary or Trial Usage
4. Occupancy During Construction
5. Temporary hoists, Lifts
6. Temporary Ladders, Scaffolds
7. Electrical Power
8. Water
9. Toilet Facilities
10. Parking
11. Barricades and Signage

2. BUILDING SECURITY:A. General:

The Downtown Complex is open to the public from 8:00 AM until 4:45 PM, Monday through Friday, excluding holidays. Since most contracted work takes place outside normal business hours, it is essential that contractors and their City agents understand and abide by security policy.

Outlying buildings are not generally open to the public. Contracted work in these buildings can take place at any time. It is essential that contractors and their City agents understand and abide by security policy.

B. Police Access (General):

1. Access to Milwaukee Police Department facilities requires the contractor to meet the following access procedures.
2. The Police Department require that all contractors, vendors, visitor or other who intend to do business at any Police Department site must have a background check performed by the Milwaukee Police Department PRIOR to any access.
3. All contractors' staff requiring access to the site, including any subcontractors, suppliers or vendors will be required to submit their full name (including full middle name), birth date, sex and race to allow the Department to perform the necessary background check. The contractor shall provide a staff list two weeks before work begins. At this time contractor shall provide a brief outline of the work, project schedule, and company contact information (company name, contact name and title, phone number and address). All stated information shall be submitted to the Construction Project Inspector.
4. To add staff during the course of the project provide the same information as above and allow 48 hours for a response.
5. The Contractor will be notified if the worker does not pass the background check.
6. Sign in and sign out will be required at all Milwaukee Police Department facilities.

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C. Scope:

At the beginning of any project, a copy of this policy and procedure statement will be added to

the project manual for bid consideration and shall be distributed at the Pre-Construction Meeting. All City agents/officials responsible for engaging contractors, all contractors, and all subcontractors shall be held responsible for following the procedures.

D. City Agents/Officials:

1. Any City agents/officials who commission outside contractors to work in any of the facilities managed by Facilities Development and Management Section shall provide the following information no less than twenty-four (24) hours in advance of the work:

a. The names of any contract or subcontract employees who will be present in the facilities (for the purpose of designing badges appropriate to their work area):

Green – Zeidler Municipal Building, 841 North Broadway
Red – City Hall, 200 East Wells Street
Yellow – 809 North Broadway
Gold – Any outlying buildings

These names must be listed on a sign-in sheet available in the Zeidler Municipal Building, Room 602, DPW-Facilities Development & Management. City shall be responsible to ensure the sheet and badges are transported to the appropriate location where the work is to be completed (City Hall Information Center for the Downtown Complex, for outlying buildings to the designated Facility Manager) before work is to begin.

b. A list of keys and/or access cards required for access only to the areas necessary for work involved in the project. The keys and card will be received from the Security Manager or his designee and signed out to the City agents/officials responsible for the contracted work. The City employee will take the keys and/or access cards to the City Hall Information Center or the person responsible for controlling access in the outlying building where they shall be logged under the name of the contractor's company. When a project is complete, the City agents/officials must retrieve the keys/cards and return them to Facilities Development and Management Section support staff in Room 602 of the Zeidler Municipal Building.

E. Contractors:

1. Contractors shall abide by City security policy and procedures at all times during the scope of their participation in a project. Failure to comply will result in the contracted employee being escorted from the premises and the resulting lost time and expense shall be deducted from the contractor's invoice or penalties of \$50.00 per occurrence as determined by the contracting City agent/official.

a. All access should be provided in advance through the City agent/official. Contractors shall enter and exit only through those doors designated by the City (the Market Street entrance to City Hall and the doors established by the person responsible for access at outlying buildings). All other exterior doors are locked and alarmed and are not to be used as delivery points unless the City agent/official has been provided 24 hour notification to provide additional security coverage at that point while the delivery is in progress.

b. All of the contractor's employees and all of the employees of any of his subcontractors shall wear at all times while on the site, in a clearly visible

location, an identification card. The identification card is to have a minimum 1" x 1" color photo of the head and shoulders. The photo is to have been taken no more than one year previously. The card is to be laminated with clear plastic and is to contain the company name, employee's name, and the employee's signature, and is to be furnished by the contractor or respective subcontractor.

F. Key or Key Card Access: **Effective October 1, 2004** - The following policy has been established to maintain control of City Property and to ensure the physical protection of the City Hall Complex. Signing out access cards and/or keys from the Information Center will be following the steps below.

- 1) Sign in on the sheet assigned to the project you are working on and pull that sheet and provide it to the Operator noting that you will need to sign out City property to access the building.
- 2) Provide the Operator your driver's license as collateral for the return of City property.
- 3) Sign out the property in the sign out book as per current policy.
- 4) The Operator will file your driver's license until such time as you sign in and return the City property at which time your license will be returned.
- 5) Sign out at the end of your workday on the sign out sheet.
- 6) Under NO circumstances will keys or cards be disbursed without the user signing for the property and providing the City Hall Operator their driver's license as collateral.
- 7) In the event that keys or cards are not returned daily the contractor in question will have a deduct (security violation) **\$50.00** penalty for each occurrence, as per the contract. Individuals who loose or fail to return keys will be responsible for the cost of re-keying to the City.
- 8) Contractors shall not ask custodians or mechanics to unlock doors. In the rare case where access is not provided, the City Hall Operator may be contacted to assist in providing access. The contractor should be prepared to allow searches of equipment when leaving, and should remain only in the areas designated on the sign-in sheets.

G. Dock Access: If the contractor requires use of the loading dock in Upper Parking, 24 hour advance notice shall be given to the City agent/official to make arrangements to provide additional security coverage while the delivery is in progress. The contractor or subcontractor shall meet the delivery driver and take delivery at that point. At no time shall a driver be allowed in the facilities without following the access procedure stated above.

H. Outlying Building Access:

- 1) If after normal business hours work is required in the outlying buildings, all subcontractors and trades will arrange appropriate security measures and lock-up procedures with the contractor in writing. Any work completed at night shall be left "open" for City inspection of the work. The contractor shall notify the City agent/official 24 hours in advance of after-hours work in writing, indicating the type of work to be done

and the security measures to be taken by the contractor.

- 2) The contractor shall provide plywood door and window closures during construction to secure the structure from weather and damage from vandalism. The contractor is responsible to maintain the security of the space where they are working during construction.
- 3) If proper notification is not provided to the contractor, the subcontractor or trades shall be liable for any subsequent damage/vandalism/inspection cost, etc., due to lack of security/inspection coordination.
- 4) Use of City materials is strictly prohibited unless pre-arranged through the City employee contact.
- 5) At no time shall any interior doors that control access or exterior doors be propped open.

3. TEMPORARY OR TRIAL USAGE:

The owner shall have the right to make temporary or trial usage of any mechanical device, machinery, apparatus, equipment, work, material or construction supplied under contract before final completion or acceptance of the work, and the same shall not be construed as evidence of acceptance of the work by the owner.

4. OCCUPANCY DURING CONSTRUCTION:

The owner will occupy the premises while work is in progress. Contractor is to coordinate his work as to not interfere with the owner's operation or compromise building security.

5. TEMPORARY HOISTS, LIFTS:

Contractors and subcontractors requiring hoists or lifts shall provide their own and remove upon completion of work.

6. TEMPORARY LADDERS, SCAFFOLDS:

- A. Contractors and subcontractors requiring scaffolds, chutes, and ladders shall provide their own and remove them upon completion of work.
- B. Each contractor shall furnish and maintain equipment such as fixed ladders, chutes, and the like as required for proper execution of their work.

7. ELECTRICAL POWER:

- A. Contractor may use existing outlets for power. Contractor is to supply his own extension cords. All current used will be provided and paid by the City of Milwaukee.
- B. OSHA regulations require that employers use either ground fault circuit interrupters or an assured equipment grounding conductor problem in addition to any other regulations for equipment grounding conductors.

8. WATER:

Contractor may use existing hose bibs for water. Contractor is to supply his own hoses. Contractor's hoses shall be leak free and contractor is to regulate the flow to limit it to project related use. The cost

of the water will be paid for by the City.

9. TOILET FACILITIES:

Contractor may use existing toilet facilities in the building but will then be responsible to ensure that the facility is kept in a sanitary condition.

10. PARKING:

Contractor is responsible for parking of vehicles. No parking areas will be provided by the City.

11. BARRICADES AND SIGNAGE:

Contractor is to provide barricades and signage as required by OSHA and City/State Codes for their work.

SECTION 01505: CONSTRUCTION WASTE MANAGEMENT

PART 1 - GENERAL

1.1 SCOPE:

- A. This section specifies requirements for salvaging, recycling and disposing of construction waste for purposes of protecting the environment and reducing project cost.

Requirements include the following:

1. Developing a Construction Waste Management Plan including waste management goals and provisions for waste reduction and recycling.
2. Implementing, monitoring and documenting the waste management plan.
3. Incorporating special programs.
4. Evaluating construction waste management.

1.2 RELATED DOCUMENTS AND SECTIONS:

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

B. Related documents include the following

1. Section 01010 "Summary of Work"
2. Section 01300 "Submittal & Permits"
3. Section 001500 "Utilities, Facilities, and Security" for environmental-protection measures during construction.

1.3 PRECONSTRUCTION MEETING:

- A. After award of Contract and prior to the commencement of the Work, schedule and conduct a meeting with the Owner and Architect to discuss the proposed Construction Waste Management Plan and to develop a mutual understanding regarding details of environmental protection.

1.4 CONSTRUCTION WASTE MANAGEMENT PLAN:

A. Construction Waste Management Plan

1. The purpose of the Construction Waste Management Plan is to identify construction waste reduction goals, identify targeted materials, and explain specific waste reduction actions to be taken, by whom, and when.
2. The Contractor shall develop a Construction Waste Management Plan for this Project within 15 working days after Contract award or prior to any waste removal. The Owner and the Architect will furnish the Contractor with information that will assist in the development of the Construction Waste Management Plan. Submit the Construction Waste Management Plan (include document/report form) to the Architect for approval prior to implementing the Plan.

B. The Plan, which should be entered into and generated by WasteCapTRACE, shall include the following:

1. **A list of the waste materials expected to be generated from the Project debris.**
 2. **A list of each material proposed to be salvaged, reused, recycled and discarded. Identify applicable markets for reuse and recycling. At a minimum, all materials required by state law to be recycled shall be recycled (e.g., cardboard, cans, bottles, office paper, fluorescent tubes, refrigerants, mercury, etc.) and scrap metal shall be recycled.**
 3. **Separation and materials handling procedures: Description of how waste materials identified above will be separated, cleaned (if necessary) and protected from contamination.**
 4. **Educational and Motivational Procedures: Meetings to be held and other proposed methods for educating construction personnel regarding waste reduction and recycling. Construction waste management requirements should be discussed at least monthly at project site meetings.**
 5. **Waste Auditing Procedures: Methods of monitoring and enforcing the Plan.**
 6. **Documentation Procedures: Methods of documenting materials leaving the Project site as waste, for the reuse or recycling to allow Summary of Waste Progress Reports to be submitted with Applications for Payment.**
 7. **The Lead contractor shall distribute copies of the Construction Waste Management Plan to DPW's Project manager.**
- C. Progress Documentation: Document solid waste disposal and diversion. Include the date of removal, type of waste removed, quantity by weight and volume, final destination and use (recycled, reused or land filled), and net cost or income.
1. Document on the Form acceptable to the Owner and Architect.
 2. With each Application for Payment, submit updated documentation identifying solid waste disposal and diversion.
 3. With each Application for Payment, submit manifests, weight tickets, receipts and invoices identifying the Project and construction waste material.
- D. Record Submittals: Submit the following:
1. Summary of solid waste disposal and diversion. Submit on form acceptable to the Owner and Architect.
 2. End-of-Project recycling rates and landfill rates demonstrating the percentage of construction waste that was recycled or reused.

1.5 WASTE MANAGEMENT GOALS:

- A. Develop Construction Waste Management Plan that results in end-of-Project rates for the reuse/recycling of **50%** percent by weight or volume of total waste generated by the Project. Record the total construction waste reduction goal on the Construction Waste Management Plan Form.
- 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: The Contractor and Subcontractors shall reuse materials to the greatest extent possible. Reuse includes the following:
 1. Salvage reusable materials for resale, for reuse on this Project, or for storage for use on future projects.

2. 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 greatest extent possible.

1.6 MATERIALS HANDLING AND SORTING:

A. Handling:

1. Materials that are contaminated prior to placing in collection containers shall be properly cleaned. Deliver materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to recycling processes.
2. Cover materials with tarps and keep truckloads level so as to prevent spillage.
3. Arrange for collection by or delivery to the appropriate recycling or reuse facility.
4. Hazardous Waste and Hazardous Materials: Handle in accordance with applicable regulations. If encountered, such waste and materials shall be abated under separate contract.

B. 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.

1.7 WASTE MANAGEMENT PLAN IMPLEMENTATION:

- A. The Contractor shall designate a party (or parties) who shall be responsible for instructing construction personnel and overseeing and documenting results of the Construction Waste Management Plan.
- B. Distribution: The Contractor shall distribute copies of the Construction Waste Management Plan to the Project Foreman, each Subcontractor, the Owner, and the Architect
- C. Instruction: The Contractor shall provide on-site instruction regarding appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all construction personnel at the appropriate phases of the Project.
- D. Separation Facilities: The Contractor shall lay out and identify a specific area on the Project site to facilitate separation of materials for recycling, salvage, reuse, and return. Recycling and waste bin areas shall be kept neat and clean, and clearly marked to avoid contamination of materials. Materials for recycling include concrete, non-fibrous wallboard, paper, clean corrugated cardboard (no pizza boxes), non-treated wood, metals (steel, aluminum and copper), and glass bottles (no windows). Provide separate containers, preferably near the job trailer, with smaller containers located at convenient places throughout the job site. Empty smaller containers into larger containers every night or when full. Cover outdoor containers to keep out rain, snow, and wind-driven debris. Lock containers whenever site is not in use to prevent illegal dumping.
- E. Hazardous Waste: Hazardous waste shall be separated, stored, and disposed of according to applicable regulations.

- F. Application for Payments: With each Application for Payment, the Contractor shall submit a Summary of Waste generated by the Project. **This reporting shall take place using WasteCapTRACE, an online documentation system. There is a fee, to be included in the bid, of two cents per square foot of gross construction for use of WasteCapTRACE.** Failure to submit this information shall render the Application for Payment void, thereby delaying the Progress Payment. The Summary of Waste shall contain the following information:
1. The amount (in tons and/or cubic yards) of material land filled from the Project, the identity of the landfill, and the related disposal cost. Include corresponding manifests, weight tickets, receipts, and invoices.
 2. For each material recycled from the Project, the amount (in tons and/or cubic yards), the date removed from the Project site, the receiving party, the transportation cost, the amount of any money paid or received for the recycled or salvaged material, and the net total cost or savings of recycling. Include corresponding manifests, weight tickets, receipts, and invoices.
 3. **Final Payment: Prior to application for Final Payment, the Lead Contractor shall submit a Final Summary of Waste: reuse and recycling results for all prime and subcontractors, including the quantity of each material recycled, reused, or salvaged, the receiving party and the applicable diversion rates. The final report will be generated by WasteCapTRACE based on information entered throughout the project by the Lead Contractor.**
- G. Implementing the Plan: The Contractor shall designate a party (or parties) responsible for implementing the Construction Waste Management Plan. This party (or parties) shall explain to Contractor's and Subcontractor's construction personnel, the Plan's goals and methods for achieving those goals.

1.8 SPECIAL PROGRAMS:

- A. The Contractor shall be responsible for final implementation of programs involving tax credits, rebates, or similar incentives related to recycling, if applicable to the Project. Revenues or other savings obtained for recycling or returns shall accrue to the Contractor.
- B. The Contractor shall be responsible for obtaining information packets related to the special programs prior to commencing Work.
- C. The Contractor shall document work methods, recycled materials, etc., as required for the tax credits, rebates, or other savings described above.

END OF SECTION

SECTION 01600: MATERIALS AND EQUIPMENT1. SCOPE:A. Index:

1. Scope
2. Materials
3. Equipment
4. Hazardous Material Requirements
5. Material Storage
6. Protection
7. Revisions

2. MATERIALS:

- A. Furnish materials of the type, qualities, and characteristics specified. The specification of a trade name and catalog number is intended to establish quality, type, character, and operating characteristics of the material required. Materials by other manufacturers of equal specifications will be accepted, excepting as may be specifically stated otherwise.
- B. Materials shall be delivered adequately protected, in merchantable condition, and in original unbroken packages if normally packaged. They shall be stored and handled so as to protect and maintain their merchantable condition.
- C. The Commissioner of Public Works or his representative shall have the right to reject material not in compliance with the project manual, as well as damaged material, and the contractor shall remove such material from the construction site when and as directed.

3. EQUIPMENT:

- A. Internal combustion engine and compressor shall be equipped with mufflers to reduce noise to a minimum and shall not be operated in enclosed areas without adequate ventilation.
- B. All materials and work procedures used shall be in accordance with all air pollution control regulations in effect at the work site.

4. HAZARDOUS MATERIAL REQUIREMENTS:

- A. The requirements set forth in the OSHA Hazard Communication Standard, 29CFR19101.1200, U.S. Environmental Protection Agency (EPA), and Wisconsin Department of Natural Resources in the Wisconsin Administrative Code NR600, shall be met by each on-site contractor.

1. Material Safety Data Sheets (M.S.D.S.):

- a. All contractors, which may/may not include the City of Milwaukee, shall provide the M.S.D.S. for all hazardous chemicals to which any person may be exposed at the work site.
- b. A master list will be kept in the office of the Project Supervisor/Construction Manager and updated as materials are delivered.

2. Container Labeling:

- a. Each container of hazardous material at the work site shall be clearly labeled with:
 - (1) Identity of the hazardous chemical(s).
 - (2) Appropriate hazard warning(s).
 - (3) Name and address of the manufacturer.
 - B. The City of Milwaukee reserves the right to stop the work of a contractor if compliance with OSHA regulations is inadequate. Work will not proceed until all applicable safety and health procedures are implemented by the contractor.
5. MATERIAL STORAGE:
- A. The storage areas shall be kept in good order and free of all rubbish and debris.
 - B. Coordinate the delivery and storage of all materials and equipment with Facilities Development and Management Project Inspector.
 - C. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
 - D. Store and protect products in accordance with manufacturers' instructions.
 - E. Store with seals and labels intact and legible.
 - F. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
 - G. For exterior storage of fabricated products, place on sloped supports above ground.
 - H. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
 - I. Prevent contact with material that may cause corrosion, discoloration, or staining.
 - J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
 - K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.
6. PROTECTION:
- A. The premises and the work shall be adequately protected from damage from the commencement of work to the date of final acceptance.
 - B. All construction work and traffic shall remain within the construction area.
 - C. All damage shall be corrected or repaired by the contractor or contractors causing same at his or their own expense.

D. All open pipes, pipe threads, fittings, and insulation must be protected during construction.

7. REVISIONS:

The right is reserved to make modifications to a reasonable extent as building conditions may require, or as may be required to conform to code rulings, or manufacturer's standards without extra cost to the City.

SECTION 01700: CLEANING AND PROJECT CLOSE-OUT

1. SCOPE:

A. Index:

1. Scope
2. General
3. Safety Cleaning
4. Progress Cleaning
5. Disposal
6. Final Cleaning
7. Charges
8. Record Drawings
9. Operating Instructions & Maintenance Manuals
10. Guarantees

2. GENERAL:

Article 2.5.4 of the General Requirements of City of Milwaukee Department of Public Works shall be supplemented as specified hereinafter.

3. SAFETY CLEANING:

Safety cleaning: Each contractor is responsible for safety cleaning, which includes but is not limited to the following:

- A. Keep work areas, passageways, ramps, stairs, free of debris and scrap.
- B. Form and scrap lumber shall have nails withdrawn or bent over and lumber shall be stacked or removed.
- C. Remove spills of oil, grease, or other liquids immediately.
- D. Hazardous material shall be handled in accordance with Section 01600. Each container of hazardous material at the work site shall be clearly labeled with:
 - a. Identity of the hazardous chemical(s)
 - b. Appropriate hazard warning(s).

4. PROGRESS CLEANING:

- A. Prime Contractor and subcontractor shall remove his rubbish and debris from building site promptly upon its accumulation, and prior to the contractor's regular Friday general clean up. Contractor shall perform broom cleaning of all appropriate surfaces each Friday afternoon.
- B. Combustible waste shall be stored in fire resistive containers and disposed of regularly.
- C. Oily, flammable or hazardous wastes such as caustics, acids, harmful dusts, etc., shall be stored in appropriate covered containers.
- D. All solvents and cleaners used on this project must be rated as containing low or no volatile organic compounds (VOC's).

5. DISPOSAL:

- A. No burning of rubbish or debris will be allowed at site. No rubbish shall be thrown through opening or from heights without proper protection. Where dust will be generated or flying debris is likely to occur, provide dust tight chutes or other means to control dust.
- B. Containers: Contractor shall provide mobile industrial type waste containers in the number and size required, placed at adequate locations to handle debris or provide other methods of disposing of debris.
- C. Oil, flammable or hazardous wastes such as, but not limited to, caustics, acids, harmful dusts, etc., shall be placed in properly marked containers as necessary and disposed of at a site designed for such wastes.

6. FINAL CLEANING:

- A. Immediately prior to substantial completion.
- B. Contractors shall expedite or perform thorough cleaning, sweeping, washing and polishing of work to remove from work and equipment provided under his contract, all foreign matter, spots and soil, so as to put all such work and equipment, including finishes, in a complete and finished condition ready for acceptance and use intended.
- C. The contractor is responsible for final sweeping and dusting not covered by other subcontractors. This general cleaning shall include all areas and floors of the building, including the site outside the building.
- D. All solvents and cleaners used on this project must be rated as containing low or no volatile organic compounds (VOC's).

7. CHARGES:

- A. If prime contractor does not remove rubbish or clean building as specified above, the owner reserves right to have work done by others at contractor's expense.
- B. Employees or contracted services of the owner who are required to clean up any rubbish or to sweep any floors because prime contractor failed to do so will record all hours involved to complete such work. The cost incurred by the owner for this special cleaning and sweep-up work shall be charged against the contract price of the contractor as determined by owner.

8. RECORD DRAWINGS:

- A. If the completion of work and prior to final payment, the mechanical and electrical contractors shall provide FACILITIES DEVELOPMENT AND MANAGEMENT SECTION with three (3) marked up sets of prints showing all changes or variations from contract drawings, and not specified on change order drawings theretofore issued. Contractors providing buried or concealed piping, conduit, or similar items shall locate such items by dimensions and elevations. Additionally, provide one (1) electronic copy (pdf) of the record drawings,
- B. Other contractors shall provide one (1) marked up set of prints showing all changes or variations from contract drawings.
- C. Drawings shall show complete layout of revised piping, equipment, etc., as actually installed.

9. OPERATING INSTRUCTIONS AND MAINTENANCE MANUALS:

- A. The contractor shall, upon completion of all work, furnish the necessary skilled labor to instruct City personnel in the operation, adjustment, and maintenance of all equipment furnished.
- B. At termination of work, the contractor shall submit maintenance and operating manuals presenting full details of care and maintenance and operation of mechanical and electrical equipment of every nature. See specific requirements in relevant sections as applicable.
- C. The manual shall include manufacturer's instructions for maintenance and operation and shall be completely indexed, including the spare parts list. See specific requirements in relevant sections.
- D. Submit three (3) final copies in hard bound cover to FACILITIES DEVELOPMENT AND MANAGEMENT SECTION.
- E. Contractor shall provide qualified personnel onsite to provide a minimum of four (4) hours of training to Owner's representatives.

10. GUARANTEES:

- A. Each contractor shall guarantee to replace or repair promptly at his own expense, as directed by the Commissioner of Public Works or his agent, all workmanship or materials in which defects may develop within one (1) year from the date of final acceptance of his work. This guarantee includes all damage done to the City due to faulty equipment, poor installation or poor construction.
- B. Guarantee periods other than the one year time period are indicated in specific specification sections.

SECTION 01820: TRAINING

1. SCOPE:

A. Index:

1. Scope
2. Training, Operations Instructions, and Maintenance Manuals

2. TRAINING, OPERATIONS INSTRUCTIONS, AND MAINTENANCE MANUALS:

A. This contractor shall, upon completion of the work, instruct City personnel in the operation, adjustment, and maintenance of the HVAC equipment, HVAC controls, fire protection, and life/safety (fire alarms) systems, and lighting controls (by City of Milwaukee).

1. Training for HVAC equipment.
2. Training for HVAC controls.
3. Training for fire protection and life/safety (fire alarms) systems.
4. Training for electrical lighting controls (by City of Milwaukee).

B. Training for HVAC Equipment:

Two levels of on-site training exist for the Downtown Complex Facilities Management staff. In addition to two levels of training, off-site training is appropriate for advanced subjects and particular employees. In total, there are three types of training. The number of training hours varies and is dependent on the scope of the project and complexity of the equipment.

1. On-Site Training:

- a. Factory certified trainer to provide training for managers, engineers, mechanics, electricians, and technicians.
- b. Service representative to provide operations and maintenance training.

2. Training Hours and Frequency (On-Site Training):

a. Level I:

To be provided upon the completion of the project. Training will be a 1 day minimum. Use of O & M manuals is required. Training is administered in a classroom and field setting (no more than 4 hours at a given session). Reference manufacturer's course offerings for details. This project will require a minimum of 8 hours of training. Level I training is administered to managers, engineers, mechanics, electricians, technicians, and others who interact with HVAC equipment and facilities maintenance.

b. Level II:

Two hour segments, 1 time per hear, 2nd shift only, 2 hours per year (depending in complexity) total. This training serves as both a review and a

systems development preview.

C. Training for HVAC Controls:

Two levels of on-site training exist for the Downtown Complex Facilities Management staff. In addition to the two levels of training, off-site training is appropriate for advanced subjects and particular employees. In total, there are three types of training. The number of training hours varies and is dependent on the scope of the project and complexity of the equipment.

1. On-Site Training:

- a. Factory certified trainer to provide training for managers, engineers, mechanics, electricians, technicians, and support staff.
- b. Service representative to provide operations and maintenance training.
- c. Training for switchboard operators and facility supervisors.

2. Off-Site Training:

- a. Off-site training is reserved for complex applications where the factory has a technical training schedule specific to troubleshooting, systems diagnostics, maintenance, and operations. Typically, there will be beginning, intermediate, and advanced level courses offered by the manufacturer. **The course will be selected by the Operations and Maintenance Manager.**

3. Training Hours and Frequency (On-Site Training):

a. Level I:

To be provided upon the completion of the project. Training will be a 1 day minimum. Use of O & M manuals is required. Training is administered in a classroom setting (no more than 4 hours at a given session). Reference manufacturer's course offerings for details. This project will require a minimum of 8 hours of training. Level I training is administered to managers, engineers, mechanics, electricians, technicians, support staff, and others who interact with equipment, hardware, software, and facilities maintenance.

b. Level II:

Two hour segment, 1 time per year, 2nd shift, 2 hours per year total. This training serves as both a review and a systems development preview.

D. Training for Fire protection and Life/Safety (Fire Alarm) Systems:

Two levels of on-site training exist for the Downtown Complex Facilities Management staff. In addition to the two levels of training, off-site training is appropriate for advanced subjects and particular employees. In total, there are three types of training. The number of training hours varies and is dependent on the scope of the project and complexity of the equipment.

1. On-site Training:

- a. Factory certified trainer to provide training for managers, engineers, mechanics, electricians, technicians, and support staff.
- b. Service representative to provide operations and maintenance training.
- c. Training for switchboard operators and facility supervisors.

2. Off-Site Training:

- a. Off-site training is reserved for complex applications where the factory has a technical training schedule specific to troubleshooting systems diagnostics, maintenance, and operations. Typically, there will be beginning, intermediate, and advanced level courses offered by the manufacturer. **The Operations and Maintenance Manager will select classes.**

3. Training Hours and Frequency (On-Site Training):

a. Level I:

To be provided upon the completion of the project. Training will be a 2 day minimum. Use of O & M manuals is required. Training is administered in a classroom setting (no more than 4 hours at a given session). Reference manufacturer's course offerings for details. This project will require a minimum of 8 hours training. Level I training is administered to managers, engineers, mechanics, electricians, support staff, and others who interact with equipment, hardware, software, and facilities maintenance.

b. Level II:

Two hour segment 1 time per year, 2nd shift and 3rd shift, 2 hours per year total. This training serves as both a review and a systems development preview.

E. Training for Electrical Lighting Controls (City of Milwaukee):

Provide two levels of on-site training for the Downtown Complex Facilities Management staff and tenants.

1. On-Site Training:

- a. Factory certified trainer to provide training for managers, engineers, mechanics, electricians, and technicians.
- b. Service representative to provide operations and maintenance training.

2. Training Hours and Frequency:

a. Level I:

To be provided upon the completion of the project. Training will be a 2 hour minimum administered on-site. Level I training is administered to the tenant, managers, engineers, mechanics, electricians, technicians, and others who interact with equipment, hardware, software, and facilities maintenance.

b. Level II:

Two hour segment once per year. This training serves as both a review and a systems development preview.

F. Verification and Validation of Training:

1. An outline of the training and test materials shall be provided to the City's facility O & M Manager two weeks prior to the training sessions. Corrections, additions, and deletions will be at the discretion of the O & M Manager within a week of receiving the test. All written materials, graphs, cue cards, trainer's notes, and phone numbers will accompany the outline for preview.
2. A ½ hour test shall be provided to the City's operations staff. This test shall be given after each of the HVAC equipment, HVAC controls, and fire protection and life/safety (fire alarms) systems Level I on-site training sessions. This test shall include written true and false, essay questions, and hands-on field work performance.

G. Materials:

1. An edited videotape of the training will be provided.
2. All prepackaged videotapes, training software, and textbooks from the manufacturer, specific to the training, will be provided.

H. At the submittal stage, the contractor shall submit maintenance and operating manuals presenting full details of care and maintenance and operation of mechanical and electrical equipment of every nature.

I. The manual shall include manufacturer's instructions for maintenance and operation and shall be completely indexed, including the spare parts list.

J. Submit three (3) final copies in hardbound cover and one (1) electronic copy (pdf) to DPW, ISD - Facilities Development and Management Section.

K. Contractor shall provide to the City a video recording (DVD) of all equipment installed under this contract. Tape shall be provided prior to the installation of any ceilings.

L. Contractor shall video record (DVD) one training session and turn over to the City for future reference.

SECTION 15050: HVAC BASIC MATERIALS AND METHODS

1. SCOPE: Applicable requirements of Instructions to Bidders, General, and Special Conditions of Contract apply to work specified in this section.

- A. Index:

1. Scope
 2. General Requirements
 3. Demolition
 4. Openings and Sleeves
 5. Hangers, Supports, and Anchors
 6. Pipe Labels and Equipment Identification

2. GENERAL REQUIREMENTS:

- A. All work shall be executed in a thorough, substantial, and workmanlike manner.
 - B. Only experienced mechanics shall be employed.
 - C. Drawings show general location of piping and ducts which shall be adhered to unless otherwise approved. Additional minor offsets and transitions may be required to accommodate field conditions and shall be provided at no extra cost to the owner.
 - D. Exact locations to be determined in the field.
 - E. No change in pipe or duct size without approval.
 - F. Close all pipe and duct openings, etc., with proper caps and fittings to prevent obstructions in or damage of any kind while the building construction is in progress.
 - G. All elevations given are to be checked by this contractor. Any major conflicts are to be reported to the Facilities Development and Management Section.
 - H. Protect all equipment, etc., during installation.
 - I. Damaged equipment must be completely replaced.
 - J. Repaired equipment will not be accepted.

3. DEMOLITION:

- A. Drain refrigerant from air conditioning unit, collect, and remove refrigerant piping and condensing unit. Drain Glycol from system and drycooler, remove drycooler, glycol pump, expansion tank and piping.
 - B. Remove air conditioning unit.
 - C. Remove and cap abandoned fin-pipe radiation.
 - D. The City retains the right to salvage any material removed. All equipment removed and not salvaged by the City shall be properly disposed of by this contractor.

4. OPENINGS AND SLEEVES:

- A. Accurately locate openings in walls, floor, and roof for ducts and piping. This contractor shall be responsible for setting his own sleeves and providing wall, floor, and roof openings.
- B. In event that holes must be cut, they must be drilled to avoid spalling and unnecessary damage or weakening of structure. Any sleeves placed in core-drilled holes shall be mortared in place by this contractor.
- C. Chopping or breaking out will not be allowed.
- D. Before drilling through concrete obtain Project Inspector's permission and proceed as directed.
- E. Any damage resulting from this work must be repaired to match existing construction to the satisfaction of the Project Inspector in charge.
- F. Sleeves for sheet metal ducts shall be made of 20 gauge galvanized steel.
- G. Sleeves for pipes passing through walls and floors shall be galvanized steel pipe large enough to accommodate the pipe and insulation and of sufficient length to extend through the entire wall or floor. Fill all space between the insulation and sleeve with fiberglass insulation material. Install fire-stop material when passing through rated ceiling or walls to match rating.

5. HANGERS, SUPPORTS, AND ANCHORS:

A. Pipe Hangers:

1. Horizontal Piping:

Grinnell Fig. 260 or equal. Adjustable clevis with adjustable length hanger rod sized for insulated pipe as required. Fastened to beams and joists with beam clamps.

2. Vertical Piping:

Grinnell Fig. 103 or equal. Steel pipe clamps for vertical piping support along wall. Clamps shall be coated for copper pipe. Fastened to masonry wall with lead expansion type anchors.

B. Duct Hangers:

- 1. Ductwork shall be hung from building's structure and mezzanine unless indicated otherwise on drawings. Do not support ductwork from piping, conduit, or other ductwork.
- 2. Ducts 12" x 12" and smaller shall be supported by galvanized straps, 20 gauge, 1 ½" wide, 5'-0" maximum on center. Anchor straps to building's structural members. Secure to ductwork with sheet metal screws. Support of rigid sheet metal ductwork by wire is not allowed.
- 3. Ducts larger than 12" x 12" shall be supported by galvanized angle iron and threaded rods anchored to building's structural members. Angle iron shall be minimum size of 1" x 1" x 1/8" and as large as required to properly support duct sizes. Spacing of supports shall be maximum of 5'-0" on center.
- 4. Vertical ducts along walls or passing through floors shall be supported with galvanized

angle irons bolted to wall or floor with expansion type anchors.

C. Structural Steel:

All strap hangers, angles, rods, and supporting steel shall be ASTM A-36 hot rolled steel.

D. Insulation Protection Shield:

Grinnell Fig. 167 or equal. For all insulated horizontal pipe supports. Semi-circular 18 gauge galvanized sheet metal shield, 12" long.

E. Installation:

1. Support all piping to comply with Wisconsin Codes. Hangers shall be capable of supporting the pipe under all conditions of operation. Support risers independently of connected horizontal piping.
2. Use specified hangers to support piping. Do not support piping from another pipe.
3. Maximum hanger spacing for horizontal piping and ductwork is 10 feet or closer where required to prevent all possible sagging.
4. Use specified hangers to support ductwork. Do not support ductwork from another duct.

6. PIPE LABELS AND EQUIPMENT IDENTIFICATION:

A. Pipe Labels:

1. Use stencil system for marking pipe. The marking shall be color coded per ASA Standard A-13. The lettering shall be of 1 ¼" on piping under 4".
2. Mark piping at inlets and outlets of major equipment and the valves. The marking shall not be made more than 20 feet apart in exposed areas and 10 feet apart in concealed accessible areas.

B. Equipment Identification:

1. Provide white plastic laminated identification plates with ¼" black engraved letters secured to equipment.
2. Identification shall correspond to drawings, equipment schedules, and Facilities Management System nomenclature (i.e., FC-1, VAV-5-4, V-5-15, etc.).

SECTION 15250: HVAC SYSTEMS INSULATION:

1. SCOPE: Applicable requirements of Instructions to Bidders, General, and Special Conditions of Contract, apply to work specified in this Section.

- A. Index:

1. Scope
2. General Requirements
3. Refrigerant Piping Insulation
4. Hot and Cold Water Piping

2. GENERAL REQUIREMENTS:

- A. All insulation shall comply with the minimum requirement of the Wisconsin Energy Code.
- B. All piping and ducts to be insulated must be thoroughly tested, approved, cleaned, and dry prior to applying insulation.
- C. Firmly butt adjoining sections of piping insulation together and seal longitudinal jacket laps and butt strips with adhesive. Seal all breaks in the jacket with section of jacket material adhered with sealer. (Breaks include holes made by staples.)
- D. Protect insulation at horizontal pipe supports and hangers with 18 gauge galvanized sheet metal shields.
- E. Butt all duct insulation edges tightly and lap all joints with 2" facing overlap or 4" wide tape. All punctures and breaks in the facing are to be sealed with 3" wide pressure sensitive tape or with vapor barrier mastic and facing material.

3. OUTDOOR PIPING INSULATION:

- A. Armaflex AP Pipe Insulation elastomeric, thermal pipe insulation or equal. Insulate suction and liquid lines outdoors. Insulate suction lines indoors. Closed cell elastomeric pipe insulation. 25/50 ASTM D-84 rated. Classification. Unslit tubular form with 3/4" nominal wall thickness. Thermal conductivity of 0.27 BTU-in/hr-ft-deg F @ 75 deg F mean temperature. Joints shall be sealed with Armaflex Adhesive 520. Sections exposed to weather shall be finished with Armaflex WB Protective Coating or equal protective finish for outdoors.

- B. Installation:

1. Slip tubular Armaflex insulation on pipe before making connections whenever possible. Where tubular insulation cannot be slipped on, slit insulation and slip on pipe cover fittings with miter cut sections of insulation.
2. All seams, joints, etc., shall be joined and sealed with Armaflex Adhesive 520 adhesive or equal. All seams and joints shall be fully closed and the insulation shall be neatly applied.
3. Paint all Armaflex insulation applied outside the building with two coats of Armaflex protective coating to protect it from the weather.

4. INDOOR PIPING:

- A. Manville Micro-Lok pipe insulation or equal. Heavy density rigid fiberglass pipe insulation. One inch nominal thickness with factory applied AP jacket. High density white kraft bonded to aluminum foil, reinforced with fiberglass yarn. With a K-factor of .23 at 76°F mean temperature.
- B. All insulation to have a composite (insulation jacket and adhesive used to adhere the jacket to the insulation) Fire and Smoke Hazard ratings as listed under Procedure ASTM E-84 NFPA 255, or UL 723, not exceeding:

Flame Spread	25
Smoke Developed	50
- C. Fittings, valves, etc., shall be wrapped with Manville Zeston PVC fitting covers and Hi-Lo Temp Insulation or equal. With a K-factor of .28 at 75°F mean temperature. Fiberglass inserts to have UL 25/50 rating and non-combustible per ASTM E136. The PVC to have a maximum flame spread rating of 25 per ASTM E-84.
- D. Insulate all new piping installed under this contract.

SECTION 15700: HEAT TRANSFER EQUIPMENT

1. SCOPE: Applicable requirements of Instructions to Bidders, General and Special Conditions of Contract, apply to work specified in this Section.

A. Index:

1. Scope
2. Submittals
3. Pipe and Fitting
4. Pressure Gauges
5. Air Conditioning Unit
6. Pipe Curb Assembly
7. Roof Top Condensing Unit
8. In-Line Pump
9. Valves

2. SUBMITTALS:

- A. Drawings or bulletins of the following equipment shall be submitted for approval to FACILITIES DEVELOPMENT AND MANAGEMENT SECTION:

1. Pressure Gauges
2. Air Conditioning Unit
3. Pipe Curb Assembly
4. Roof Top Condensing Unit
5. In-Line Pump
6. Valves

3. PIPE AND FITTINGS:

A. General:

1. All piping must be new, free from holes and of uniform thickness.
2. Conceal piping wherever possible.
3. All piping passing through walls is to be installed in sleeves which are to be galvanized steel pipe 1" larger than the outside pipe diameter and of sufficient length to extend through the entire wall. Space between sleeve and pipe to be filled with fiberglass except where shown otherwise.
4. Run exposed piping parallel to walls. All exposed piping must be installed as neatly as possible.
5. Piping systems are to be free from pockets, depressions or defects.
6. Pitch all lines for complete drainage.
7. Plug all open pipes and lines during construction.
8. Beams, joists, or other structural members shall not be cut, notched, or drilled into unless approved or specifically stated.

B. Glycol Piping:

1. Hard drawn, Type L Copper, ASTM B88. Wrought copper solder sweat fittings.
2. Copper pipe to have sweat joints. Clean inside of fitting and outside of pipe; apply non-corrosive flux, heat and apply 95-5 solder. Wipe off excess solder.
3. Install circuit setter and Pete's plugs in glycol piping above the ceiling in Room 140.
4. Install ball valves, drains and make necessary openings in walls, floors and roof as required.

4. PRESSURE GAUGES:

- A. Terice No. 450B bourdon tube pressure gauge or equal. 0-30 psi range. Accuracy of $\pm 1\%$ of range. Black, fiberglass reinforced polypropylene case with brass socket. 4 1/2" white dial with black figures, gradations and pointer.
- B. Install pressure gauge with Model No. 735-2 needle valve or equal on suction and discharge of pump.

5. AIR CONDITIONING UNIT:

- A. Liebert Model Challenger 3000 self contained stand-up air conditioning unit or equal. Glycol free cooling system with a total cooling capacity of 54,000 BTU/Hr and a sensible cooling capacity of 47,200 Btu/hr at an entering air temperature of 72°F dry bulb and 60°F wet bulb. R407C refrigerant. Unit shall be equipped with an infrared humidifier.
- B. Fan to have 1 1/2 hp, 480 volt, 3 phase motor. Centrifugal type, double inlet with self-aligning ball bearings and heavy duty steel shaft. Drive package to be variable speed. Unit capable of discharging 2800 CFM.
- C. Unit to be supplied with high efficiency throw-away filters rated by ASHRAE 52.2-1999. Standard 2" MERV 8 (40% eff. per ASHRAE 52.1). Cabinet to be insulated with a minimum 1" fiberglass insulation. Unit to be supplied with microprocessor control system, audible and visual alarms, factory wired disconnect switch and control valves. Unit to have a four row evaporator coil, 5.8 sq.ft. face area, 2 stage electric reheat and hot gas bypass.
- D. Install the unit per manufacturer's directions and as indicated on the drawings. Install necessary piping and controls as required.

6. PIPE CURB ASSEMBLY:

- A. Pate Model PCA-5 pipe curb assembly or equal. 12" x 12" prefabricated roof curb, 12" overall height with 2 1/2" cant for roof insulation. 18 gauge galvanized steel body with formed cant.
- B. Factory installed wood nailers and three pound density rigid fiberglass insulation. Acrylic coated ABS laminated plastic curb cover. Four graduated step neoprene boots with stainless steel clamps.

- C. Pipe portal to be installed by a qualified roofing contractor at the location shown on the drawing obtained by the HVAC contractor.

7. ROOF TOP DRY-COOLER UNIT:

- A. Liebert Model DDO-109 direct drive drycooler or equal. Drycooler to be constructed of aluminum and contain a copper tube aluminum fin coil with an integral electric control panel. Drycooler to be designed for 95°F ambient. Single fan, ¾ HP, 3 phase, 480V; with expansion tank. Unit to be supplied with steel legs for roof support and disconnect switch.
- B. Install pump and housing per manufacturer's directions and as indicated on the drawings. Install necessary controls, piping, etc., as required.

8. IN-LINE PUMP:

- A. Glycol pump to be 1 ½ HP, 3 Phase, 480 volt rated at 30 gpm and 70 ft. total head. With enclosed pump package and mounting support.
- B. Install pump and housing per manufacturer's directions and as indicated on the drawing. Install necessary controls, piping, etc., as required.

VALVES:

A. Ball Valves (Water Piping 2" and Under):

1. Nibco-Scott fig. T-580-Y or approved equal.
2. Bronze body, body ends, stem, and ball.
3. Two piece construction, with swing-out accessibility for installation and maintenance.
4. Threaded ends, conventional ports.
5. Teflon resilient ball seats. Teflon impregnated stem packing, adjustable for wear.
6. EPDM (Nordell "O" ring seals between body and ends).
7. Operating temperature -40°F to 350°F; operating pressure 400 psi W.O.G. non-shock.
8. To be installed where indicated on the drawings or where required. Secure preformed polyurethane insulation to valve after valve is calibrated.

B. Drain Valves:

1. Hammond Fig. 710 or equal. Brass body, hand wheel aluminum. With full flow boiler drain with stuffing box. 100 psi working water pressure; non-shock. ¾" hose connection.
2. To be installed at the bottom of risers or where indicated on the drawings.
- 3.

C. Air Vent Valves:

1. Dole No. 10 key vent valve or equal. Key operated.
2. To be installed on high points of piping system or where indicated.

D. Balancing Valve:

1. Bell and Gossett Model CB or Taco 150 Series circuit setter or equal (must be compatible with existing B & G calibration gauge owned by the City). Size as required.
2. Calibrated balance valve with differential pressure meter connections. With calibration curve. Bronze body and plug. Internal seal around plug. 125 psi working pressure. With performed polyurethane insulation and memory stop.
3. Install the circuit setter near the room air conditioner as required. Secure preformed polyurethane insulation to valve after valve is calibrated.

9. TEMPERATURE/HUMIDITY SENSORS:

- A. Temperature Control contractor shall install a room temperature and humidity a sensor in the Data Room. The sensors shall report high/low humidity & temperature alarms to the Trane Tracer Summit BAS system.