

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

2012

PROPOSAL, CONTRACT, BOND AND SPECIFICATIONS

FOR

OLIVE JONES PARK - RETAINING WALL, PAVEMENT AND FENCE  
IMPROVEMENTS

CONTRACT NO. 6827

IN

MADISON, DANE COUNTY, WISCONSIN

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

**PLEASE RETURN PLANS AND SPECIFICATIONS TO:**

**CITY ENGINEERING DIVISION  
1600 EMIL STREET  
MADISON, WISCONSIN 53713**

[www.cityofmadison.com/business/pw](http://www.cityofmadison.com/business/pw)

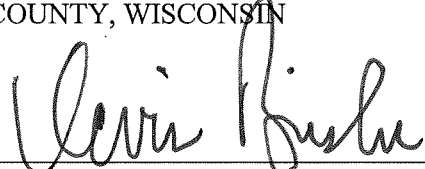
OLIVE JONES PARK - RETAINING WALL, PAVEMENT AND FENCE  
IMPROVEMENTS  
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This Proposal, and Agreement have  
been prepared by:

CITY ENGINEERING DIVISION  
CITY OF MADISON  
MADISON, DANE COUNTY, WISCONSIN

  
\_\_\_\_\_  
Kevin Briski, Park Superintendent

## SECTION A: ADVERTISEMENT FOR BIDS

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

#### A BEST VALUE CONTRACTING MUNICIPALITY

<b>CONTRACT NO.</b>	<b>PROJECT NAME:</b>
6827	OLIVE JONES PARK - RETAINING WALL, PAVEMENT AND FENCE IMPROVEMENTS
SBE GOAL	15 %

**Plans and Specifications** are available at 1600 Emil Street, Madison, WI 53713; 608-267-1197 or on our website at [www.cityofmadison.com/business/pw/contracts/openforBid.cfm](http://www.cityofmadison.com/business/pw/contracts/openforBid.cfm).

#### PREQUALIFICATIONS

Bidders who have not been prequalified by the City Engineer and Affirmative Action Director for the period of **February 1, 2012 to January 31, 2013** must submit their application on or before 1:00 p.m., 30 March, 2012, Room 115, City-County Building, Madison, WI 53703. Postmark is not applicable. Contractors be prequalified by the City Engineer including an affirmative action plan approved by the Affirmative Action Director prior to the bid opening or the bid will be rejected. Forms are available at the same location or on our website at [www.cityofmadison.com/business/pw/forms.cfm](http://www.cityofmadison.com/business/pw/forms.cfm).

#### PRE-BID MEETING

Representatives of the Affirmative Action Department will be present to discuss the Small Business Enterprise requirements on 30 March, 2012 at 1:00 PM at 1600 Emil Street, Madison Wisconsin.

#### OTHER REQUIREMENTS

Sealed bids must be accompanied with a Bid Bond equal to at least 5% of the bid or a Certificate of Annual/Biennial Bid Bond or certified check, payable to the City Treasurer.

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

Deadline for the Submittal of Bid is 6 April, 2012 by 1:00 PM, at 1600 Emil Street, Madison, WI 53713.

Bid Opening will be on 13 April, 2012 at 1:30 PM at 1600 Emil Street, Madison, WI 53713.

#### REQUEST FOR BIDS FOR PUBLIC WORKS CONSTRUCTION FOR THE CITY OF MADISON, WISCONSIN

##### A BEST VALUE CONTRACTING MUNICIPALITY

Plans and Specifications for Public Works Projects that are open for bid are available on the City of Madison website at <http://www.cityofmadison.com/business/PW/contracts/openforBid.cfm> or by calling City Engineering at 608-266-4751.

Sealed bids must be accompanied with a Bid Bond equal to at least 5% of the bid or a Certificate of Annual/Biennial Bid Bond or certified check, payable to the City Treasurer.

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

Bidders must be prequalified with the City Engineer and the Affirmative Action Director. Deadline date for submittal of application is noticed on our website. Forms are available on the web at <http://www.cityofmadison.com/business/pw/forms.cfm> or by contacting City Engineering at 608-266-4620

Publ. WSJ 3/16, 3/23, 3/30/2012

## SECTION B: INSTRUCTIONS TO BIDDERS

The City of Madison Standard Specifications for Public Works Construction - 2012 Edition, as supplemented and amended from time to time, forms a part of these contract documents as if attached hereto.

These standard specifications are available on the City of Madison Public Works website at [www.cityofmadison.com/Business/PW/specs.cfm](http://www.cityofmadison.com/Business/PW/specs.cfm) or by contacting City Engineering Division, Room 115, City-County Building, 210 Martin Luther King Jr. Blvd., Madison, WI 53703.

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

### Section 102.1: Pre-Qualification of Bidders

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

Bidders must present satisfactory evidence that they have been regularly engaged in the type of work specified herein and they are fully prepared with necessary capital, materials, machinery and supervisory personnel to conduct the work to be contracted for to the satisfaction of the City. All bidders must be pre-qualified by the Board of Public Works for the type of construction on which they are bidding prior to the opening of the bid.

In accordance with Section 39.02(9)(a)1. of the Madison General Ordinances, all bidders shall submit in writing to the Affirmative Action Division Manager of the City of Madison, a Certificate of Compliance or an Affirmative Action Plan at the same time or prior to the submission of the proof of responsibility forms. The bidder shall be disqualified if the bidder fails to or refuses to, prior to opening of the bid, submit a Certificate of compliance, Affirmative Action Plan or Affirmative Action Data Update, as applicable, as defined by Section 39.02 of the Madison General Ordinances (entitled Affirmative Action) and as required by Section 102.11 of the Standard Specifications.

### Section 102.4: Proposals

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

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

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

A proposal submitted by an individual shall be signed by the bidder or by a duly authorized agent. A proposal submitted by a partnership shall be signed by a member/partner or by a duly authorized agent thereof. A proposal submitted by a corporation shall be signed by an authorized officer or duly authorized registered agent of such corporation, and the proposal shall show the name of the State under the laws of

which such corporation was chartered. The required signatures shall in all cases appear in the space provided therefore on the proposal.

Each proposal shall be placed, together with the proposal guaranty, in a sealed envelope, so marked as to indicate name of project, the contract number or option to which it applies, and the name and address of the Contractor. Proposals will be received at the place and until the hour on the date designated in the advertisement. When sent by mail, the sealed proposal marked as indicated above shall be enclosed in an additional envelope. Proposals sent by mail, submitted in person or otherwise delivered must be in the hands of the official conducting the letting by the hour on the date designated in the advertisement. Proposals received after the date designated will be returned to the bidder unopened.

**The Bidder shall execute form ERD-7777 (R.9/03), a part of these proposal pages and submit same with the bidder's proposal, if applicable. REFER TO PROPOSAL SECTION.**

Section 102.5: Bid Deposit (Proposal Guaranty)

No proposal shall be considered unless either (i) it is accompanied by a bid deposit of the character and amount described in the Advertisement for Bids or (ii) a biennial bid bond in an amount and form acceptable to the City of Madison has been previously submitted.

Bid deposits of unsuccessful bidders shall be returned following the award of the contract by the Common Council. Bid deposit of the successful bidders shall be returned within forty-eight (48) hours following execution of the contract and bond as required.

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

Building Demolition

- |   |  |
|---|--|
| 101 <input type="checkbox"/> Asbestos Removal | 110 <input type="checkbox"/> Building Demolition |
| 120 <input type="checkbox"/> House Mover      |  |

Street, Utility and Site Construction

- |   |  |
|---|--|
| 201 <input checked="" type="checkbox"/> Asphalt Paving                                      | 265 <input checked="" type="checkbox"/> Retaining Walls, Precast Modular Units |
| 205 <input type="checkbox"/> Blasting   | 270 <input type="checkbox"/> Retaining Walls, Reinforced concrete              |
| 210 <input type="checkbox"/> Boring/Pipe Jacking  | 275 <input type="checkbox"/> Sanitary, Storm Sewer & Water Main Const.         |
| 215 <input type="checkbox"/> Concrete Paving  | 280 <input type="checkbox"/> Sewer Lateral Drain Cleaning/Internal TV Insp.    |
| 220 <input type="checkbox"/> Con. Sidewalk/Curb & Gutter/Misc. Concrete Work                | 285 <input type="checkbox"/> Sewer Lining                                      |
| 221 <input type="checkbox"/> Concrete Bases and Other Concrete Work                         | 290 <input type="checkbox"/> Sewer Pipe Bursting                               |
| 225 <input type="checkbox"/> Dredging   | 295 <input type="checkbox"/> Soil Borings                                      |
| 230 <input checked="" type="checkbox"/> Fencing   | 300 <input type="checkbox"/> Soil Nailing                                      |
| 235 <input type="checkbox"/> Fiber Optic Cable/Conduit Installation                         | 305 <input type="checkbox"/> Storm & Sanitary Sewer Laterals & Water Svc.      |
| 240 <input type="checkbox"/> Grading and Earthwork  | 310 <input type="checkbox"/> Street Construction                               |
| 242 <input type="checkbox"/> Infrared Seamless Patching                                     | 315 <input type="checkbox"/> Street Lighting                                   |
| 245 <input type="checkbox"/> Landscaping, Maintenance                                       | 318 <input type="checkbox"/> Tennis Court Resurfacing                          |
| 250 <input type="checkbox"/> Landscaping, Site and Street                                   | 330 <input type="checkbox"/> Traffic Control During Construction               |
| 251 <input type="checkbox"/> Parking Ramp Maintenance                                       | 320 <input type="checkbox"/> Traffic Signals                                   |
| 255 <input type="checkbox"/> Pavement Sealcoating and Crack Sealing                         | 325 <input type="checkbox"/> Traffic Signing & Marking                         |
| 260 <input type="checkbox"/> Petroleum Above/Below Ground Storage Tank Removal/Installation | 335 <input type="checkbox"/> Trucking  |
|   | 399 <input type="checkbox"/> Other _____                                       |

Bridge Construction

- 501  Bridge Construction and/or Repair

Building Construction

- |  |   |
|--|---|
| 401 <input type="checkbox"/> Floor Covering (including carpet, ceramic tile installation, rubber, VCT) | 435 <input type="checkbox"/> Masonry  |
| 402 <input type="checkbox"/> Building Automation Systems   | 437 <input type="checkbox"/> Metals   |
| 403 <input type="checkbox"/> Concrete  | 440 <input type="checkbox"/> Painting and Wallcovering                              |
| 404 <input type="checkbox"/> Doors and Windows   | 445 <input type="checkbox"/> Plumbing   |
| 405 <input type="checkbox"/> Electrical - Power, Lighting & Communications                             | 450 <input type="checkbox"/> Pump Repair  |
| 410 <input type="checkbox"/> Elevator - Lifts  | 455 <input type="checkbox"/> Pump Systems   |
| 412 <input type="checkbox"/> Fire Suppression  | 460 <input type="checkbox"/> Roofing and Moisture Protection                        |
| 413 <input type="checkbox"/> Furnishings - Furniture and Window Treatments                             | 461 <input type="checkbox"/> Solar Photovoltaic/Hot Water Systems                   |
| 415 <input type="checkbox"/> General Building Construction, Equal or Less than \$250,000               | 465 <input type="checkbox"/> Soil/Groundwater Remediation                           |
| 420 <input type="checkbox"/> General Building Construction, \$250,000 to \$1,500,000                   | 466 <input type="checkbox"/> Warning Sirens   |
| 425 <input type="checkbox"/> General Building Construction, Over \$1,500,000                           | 470 <input type="checkbox"/> Water Supply Elevated Tanks                            |
| 428 <input type="checkbox"/> Glass and/or Glazing  | 475 <input type="checkbox"/> Water Supply Wells                                     |
| 429 <input type="checkbox"/> Hazardous Material Removal  | 480 <input type="checkbox"/> Wood, Plastics & Composites-Structural & Architectural |
| 430 <input type="checkbox"/> Heating, Ventilating and Air Conditioning (HVAC)                          | 499 <input type="checkbox"/> Other _____  |
| 433 <input type="checkbox"/> Insulation - Thermal  |   |

### State of Wisconsin Certifications

- 1  Class 5 Blaster - Blasting Operations and Activities 2500 feet and closer to inhabited buildings for quarries, open pits and road cuts.
- 2  Class 6 Blaster - Blasting Operations and Activities 2500 feet and closer to inhabited buildings for trenches, site excavations, basements, underwater demolition, underground excavations, or structures 15 feet or less in height.
- 3  Class 7 Blaster - Blasting Operations and Activities for structures greater than 15 ' in height, bridges, towers, and any of the objects or purposes listed as "Class 5 Blaster or Class 6 Blaster".
- 4  Petroleum Above/Below Ground Storage Tank Removal and Installation (Attach copies of State Certifications.)
- 5  Hazardous Material Removal (Contractor to be certified for asbestos and lead abatement per the Wisconsin Department of Health Services, Asbestos and Lead Section (A&LS).) See the following link for application: <http://www.dhs.wisconsin.gov/Asbestos/Cert/Index.htm>. State of Wisconsin Performance of Asbestos Abatement Certificate must be attached.
- 6  Other \_\_\_\_\_

## **SECTION C: SBE**

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

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

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

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

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

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

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

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

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

If the City of Madison determines that the SBE firm is performing a commercially useful function, then the City of Madison must then decide what that function is. If the



commercially useful function is that of an SBE vendor / supplier that regularly transacts business with the respective product, then the City of Madison will count 60% of the value of the product supplied toward SBE goals.

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

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

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

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

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

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

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

## 2.2 Contract Compliance

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

## 2.3 Certification of SBE by City of Madison

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

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

## 2.4 Small Business Enterprise Compliance Report

### 2.4.1 Good Faith Efforts

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

- 2.4.1.1 Attendance at the pre-bid meeting.
- 2.4.1.2 Using the City of Madison's directory of certified SBEs to identify SBEs from which to solicit bids.
- 2.4.1.3 Assuring that SBEs are solicited whenever they are potential sources.
- 2.4.1.4 Referring prospective SBEs to the City of Madison Affirmative Action Division for certification.
- 2.4.1.5 Dividing total project requirements into smaller tasks and/or quantities, where economically feasible, to permit maximum feasible SBE participation.
- 2.4.1.6 Establishing delivery schedules, where requirements permit, which will encourage participation by SBEs.
- 2.4.1.7 Providing SBEs with specific information regarding the work to be performed.
- 2.4.1.8 Contacting SBEs in advance of the deadline to allow such businesses sufficient time to prepare a bid.

- 2.4.1.9 Utilizing the bid of a qualified and competent SBE when the bid of such a business is deemed reasonable (i.e. 5% above the lowest bidder), although not necessarily low.
- 2.4.1.10 Contacting SBEs which submit a bid, to inquire about the details of the bid and confirm that the scope of the work was interpreted as intended.

#### 2.4.2 Reporting SBE Utilization and Good Faith Efforts

The Small Business Enterprise Compliance Report is to be submitted by the bidder in a separate sealed envelope marked: “**ENVELOPE 2 - SBE COMPLIANCE REPORT.**” This report is due by the specified bid closing time and date. Bids submitted without a completed SBE Compliance Report as outlined below shall be deemed non-responsible and the bidder ineligible for award of this contract.

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

- 2.4.2.1.1 **Cover Page**, Page C-7; and
- 2.4.2.1.2 **Summary Sheet**, C-8.

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

- 2.4.2.2.1 **Cover Page**, Page C-7;
- 2.4.2.2.2 **Summary Sheet**, C-8; and
- 2.4.2.2.3 **SBE Contact Report**, C-9 and C-10. (A separate Contact Report must be completed for each applicable SBE which is not utilized.)

#### 2.5 Appeal Procedure

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

#### 2.6 SBE Requirements After Award of the Contract

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

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

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

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

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

- A. An independent business operated under a single management. The business may not be a subsidiary of any other business and the stock or ownership may not be held by any individual or any business operating in the same or a similar field. In determining whether an entity qualifies as a SBE, the City shall consider all factors relevant to being an independent business including, but not limited to, the date the business was established, adequacy of its resources for the work in which it proposes to involve itself, the degree to which financial, equipment leasing and other relationships exist with other ineligible firms in the same or similar lines of work. SBE owner(s) shall enjoy the customary incidents of ownership and shall share in the risks and profits commensurate with their enjoyment interests, as demonstrated by an examination of the substance rather than form or arrangements that may be reflected in its ownership documents.
- B. A business with annual gross receipts of less than \$750,000 when averaged over the past three year period;

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

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

OLIVE JONES PARK - RETAINING WALL, PAVEMENT AND FENCE  
IMPROVEMENTS  
CONTRACT NO. 6827

**Small Business Enterprise Compliance Report**

**Cover Sheet**

**This information MUST be submitted in a separate sealed envelope marked  
"ENVELOPE NO. 2 - SBE COMPLIANCE REPORT."**

Prime Bidder Information:

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

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

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

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

Prime Bidder Certification:

I, \_\_\_\_\_, \_\_\_\_\_ of  
Name Title  
\_\_\_\_\_ certify that the information  
Company

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

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

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

\_\_\_\_\_  
Date



OLIVE JONES PARK - RETAINING WALL, PAVEMENT AND FENCE  
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**Small Business Enterprise Compliance Report**

**SBE Contact Report**

**This information MUST be submitted in a separate sealed envelope marked  
"ENVELOPE NO. 2 - SBE COMPLIANCE REPORT."**

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

SBE Information:

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

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

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

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

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

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

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

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

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

Yes     No

3. Did this SBE submit a bid?     Yes     No

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

Yes     No

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

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

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

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

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

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

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6. Describe any other good faith efforts:

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## SECTION D: SPECIAL PROVISIONS

### OLIVE JONES PARK - RETAINING WALL, PAVEMENT AND FENCE IMPROVEMENTS CONTRACT NO. 6827

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

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

#### **ARTICLE 102.10: MINIMUM RATE OF WAGE SCALE**

For this project, payment of prevailing wages (white sheet) is not required if either: a single trade accounts for 85% or more of the total labor costs of the project and the bid is less than \$48,000; or no single trade accounts for 85% or more of the total labor costs of the project and the bid is less than \$100,000. For bids not meeting either of these conditions, prevailing wages shall be required.

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

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

All bidders are notified that all labor employed on City contracts must be paid in accordance with the minimum rate of wage scale included in the Contract Documents.

For the information of the employees working on the project, a copy of the wage scale included in the contract documents and the provisions of Section 66.0903(8) of the Wisconsin Statutes shall be kept posted by the employer and in at least one conspicuous and easily accessible place at the site of the project.

The Contractor shall keep weekly payroll records setting forth the name, address, telephone number, classification, wage rate and fringe benefit package of each employee who worked on such City project and all other projects the employee worked in the same period, and the Contractor must keep records of the individual time each employee worked on the project and for each day of the project. Such records shall also set forth the total number of hours of overtime credited to each such employee for each day and week and the amount of overtime pay received in that week. Such records shall, in addition, set forth the full weekly wages earned by each such employee and the actual hourly wage paid to that employee. The Contractor shall submit payroll records to the Engineer every week for those periods when work is being done on the project. Said submittal shall be within twenty-one (21) calendar days of the end of the Contractor's weekly pay period.

The Contractor shall ensure that employees shall be paid unconditionally and shall receive the full amounts accrued at the time of payment, computed at rates not less than those stated in the City of Madison "Minimum Rate of Wage Scale" and that each employee's rate shall be determined by the work that is done within the trade or occupation classification which should be properly assigned to such employee. Questions regarding an employee's classification or rate of pay within that classification, shall

be resolved by the practice that predominates in the industry and on which the trade or occupation rate/classification is based. Therefore, rate of pay, classification and work jurisdiction disputes shall be resolved by relying upon practices established by collective bargaining agreements and guidelines used in such determinations by appropriate recognized trade unions operating within the City of Madison.

The Contractor shall agree that the normal rate of wage paid to the Contractor's employees on other projects shall not be reduced or otherwise diminished as a result of the requirement to pay no less than the minimum rate of wage scale on a City project. Mulcting of employees on City projects by contractors, such as by kickbacks or other such devices, is prohibited.

These contract provisions shall apply to all work performed on the contract by the Contractor with its own organization and with assistance of laborers under its immediate superintendency and to all work performed by piecework or by subcontract. No laborer, worker, or mechanic shall be employed directly upon the site of the work except on a wage basis, but this shall not be construed to prohibit the rental of equipment from individuals.

In the event of a refusal by the Contractor to submit payroll records as required by the contract, the City of Madison shall have the option to cancel this contract and request the Surety to perform or to relet the balance of the work for bids, and in that event, to charge the Contractor for any loss which the City may incur thereby.

## **ARTICLE 101-DEFINITIONS AND TERMS**

**Relationship Between the City and Strand Associates, Inc.**® Strand Associates, Inc.® has been hired by the City to prepare drawings and specifications for this project. Additionally, Strand will assist the City by providing shop drawing review and conducting limited site visits to view the construction work in progress. The City will provide resident engineering services and contract administration and is referred to as the City and/or Engineer in the Contract Documents.

Strand Associates, Inc.® will not supervise, direct, control or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or safety precautions and programs incidental thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the furnishing or performance of the Work. Strand Associates, Inc.® will not be responsible for Contractor's failure to perform or furnish the Work in accordance with the Contract Documents. Strand Associates, Inc.® will not be responsible for the acts or omissions of Contractor or of any subcontractor, any supplier, or of any person or organization performing or furnishing any of the Work.

During construction, the duties and responsibilities of Strand Associates, Inc.® include the following:

1. Attend prebid meeting with Engineer and Contractor.
2. Conduct limited on-site observation of the work.
3. Report to Engineer when clarifications and interpretations of the Contract Documents are needed. Consider, evaluate, and report to Engineer, Contractor's requests for modification.
4. Maintain orderly records, keep a log for days visiting site, and furnish periodic reports to Engineer of the progress of the Work.

Strand Associates, Inc.® shall not:

1. Authorize any deviation from the Contract Documents or substitutions of materials or equipment.
2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.
3. Undertake any of the responsibilities of Contractor, Subcontractor, Suppliers or Contractor's superintendent.
4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences, or procedures of construction.
5. Advise on, issue directions regarding, or assume control over safety precautions and programs in connection with the Work.
6. Accept shop drawing or sample submittals from anyone other than Contractor.
7. Authorize the City to occupy the Project in whole or in part.
8. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.

**SPECIAL PROVISIONS.** Add the following to the end of the definitions of **SPECIAL PROVISIONS**:

**SPECIAL PROVISIONS** include Bid items 90001 through 90014 bound at the end of this document.

### **ARTICLE 102.9–BIDDER'S UNDERSTANDING**

Article 102.9 is amended as follows:

In the preparation of Drawings and Specifications, Strand Associates, Inc.® relied upon the following reports of explorations and tests of subsurface conditions at the Site which are attached at the end of the **SPECIAL PROVISIONS**:

Report dated December 22, 2011, prepared by CGC, Inc., of Madison, Wisconsin, entitled: Geotechnical Exploration Report, Proposed Retaining Wall Replacement, Olive Jones Park–Randall Elementary School, Regent Street, Madison, WI, for the City of Madison, Wisconsin, consisting of 32 pages.

The technical data in the above report(s), upon which Contractor may rely, consists of boring methods, level of subsurface water, boring logs, laboratory test methods and results, and boring locations all as of the date made.

Engineer accepts no responsibility for accuracy of the soil data or water level information. Soil borings and report, included with these Contract Documents, were not obtained for the purposes of designing excavations and trenches. Soils information was used by Strand Associates, Inc.® for design purposes of new structures only. Contractor shall assure itself by personal examination as to subsurface conditions and shall provide its own investigations and make its own assumptions to comply with OSHA and any other applicable laws and regulations regarding excavation and trenching requirements.

## **ARTICLE 102.12: BEST VALUE CONTRACTING**

This Contract shall be considered a Best Value Contract if the Contractor's bid is equal to or greater than \$51,500 for a single trade contract; or equal to or greater than \$251,000 for a multi-trade contract pursuant to MGO 33.07(7).

## **ARTICLE 104.4–INCREASED OR DECREASED QUANTITIES**

Contractor shall note that some bid item quantities may increase or decrease based on what is encountered in the field. If the actual field conditions vary from the plan quantity, no additional compensation shall be given for increasing or decreasing quantities. Any overruns shall be paid for under the appropriate bid item(s) without any penalty or change to the bid price for the associated bid item. Contractor shall not be reimbursed for any deletions to the contract. No change to the unit bid price will be allowed for changes to the quantities.

## **ARTICLE 104.9–OLD MATERIAL**

All old material including fill, concrete, asphalt, fencing, etc. that is removed and not used as part of the new work shall be disposed of off-site at the expense of Contractor.

## **ARTICLE 105.1: AUTHORITY OF THE ENGINEER**

The Engineer shall resolve all questions which arise as to the quality and acceptability of materials furnished, work performed, manner of performance, rate of progress of the work, interpretation of the plans and Specifications, acceptable fulfillment of the contract, compensation, and disputes and mutual rights between Contractors under the Specifications. The Engineer shall determine the amount and quantity of work performed and materials furnished.

All decisions of the Engineer shall, when so requested, be rendered in writing. They shall be final and conclusive in all matters unless within ten (10) days after such decision the Contractor applies in writing to the Board of Public Works for a review of such decision.

Any change proposed by a Contractor in SBE subcontractors, vendors or suppliers from those SBEs indicated on the SBE Compliance Report must be approved by the Engineer and the City's Manager of the Affirmative Action Division (hereafter, AAD). When requested, such decision shall be rendered in writing. Such decisions shall be final and conclusive in all matters unless within ten (10) days after such decision the Contractor or the affected SBE applies in writing to the Board of Public Works for a review of such decision.

In the event the Engineer and the AAD disagree over the proper decision to be made regarding an SBE, the Mayor shall appoint a third person to resolve the disagreement, within 30 days of appointment. The decision thus rendered may be reviewed by the Board of Public Works upon request of the Contractor or the affected SBE as set forth in Sections 105.1 and 105.2 of the City's Standard Specifications.

## **ARTICLE 105.6–CONTRACTOR'S RESPONSIBILITY FOR WORK**

Add the following paragraph to the end of Article 105.6:

Contractor shall keep at the Site at all times during the progress of the Work a competent person to comply with OSHA trenching and excavation requirements. The competent person shall be one who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which

are unsanitary, hazardous or dangerous to employee's, and who has authorization to take prompt corrective measures to eliminate them.

#### **ARTICLE 105.7-CONTRACT DOCUMENTS**

Add the following paragraph to the end of Article 105.7:

Contractor shall keep one record copy of all specifications, drawings, addenda, modifications, and shop drawings at the site in good order and shall record on the drawings all changes made during the construction process. Contractor providing buried or concealed piping, conduit, or similar items shall locate all such items by dimensions and elevations. The daily record of changes shall be the responsibility of Contractor's field superintendent. No arbitrary mark-ups shall be permitted. Contractor shall submit his marked up record documents to Engineer **prior** to final payment.

#### **ARTICLE 105.12-COOPERATION BY CONTRACTOR**

Contractor shall use care while working adjacent to Randall Elementary School and around existing playground equipment, walls, and trees that are adjacent to the work area. Damage to these items during construction shall be repaired or replaced at Contractor's expense. No trees shall be cut without the approval of Engineer and the City Forester.

Contractor shall restore any and all areas damaged as a result of construction operations, including but not limited to, pavements, curb and gutter and lawn areas. Damaged items shall be restored to their condition prior to construction. Cost of restoration shall be incidental to the contract and shall be at no cost to the City.

#### **ARTICLE 105.17-PROGRESS SCHEDULE**

Article 105.17 is added as follows:

Within ten days after delivery of the Notice to Proceed, Contractor shall submit to the Owner, for approval, an estimated progress schedule indicating the starting and completion dates of the various stages of work, and a preliminary schedule of shop drawing submissions.

Progress schedule shall be updated prior to each construction meeting and an updated schedule submitted with each payment application.

#### **ARTICLE 105.18-PRECONSTRUCTION CONFERENCE**

Article 105.18 is added as follows:

Before starting the work at the project sites, a conference will be held to review schedules, to establish procedures for handling shop drawings and other submissions and for processing Applications for Payment, to review list of proposed subcontractors, to establish a working understanding between the parties as to the project, and to discuss project details. Present at the conference will be representatives of the City of Madison, Strand Associates, Inc.<sup>®</sup>, and Contractor.

#### **ARTICLE 106.6-SUBSTITUTE MATERIALS OR EQUIPMENT**

Article 106.6 is added as follows:

Whenever in any of the Contract Documents an article, material, or equipment is defined by describing a proprietary product, or by using the name of a manufacturer or vendor, the term "or equal," if not inserted, shall be implied. The specific article, material, or equipment mentioned shall be understood as indicating the type, function, minimum standard of design, efficiency, and quality desired, and shall not be construed in such a manner as to exclude manufacturer's products of comparable quality, design and efficiency. If Contractor wishes to furnish or use a proposed substitute, he shall, prior to the preconstruction conference, make written application to Strand Associates, Inc.<sup>®</sup>, for approval of such a substitute certifying, in writing, that the proposed substitute will perform adequately the functions called for by the general design, be similar and of equal substance to that specified and be suited to the same use and capable of performing the same function as that specified; stating whether or not its incorporation in or use in connection with the project is subject to the payment of any license fee or royalty; and identifying all variations of the proposed substitute from that specified and indicating available maintenance service. No substitute shall be ordered or installed without the written approval of Strand Associates, Inc.<sup>®</sup>, who will be the judge of equality and may require Contractor to furnish such other data about the proposed substitute as he considers pertinent. No substitute shall be ordered or installed without such performance guarantee and bonds as the City may require which shall be furnished at Contractor's expense.

#### **ARTICLE 107.1-PUBLIC CONVENIENCE AND SAFETY**

Article 107.1 is amended as follows:

In order to abate objectionable noise to the extent feasible, motorized construction equipment shall not be operated between the hours of 7:00 P.M. and 7:00 A.M. without the prior written approval of Engineer.

Contractor shall provide and maintain suitable construction fencing as required to secure the construction site during construction.

#### **ARTICLE 107.3-INDEMNIFICATION**

Consultant, as included under Article 107.3 of the General Conditions shall include Strand Associates, Inc.<sup>®</sup>

#### **ARTICLE 107.4-CONTRACTOR'S LIABILITY INSURANCE**

Article 107.4(j) is added as follows:

On all insurance policies required to be provided by Contractor, the policies shall include the City of Madison and Strand Associates, Inc.<sup>®</sup>, as their interests may appear and their employees and agents as additional insured.

Contractor shall purchase and maintain liability insurance, as described above, naming the additional insured's using Additional Insurance Endorsement Form CG 20 26 07 04, CG 81 11 05 06, CG 20 10 07 04, or equivalent form. General liability policies shall also be endorsed with Form CG 20 37 07 04 to include the "products-completed operations hazard."

Endorsements or General Liability policy shall not exclude supervisory or inspection services.

Contractor shall also provide an Additional Insured Endorsement for the automobile policy.

## **ARTICLE 109.2-PROSECUTION OF THE WORK**

Contractor shall not begin work prior to June 13, 2012, and all work shall be completed by August 24, 2012. This schedule has been established to avoid conflicting with the school year calendar for City of Madison Randall Elementary School.

Work shall begin only after the start work letter is received. Contractor shall be required to limit workdays to 7:00 PM and work shall not be performed on holidays.

## **ARTICLE 110.2-PARTIAL PAYMENTS**

Add the following to the end of Article 110.2:

No advanced payment for shop drawing preparation will be made. Shop drawing costs will be paid when equipment and materials are delivered and suitably stored and protected on the site.

All stored equipment and materials for which payment is requested shall have two copies of invoices included with the pay request. Equipment shall be identified thoroughly on the invoices, including serial numbers.

Payment for the stored equipment and material which are on the site shall not exceed the invoiced amount for each item, less the contract retainage. The overhead and profit for the stored items shall not be invoiced until the item is installed.

## **ARTICLE 110.7-DIFFERING SITE CONDITIONS**

Article 110.7 is amended as follows:

The extents of the below-grade foundations for the existing retaining walls are not known. Depending on the depth, size and subsurface conditions below them, the existing footings may be able to be left in place. Upon exposing the existing retaining wall footings, Contractor shall notify Engineer so that Engineer can observe the existing conditions, engage the Project Soils Engineer as required and determine whether or not the footings can remain in-place.

## **ARTICLE 202.2(A)-FILL**

Article 202.2(a) is amended as follows:

Where fill material is shown on drawings, clay fill shall be used. Clay fill shall contain at least 25% clay minerals (material finer than 0.002 mm).

## **ARTICLE 202.2(B)-SELECT FILL**

Article 202.2(b) is amended as follows:

Existing fill material may be reused as select fill if it meets the gradation requirements of select fill as specified in this article. Contractor is responsible for determining whether native material meets the gradation requirements for select fill. Native material must be approved by the project soils engineer prior to use as select fill.

Select fill shall be compacted to at least 90% compaction (ASTM D1557) up to three feet below pavement and 95% in the upper three feet. Compaction of select fill within four to six feet of the modular block retaining walls shall be performed with hand-operated compaction equipment.

## **ARTICLE 401.1(B)–CRUSHED AGGREGATE BASE COURSE**

Article 401.1(b) is amended as follows:

The existing 2-inch asphalt surface and 3-inch base course in the main parking lot and playground area may be pulverized to a blended uniform well-graded material in accordance with specification Article 403.3, stripped and stockpiled on-site, and reused as crushed aggregate base course.

### **BID ITEMS: 90001–6-FOOT HEIGHT FENCING** **90002–8-FOOT HEIGHT FENCING** **90003–12-FOOT AUTO FENCE GATE** **90004–4-FOOT MAN FENCE GATE**

**A. Description.** The work shall consist of providing and installing new fencing and gates where shown on the drawings and as specified herein.

**B. Materials.**

Stainless steel adhesive anchors shall conform to the requirements of Section 502 of the State of Wisconsin Standard Specification for Highway and Bridge Construction, 2012 edition for type S epoxy anchors.

The 6-foot fence system shall conform to Montage Plus Majestic 3-rail style, standard picket space, welded and rackable (ATF–All Terrain Flexibility), ornamental steel, extended picket bottom rail treatment, as manufactured by Ameristar Fence Products, Inc., in Tulsa, Oklahoma, or equal. The system shall include all components, i.e. panels, posts, gates and hardware, required.

The 8-foot fence system shall conform to Montage Commercial Majestic 3-rail style, standard picket space, welded and rackable (ATF–All Terrain Flexibility), ornamental steel, extended picket bottom rail treatment, as manufactured by Ameristar Fence Products, Inc., in Tulsa, Oklahoma, or equal. The system shall include all components, i.e. panels, posts, gates and hardware, required.

Steel material for fence panels and posts shall conform to the requirements of ASTM A653/A653M, with a minimum yield strength of 45,000 psi and a minimum zinc (hot-dip galvanized) coating weight of 0.60 oz/ft<sup>2</sup>, Coating Designation G-60.

Steel material for pickets shall be 3/4" square x 18 Ga. tubing for 6-foot fence system and 3/4" square x 14 Ga. tubing for 8-foot fence system. The rails shall be steel channel, 1.5" x 1.4375" x 14 Ga. Picket holes in the rail shall be spaced 4.675" on-center. Fence posts and gate posts shall meet the minimum size requirements of Table 1.

<u>Fence Posts</u>	<u>Panel Height</u>
2-1/2" x 16 Ga.	6'
2-1/2" x 14 Ga.	8'
<u>Gate Leaf</u>	<u>8' Gate Height</u>
4'	3" x 12 Ga.
12'	6" x 12 Ga.

**References:**

- ASTM A653/A653M–Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process.
- ASTM B117–Practice for Operating Salt-Spray (Fog) Apparatus.
- ASTM D523–Test Method for Specular Gloss
- ASTM D714–Test Method for Evaluating Degree of Blistering in Paint.



- ASTM D822—Practice for Conducting Tests on Paint and Related Coatings and Materials using Filtered Open-Flame Carbon-Arc Light and Water Exposure Apparatus.
- ASTM D1654—Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments.
- ASTM D2244—Test Method for Calculation of Color Differences from Instrumentally Measured Color Coordinates.
- ASTM D2794—Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).
- ASTM D3359—Test Method for Measuring Adhesion by Tape Test.
- ASTM F2408—Ornamental Fences Employing Galvanized Steel Tubular Pickets.

Coating requirements shall be in accordance with Table 2.

<b>Table 2—Coating Performance Requirements</b>		
<u>Quality Characteristics</u>	<u>ASTM Test Method</u>	<u>Performance Requirements</u>
Adhesion	D3359—Method B	Adhesion (Retention of Coating) over 90% of test area (Tape and knife test).
Corrosion Resistance	B117, D714 & D1654	Corrosion Resistance over 1,500 hours (Scribed per D1654; failure mode is accumulation of 1/8” coating loss from scribe or medium #8 blisters).
Impact Resistance	D2794	Impact Resistance over 60 inch lb. (Forward impact using 0.625” ball).
Weathering Resistance	D822 D2244, D523 (60° Method)	Weathering Resistance over 1,000 hours (Failure mode is 60% loss of gloss or color variance of more than 3 delta-E color units).

**Fabrication.**

Pickets, rails and posts shall be pre-cut to specified lengths. Rails shall be pre-punched to accept pickets.

Pickets shall be inserted into the pre-punched holes in the rails and shall be aligned to standard spacing using a specially calibrated alignment fixture. The aligned pickets and rails shall be joined at each picket-to-rail intersection by Ameristar’s proprietary fusion welding process, thus completing the rigid panel assembly (Note: The process produces a virtually seamless, spatter-free good-neighbor appearance, equally attractive from either side of the panel).

The manufactured panels and posts shall be subjected to an inline electrode position coating (E-Coat) process consisting of a multi-stage pretreatment/wash (with zinc phosphate), followed by a duplex application of an epoxy primer and an acrylic topcoat. The minimum cumulative coating thickness of epoxy and acrylic shall be 2 mils (0.058 mm). The color shall be black. The coated panels and posts shall be capable of meeting the performance requirements for each quality characteristic shown in Table 2 (Note: The requirements in Table 2 meet or exceed the coating performance criteria of ASTM F2408).

The manufactured fence system shall be capable of meeting the vertical load, horizontal load, and infill performance requirements for Industrial weight fences under ASTM F2408.

Gates shall be fabricated using fusion welded ornamental panel material and 1-3/4” sq. x 14ga. gate ends. All rail and upright intersections shall be joined by welding. All picket and rail intersections shall also be joined by welding. Gate posts shall be embedded in concrete in accordance with the manufacturer’s recommendations. Provide 4’-6” minimum embedment depth below-grade.

Base plates shall be provided at the base of the fence posts for attachment of posts to cast-in-place concrete. Minimum base plate thickness shall be 3/8”. Provide a minimum of four 3/4” diameter clearance holes spaced 4” on-center each direction in each base plate.

**C. Construction Methods.**

Upon receipt at the job site, all materials shall be checked to ensure that no damage occurred during shipping or handling. Materials shall be stored in such a manner to ensure proper ventilation and drainage, and to protect against damage, weather, vandalism and theft.

**Preparation.**

All new installation shall be laid out by Contractor in accordance with the construction plans.

**Installation.**

Fence post shall be spaced according to Table 3, plus or minus 1/2". Fence panels shall be attached to posts with brackets supplied by the manufacturer. Posts shall have base plates and be anchored to concrete as shown in the plans.

Table 3—Montage Plus—Post Spacing By Bracket Type						
Span	For CLASSIC, GENESIS, & MAJESTIC 8' Nominal (91.95" Rail)					
Post Size	2-1/2"	2-1/2"	2-1/2"	3"	2-1/2"	3"
Bracket Type	Montage Commercial Universal (BB112)	Montage Commercial Line Blvd. (BB114)	Montage Commercial Flat Mount (BB111)		Montage Commercial Swivel (BB113)*	
Post Settings ± 1/2" O.C.	95-1/2"	95-1/2"	95-1/2"	96"	*95-1/2"	*96"

\*Note: When using BB113 swivel brackets on either or both ends of a panel installation, care must be taken to ensure the spacing between post and adjoining pickets meets applicable codes. This will require trimming one or both ends of the panel.

Table 3—Montage Commercial—Post Spacing By Bracket Type											
Span	For INVINCIBLE® 8' Nominal (90.445" Rail)				For CLASSIC, GENESIS, & MAJESTIC 8' Nominal (91.95" Rail)						
Post Size	2-1/2"	3"	2-1/2"	3"	2-1/2"	3"	2-1/2"	3"	2-1/2"	3"	
Bracket Type	Montage Commercial Invincible Flat Mount (BB118)		Montage Commercial Invincible Line 2-1/2" (BB119) 3" (BB120)		Montage Commercial Universal (BB112)	Montage Commercial Line Blvd. (BB114)	Montage Commercial Flat Mount (BB111)		Montage Commercial Swivel (BB113)*		
Post Settings ± 1/4" O.C.	94"	94-1/2"	94"	94-1/2"	95"	95"	95"	95-1/2"	*95"	*95-1/2"	

\*Note: When using BB304 swivel brackets on either or both ends of a panel installation, care must be taken to ensure the spacing between post and adjoining pickets meets applicable codes. This will require trimming one or both ends of the panel.

**Fence Installation Maintenance.**

When cutting/drilling rails or posts adhere to the following steps to seal the exposed steel surfaces; 1) Remove all metal shavings from cut area. 2) Apply zinc-rich primer to thoroughly cover cut edge and/or drilled hole; let dry. 3) Apply 2 coats of custom finish paint matching fence color. Failure to seal exposed surfaces per steps 1-3 above will negate warranty. Ameristar spray cans or paint pens shall be used to

prime and finish exposed surfaces; it is recommended that paint pens be used to prevent overspray. Use of non-Ameristar parts or components will negate the manufactures' warranty.

**Gate Installation.**

Gate posts shall be spaced according to the manufacturers' gate drawings, dependent on standard out-to-out gate leaf dimensions and gate hardware selected. Type and quantity of gate hinges shall be based on the application; weight, height, and number of gate cycles. The manufacturers' gate drawings shall identify the necessary gate hardware required for the application. Gate hardware shall be provided by the manufacture of the gate and shall be installed per manufacturer's recommendations.

**Cleaning.**

Contractor shall clean the jobsite of excess materials; post-hole excavations shall be scattered uniformly away from posts.

**D. Method of Measurement.** The City will measure fencing by the linear foot acceptably completed and the gates by each one acceptably completed.

**E. Basis of Payment.** Fencing and gates shall be paid for according to the contract unit price. Price bid shall include furnishing and installing including all materials, equipment and labor for a complete installation as required.

**BID ITEM 90005-WALL MODULAR BLOCK GRAVITY**

**A. Description.** This special provision describes designing, furnishing materials, and erecting a permanent earth retention system in accordance to the lines, dimension, elevations and details as shown on the plans and provided in the contract. The design life of the wall and all wall components shall be 75 years.

**B. Materials.**

**B.1 Proprietary Modular Block Gravity Wall Systems.**

Wall system shall be Classic Colonial 8-inch Straight Face Split 6"/12" as manufactured by Rockwood Retaining Walls, Inc. or equal. Color shall be selected by City from manufacturer's standard options. Other proprietary wall systems may be used for this work, but must conform to the requirements of this specification and be pre-approved for use by Engineer.

**B.2 Design Requirements.**

It is the responsibility of Contractor to supply a design and supporting documentation as required by this special provision for review by Engineer to show that the proposed wall design is in compliance with the design specifications. The following shall be submitted to Engineer for review and acceptance no later than 21 days before wall construction will begin.

The design/shop plans shall be prepared on reproducible sheets 11 inch x 17 inch, including borders. Each sheet shall have a title block in the lower right corner. The title block shall include the project name. Design calculations and notes shall be on 8½ inch x 11 inch sheets, and shall contain the project name, name or designation of the wall, date of preparation, initials of designer and checker, and page number at the top of the page. All plans and calculations shall be signed, sealed, and dated by a professional engineer licensed in the State of Wisconsin. Four copies of the shop drawings and two copies of the design calculations and supporting materials shall be submitted.

The design of the Modular Block Gravity Wall shall be in conformance to the latest edition of the AASHTO Standard Specifications for Highway Bridges including interim specifications, the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2012 Edition, and standard engineering design procedures as determined by Engineer. The design must include internal and external stability analyses that clearly show the factors of safety for overturning, sliding, and soil bearing stress.

The width of the modular block from front face to back face of the wall shall be given in the design computations and shown on the wall shop drawings.

The minimum embedment to the bottom of the modular block shall be 1 foot 6 inches, or as specified in the plan.

### **B.3 Wall System Components.**

Materials furnished under this contract shall conform to the requirements hereinafter provided.

#### **B.3.1 Backfill.**

Wall Backfill, Type A, shall comply with the requirements for 3/4" crushed stone as given in City of Madison standard specification 202.2(e). All backfill placed within a zone from the base of the leveling pad to the top of the final layer of wall facing units and within 1 foot behind the back face of the wall shall be Wall Backfill, Type A. This includes all material used to fill openings in the wall facing units.

A layer of Geotextile Fabric Type "DF" (Schedule B) as specified in section 645.2.4 in the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2012 Edition, shall be placed vertically between the retained soil and the Type A backfill. The geotextile fabric shall extend from the bottom of the leveling pad to 6 inches below the surface of the retained soil. The geotextile shall then wrap across the top of the Type A backfill to the back of block wall facing.

#### **B.3.2 Wall Facing.**

Provide wall facing units that consist of precast modular concrete blocks. All units shall incorporate a mechanism or devices that will develop a mechanical connection between vertical block layers. Units that are cracked, chipped or have other imperfections in accordance to ASTM C1372 or excessive efflorescence shall not be used within the wall. A single block type and style shall be used throughout each wall. The color and surface texture of the block shall be as given on the plan, or chosen by the City.

The top course of facing units shall be a solid precast concrete unit designed to be compatible with the remainder of the wall. The finishing course shall be bonded to the underlying facing units with a durable, high strength, flexible adhesive compound compatible with the block material. The vertical dimension of the cap shall not be less than 3½ inches.

Block dimensions may vary no more than ±1/8 inch from the standard values published by the manufacturer, in accordance to ASTM C1372. Blocks must have a minimum depth (front face to back face) of 8 inches. The front face of the blocks shall conform to plan requirements for color, texture, or patterns.

Cementitious materials and aggregates for modular blocks shall conform to the requirements of ASTM C1372 section 4.1 and 4.2. Modular blocks shall meet the following requirements:

<b>Test</b>	<b>Method</b>	<b>Requirement</b>
Compressive Strength (psi)	ASTM C140	5000 min.
Water Absorption (%)	ASTM C140	6 max.
Freeze-Thaw Loss (%)	ASTM C1262 <sup>(1)</sup>	
40 cycles, 5 of 5 samples		1.0 max. <sup>(2)</sup>
50 cycles, 4 of 5 samples		1.5 max. <sup>(2)</sup>

<sup>(1)</sup> Test shall be run using a 3% saline solution.  
<sup>(2)</sup> Test results that meet either of the listed requirements for Freeze-Thaw Loss are acceptable

All blocks shall be certified as to strength, absorption, and freeze-thaw requirements by an independent testing laboratory. At the time of delivery of the certified blocks, furnish Engineer a certified test report for each lot of modular blocks. The certified test report shall clearly identify the firm that conducted the sampling and testing, the type of block, the date sampled, name of the person conducting the sampling, the represented lot, the number of blocks in the lot, and the specific test results for each of the stated requirements of this specification. A lot shall not exceed 5000 blocks. The certified test results will represent all blocks within the lot. Each pallet of blocks delivered shall bear lot identification information. Block lots that do not meet the requirements of this specification or blocks without supporting certified test reports will be rejected and shall be removed from the project at Contractor's expense.

### **B.3.3 Leveling Pad.**

A compacted leveling pad shall be made from clear stone as given in City of Madison standard specification 202.2(d). The depth of the aggregate leveling pad shall be minimum 24 inches. The clear stone shall be placed in lifts less than 8 inches thick and compacted with a vibratory plate compactor until no further consolidation is evident. The aggregate leveling pad shall be as wide as the blocks plus 24 inches with 12 inches of pad extending beyond the front face of the wall.

## **C. Construction Methods.**

### **C.1 General.**

Construct the modular block gravity wall in accordance to the manufacturer's instructions, at the locations and to the dimensions shown on the drawings. At the end of each working day, provide good temporary drainage such that the backfill shall not become contaminated with run-off soil or water if it should rain. Do not stockpile or store materials or large equipment within 10 feet of the front face of the wall.

Place materials in the areas as indicated on the plans and as detailed in this specification. Backfill lifts shall be no more than 8-inches in depth. Backfilling shall closely follow erection of each course of wall facing units.

Compact each layer of wall backfill Type A with at least three passes of lightweight manually operated compaction equipment acceptable to Engineer.

Conduct backfilling operations in such a manner as to prevent damage or misalignment of the wall facing units. At no expense to the City, correct any such damage or misalignment.

Do not operate tracked or wheeled equipment within 3 feet of the back face of the blocks. Engineer may request the removal of any large or heavy equipment that may cause damage or misalignment of the wall facing units.

After construction of the wall, restore the surrounding area located above and below all precast block retaining wall sites to its original condition and to the finished details on the plans.

### **C.2 Geotechnical Information.**

Geotechnical data to be used in the design of the wall is given in the geotechnical report prepared by CGC, Inc. and attached at the end of these specifications. The allowable soil bearing capacity is given in the report. After completion of excavation, the project soils engineer, CGC, will inspect the site and determine if the foundation is adequate for the intended loads. Inform Engineer at least two working days prior to completion of excavation so that the project soils engineer can be notified to perform the inspection.

## **D. Method of Measurement.**

The City will measure Wall Modular Block Gravity in area by the square foot of face on a vertical plane between the top of the leveling pad and a line indicating the top of wall including wall cap or copings as

required and shown on the plans. Wall area constructed above or below these limits will not be measured for payment.

**E. Basis of Payment.**

Wall Modular Block Gravity will be paid for at the contract unit price. Payment is full compensation for supplying a design and shop drawings; preparing the site, including all necessary excavation and disposal of surplus materials; providing the leveling pad; supplying all necessary wall components to produce a functional system including cap and copings; constructing the retaining system; providing backfill, backfilling, and compacting the backfill; and furnishing and installing geotextile fabric. Removal of existing cast-in-place retaining walls will be paid for separately.

Any required topsoil and seeding will be paid for at the contract unit price for topsoil and seeding respectively.

**BID ITEM 90006–WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH**

**A. Description.** This special provision describes designing, furnishing materials and erecting a permanent earth retention system in accordance to the lines, dimension, elevations and details as shown on the plans and provided in the contract. The design life of the wall and all wall components shall be 75 years.

**B. Materials.**

**B.1 Proprietary Mechanically Stabilized Earth Modular Block Wall Systems.**

Wall system shall be Classic Colonial 8-inch Straight Face Split 6”/12” as manufactured by Rockwood Retaining Walls, Inc. or equal. Color shall be selected by City from manufacturer’s standard options. Other proprietary wall systems may be used for this work, but must conform to the requirements of this specification and be pre-approved for use by Engineer.

**B.2 Design Requirements.**

It is the responsibility of Contractor to supply a design and supporting documentation as required by this special provision for review by Engineer to show the proposed wall design is in compliance with the design specifications.

The design/shop plans shall be prepared on reproducible sheets 11 inch x 17 inch, including borders. Each sheet shall have a title block in the lower right corner. The title block shall include the project name. Design calculations and notes shall be on 8 ½ inch x 11 inch sheets, and shall contain the project name, designation of the wall, date of preparation, initials of designer and checker, and page number at the top of the page. All plans and calculations shall be signed, sealed and dated by a professional engineer licensed in the State of Wisconsin.

The design of the Wall Modular Block Mechanically Stabilized Earth shall consider the internal stability of the wall mass, including the reinforcement pullout resistance. The design shall be in compliance with the current AASHTO Standard Specifications for Highway Bridges including interim specifications, the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2012 Edition, and standard engineering design procedures as determined by Engineer. The walls shall be designed for the heights shown on the plans and 100% of the soil reinforcement shall be connected to the wall facing. The maximum value of the angle of internal friction of the wall backfill material shall be assumed to be 30 degrees without a certified report of tests. If a certified report of tests yields an angle of internal friction greater than 30 degrees, the larger test value may be used for design, up to a maximum value of 36 degrees.

The embedment to the top of the leveling pad shall be 1 foot 6 inches or as specified in the plan or AASHTO section 5.8.1 minimum, whichever is greater. Potential depth of frost penetration at the wall location shall not be considered in designing the wall for depth of leveling pad. Vertical earth pressure

shall be determined using the Meyerhof distribution. A connection factor of safety of 1.5 at 0.75 inch deformation is required. A geosynthetic waterproof membrane is not required to cover the reinforced mass.

Where the exposed wall height is equal to or greater than 7 feet (measured from the top of wall cap to top of grade), the length of soil reinforcement measured from the back face of the wall shall not be less than 9 feet. Where the exposed wall height is less than 7 feet, the length of soil reinforcement measured from the back face of the wall shall be determined by the wall designer, but shall not be less than 6 feet. The soil reinforcement shall extend 3 feet beyond the theoretical failure plane in all cases. The maximum vertical spacing of soil reinforcement layers shall be two times the block depth (front face to back face) or 32 inches, whichever is less. The first (bottom) layer of reinforcement shall be placed no further than 12 inches above the top of the leveling pad, but at least one block height above the leveling pad. The last (top) layer of soil reinforcement shall be no further than 24 inches below the top of the uppermost block.

Walls shall be designed for a 240 psf surcharge load acting along the top surface behind the wall to account for vehicular traffic.

Walls and concrete wall cap shall be designed for attachment of fencing as shown on the drawings. The walls and concrete cap must be designed to resist vertical and lateral loads and moments transferred from the fence. Loads shall be determined as specified in AASHTO Section 13.

Submit the following to Engineer for review: complete design calculations, explanatory notes, specifications, and detailed plans and shop drawings for the proposed wall system. Submit them no later than 21 days prior to beginning construction of the wall. The detailed plans and shop drawings shall include all details, dimensions, quantities and cross-sections necessary to construct the walls. The design calculations and notes shall clearly indicate the factor of safety against pullout and the design soil pressure beneath the wall footing and retained earth mass. Four copies of shop drawings and two copies of the design calculations and supporting materials shall be submitted.

### **B.3 Wall System Components.**

Materials furnished under this contract shall conform to the requirements hereinafter provided.

#### **B.3.1 Leveling Pad.**

A compacted leveling pad shall be made from clear stone as given in City of Madison standard specification 202.2(d). The depth of the aggregate leveling pad shall be minimum 24 inches. The clear stone shall be placed in lifts less than 8 inches thick and compacted with a vibratory plate compactor until no further consolidation is evident. The aggregate leveling pad shall be as wide as the blocks plus 24 inches with 12 inches of pad extending beyond the front face of the wall.

#### **B.3.2 Wall Facing.**

Wall facing units shall consist of precast modular concrete blocks. All units shall incorporate a mechanism or devices that will develop a mechanical connection between vertical block layers. Units that are cracked, chipped, or have other imperfections in accordance to ASTM C1372 or excessive efflorescence shall not be used within the wall. A single block type and style shall be used throughout each wall. The color and surface texture of the block shall be as given on the plan or chosen by the City.

A formed cast-in-place concrete cap shall be used to finish the wall as shown on the plans. Expansion joints shall be placed in the cap to correspond with each 24 inch change in vertical wall height or at a maximum spacing of 10 feet. Concrete for all cast-in-place caps shall conform to Sections 501 and 504 of the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2012 Edition. All concrete shall be Grade A. Uncoated and epoxy-coated high strength bar steel reinforcement shall conform to Section 505 of the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2012 Edition. The reinforced concrete shall be constructed as shown on the drawings and as specified in Sections 501, 504, and 505 of the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2012 Edition. Concrete protective surface treatment shall be applied to all

exposed faces of the concrete cap in accordance with Section 502 of the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2012 Edition.

Block dimensions may vary no more than  $\pm 1/8$  inch from the standard values published by the manufacturer in accordance to ASTM C1372. Blocks must have a minimum depth (front face to back face) of 12 inches. The front face of the blocks shall conform to plan requirements for color, texture, or patterns.

Cementitious materials and aggregates for modular blocks shall conform to the requirements of ASTM C1372 section 4.1 and 4.2. Modular blocks shall meet the following requirements.

Test	Method	Requirement
Compressive Strength (psi)	ASTM C140	5000 min.
Water Absorption (%)	ASTM C140	6 max.
Freeze-Thaw Loss (%)	ASTM C1262 <sup>[1]</sup>	
40 cycles, 5 of 5 samples		1.0 max. <sup>[2]</sup>
50 cycles, 4 of 5 samples		1.5 max. <sup>[2]</sup>

<sup>[1]</sup> Test shall be run using a 3% saline solution.

<sup>[2]</sup> Test results that meet either of the listed requirements for Freeze-Thaw Loss are acceptable.

All blocks shall be certified as to strength, absorption, and freeze-thaw requirements by an independent testing laboratory. At the time of delivery of the certified blocks, furnish Engineer a certified test report for each lot of modular blocks. The certified test report shall clearly identify the firm that conducted the sampling and testing, the type of block, the date sampled, name of the person conducting the sampling, the represented lot, the number of blocks in the lot, and the specific test results for each of the stated requirements of this specification. A lot shall not exceed 5000 blocks. The certified test results will represent all blocks within the lot. Each pallet of blocks delivered shall bear lot identification information. Block lots that do not meet the requirements of this specification or blocks without supporting certified test reports will be rejected and shall be removed from the project at Contractor's expense.

### B.3.3 Geogrids.

Geogrid supplied as reinforcing members shall be manufactured from long chain polymers limited to polypropylene, high-density polyethylene, polyaramid, and polyester.

Geogrids shall form a uniform rectangular grid of bonded, formed, or fused polymer tensile strands crossing with a nominal right angle orientation. The minimum grid aperture shall be 0.5 inch. The geogrid shall maintain dimension stability during handling, placing, and installation. The geogrid shall be insect, rodent, mildew, and rot resistant.

The geogrid shall be furnished in a protective wrapping that shall prevent exposure to ultraviolet radiation and damage from shipping or handling. The geogrid shall be kept dry until installed. Each roll shall be clearly marked to identify the material contained.

The wall designer shall supply the allowable Tension Reinforcement Load ( $T_A$ ) used in the design for each reinforcement layer.

The value of  $T_A$  for a specific geogrid shall be the lowest value as determined by the following two methods for each layer used.

1. The Ultimate Tensile Strength ( $T_{ult}$ ) divided by the factors  $RF_{ID}$ ,  $RF_{CR}$ ,  $RF_D$  and FS.



Hence,

$$T_A = \frac{T_{ult}}{RF_{ID} \times RF_{CR} \times RF_D \times FS}$$

where:

$T_{ult}$  = is the ultimate tensile strength of the reinforcement determined from wide width tensile tests (ASTM D4595) for geogrids, or rib tensile test (GRI:GG1), but at a strain rate of 10% per minute.

$RF_{ID}$  = strength reduction factor to account for installation damage to the reinforcement. In no case shall  $RF_{ID}$  be less than 1.1.

$RF_{CR}$  = strength reduction factor to prevent long-term creep rupture of the reinforcement. In no case shall  $RF_{CR}$  be less than 1.2.

$RF_D$  = strength reduction factor to prevent rupture of the reinforcement due to chemical and biological degradation. In no case shall  $RF_D$  be less than 1.1.

$FS$  = a global safety factor which accounts for uncertainties in structure geometry, fill properties, externally applied loads, overstress due to load nonuniformities, and uncertainties in long-term reinforcement strength shall be 1.5.

Values for  $RF_{ID}$ ,  $RF_{CR}$ , and  $RF_D$  shall be determined from product specific test results.

Guidelines for how to determine  $RF_{ID}$ ,  $RF_{CR}$ , and  $RF_D$  from product specific data are provided in FHWA Publication No. FHWA SA-96-071 "Mechanically Stabilized Earth Walls and Reinforced Soil Slopes Design and Construction Guidelines" Appendix B, and in FHWA Publication No. FHWA SA-96-072 "Corrosion/Degradation of Soil Reinforcements for Mechanically Stabilized Earth Walls and Reinforced Soil Slopes."

2 The geogrid connection load ( $T_B$ ) divided by the factor  $FS = 1.5$ . Hence,

$$T_A = \frac{T_B}{FS}$$

The Geogrid Connection Load ( $T_B$ ) is defined as the maximum tension load that may be developed in a geogrid reinforcement layer that will result in no more than 0.75 inches of deformation. This value shall be determined from tests conducted on the same facing blocks and grids as proposed for the wall and shall cover a range of overburden pressures comparable to those anticipated in the proposed wall. The value of  $T_B$  for any specific layer shall be determined for the overburden pressure applied to that specific layer. The test shall be conducted on grid samples at least 8 inches wide and at a rate of elongation not exceeding 0.05 inches per minute. The geogrid shall remain normal to the block face during loading. Contractor shall provide to Engineer all load test data used to determine the value of  $T_B$ .

Submit the following items for the review and acceptance of Engineer.

1. The Allowable Reinforcement Tension Load ( $T_A$ ) for the geogrid to be supplied.
2. The values of  $T_{ult}$ ,  $RF_{ID}$ ,  $RF_{CR}$ ,  $RF_D$ , and  $T_B$  used to determine  $T_A$ .

Work on the wall shall not begin until Engineer accepts these submittals.

**B.3.4 Connectors.**

Pins, rods, clips, or other devices used to develop mechanical interlock between facing unit block layers shall be manufactured from corrosion resistant materials. Furnish documentation that establishes and substantiates the design life of such devices.

**B.3.5 Backfill Materials.**

Wall Backfill, Type A, shall comply with the requirements for 3/4" crushed stone as given in City of Madison standard specification 202.2(e). All backfill placed within a zone from the base of the leveling pad to the top of the final layer of wall facing units and within 1 foot behind the back face of the wall shall be Wall Backfill, Type A. This includes all material used to fill openings in the wall facing units.

Wall Backfill, Type B, shall comply with the requirements for Select Fill as contained in standard spec 202.2(b). All backfill placed in a zone extending horizontally from 1 foot behind the back face of the wall to 1 foot beyond the end of the reinforcement and extending vertically from the base of the leveling pad to the top of the final layer of all facing units shall be Wall Backfill, Type B. Select fill shall be compacted to at least 90% compaction (ASTM D1557) up to three feet below pavement and 95% in the upper three feet. Compaction of select fill within four to six feet of the modular block retaining walls shall be performed with hand-operated compaction equipment.

All backfill within the reinforced zone shall meet the following pH and Angle of Internal Friction requirements.

Test	Method	Value
pH	AASHTO T-289	4.5–10.0
Sulfate content	AASHTO T-290	200 ppm max.
Chloride content	AASHTO T-291	100 ppm max.
Electrical Resistivity	AASHTO T-288	3000 ohm/cm min.
Angle of Internal Friction	AASHTO T-236	30 degrees min.

Prior to placement of the backfill, obtain and furnish to Engineer certified report of test results that the backfill material complies with the requirements of this specification. Tests shall be performed by a certified independent laboratory. When backfill characteristics and/or sources change, a certified report of tests shall be provided for the new backfill material.

**C. Construction Methods.**

**C.1 General.**

Place the wall facing units in accordance with the manufacturer’s instructions and to the lines, elevations, batter, and tolerances as shown on the plans. Center the initial layer of facing units on the leveling pad; then level them and properly align them. Fill formed voids or openings in the facing units with wall backfill, Type A. Remove all debris on the top of each layer of facing units, before placing the next layer of facing units.

Install all pins, rods, clips, or other devices used to develop mechanical interlock between facing unit layers in accordance to the manufacturer’s directions.

All excavation for the Wall Modular Block Mechanically Stabilized Earth shall conform to Article 201 of the City of Madison standard specifications. At the end of each working day, provide good temporary drainage such that the backfill shall not become contaminated with run-off soil or water if it should rain. Do not stockpile or store materials or large equipment within 10 feet of the front face of the wall.

**C.2 Backfill.**

Place backfill materials in the areas as indicated on the plans and as detailed in this specification. Backfill lifts shall be no more than 8-inches in depth. Backfilling shall closely follow erection of each course of wall facing units. Compact wall backfill Type A with at least three passes of lightweight manually operated compaction equipment acceptable to Engineer.

Compact wall backfill Type B to at least 90% compaction (ASTM D1557) up to three feet below pavement and 95% in the upper three feet. Compaction of wall backfill type B within four to six feet of the modular block retaining walls shall be performed with hand-operated compaction equipment. Perform compaction testing on the backfill using a nuclear gauge. Ensure that the tester is a HTCP certified Nuclear Density Technician I. Conduct testing at a minimum frequency of 1 test per 2-foot layer per 200 feet of wall, or major portion thereof. A minimum of one test for every 2-foot layer is required. Test sites shall be selected using ASTM Method D3665. Deliver documentation of all compaction testing results to Engineer at the time of testing.

Conduct backfilling operations in such a manner as to prevent damage or misalignment of the wall facing units, soil reinforcement, or other wall components. At no expense to the city, correct any such damage or misalignment. A field representative of the wall supplier shall be available during wall construction to provide technical assistance to Contractor and Engineer.

Place and compact the MSE backfill to the level of the next higher layer of MSE reinforcement before placing the MSE reinforcement or connecting it to the wall facing. The MSE reinforcement shall lay horizontally on top of the most recently placed and compacted layer of MSE backfill.

Do not operate tracked or wheeled equipment on the backfill within 3 feet from the back face of modular blocks. Engineer may request the removal of any large or heavy equipment that may cause damage or misalignment of the wall facing units.

### **C.3 Soil Reinforcement.**

Place soil reinforcement at the positions and to the lengths as indicated on the accepted shop drawings. Take care that backfill placement over the positioned soil reinforcement elements does not cause damage or misalignment of these elements. Correct any such damage or misalignment. Do not operate wheeled or tracked equipment directly on the soil reinforcement. A minimum cover of 6 inches is required before such operation is allowed.

### **C.4 Geogrid Layers.**

Place and anchor geogrid material between wall unit layers in the same manner as used to determine the Geogrid Connection Load ( $T_B$ ). Place the grid material so that the machine direction of the grid is perpendicular to the wall face. Each grid layer shall be continuous throughout the lengths indicated on the plans. Join grid strips with straps, rings, hooks or other mechanical devices to prevent movement during backfilling operations. Prior to placing backfill on the grid, pull the grids taut and hold in position with pins, stakes or other methods approved by the manufacturer.

### **C.5 Geotechnical Information.**

Geotechnical data to be used in the design of the wall is given in the geotechnical report prepared by CGC, Inc. and attached at the end of these specifications. After completion of excavation, the project soils engineer, CGC, will inspect the site and determine if the foundation is adequate for the intended loads. Inform Engineer at least two working days prior to completion of excavation so that the project soils engineer can be notified to perform the inspection.

### **D. Method of Measurement.**

The city will measure Wall Modular Block Mechanically Stabilized Earth in area by the square foot of face on a vertical plane between the top of the leveling pad and a line indicating the top of wall including wall cap or copings as required and shown on the plans. Wall area constructed above or below these limits will not be measured for payment.

### **E. Basis of Payment.**

Wall Modular Block Mechanically Stabilized Earth will be paid for at the contract unit price. Payment is full compensation for supplying a design and shop drawings; preparing the site, including all necessary excavation and disposal of surplus materials; providing the leveling pad; supplying all necessary wall

components to produce a functional system including cap and copings; constructing the retaining system; providing backfill, backfilling and compacting; and performing compaction testing. Removal of existing cast-in-place retaining walls, fencing and other items above the wall cap or coping will be paid for separately.

### **BID ITEM 90007-REMOVAL OF EXISTING STRUCTURES**

**A. Description.** The work shall consist of removing existing concrete retaining walls, stairs and other miscellaneous structures where shown on the drawings and not covered elsewhere in the specifications. This work shall also consist of providing and applying a waterproof cement-based coating to existing concrete wall surfaces where shown on the drawing.

**B. Construction Methods.** Removal of existing structures shall be performed as shown on the drawings and as specified in Section 204 of the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2012 Edition. All old material including fill, concrete, asphalt, fencing, etc. that is removed and not used as part of the new work shall be disposed of off-site at the expense of Contractor.

**C. Method of Measurement.** The City will measure Removal of Existing Structures as a single lump sum unit.

**D. Basis of Payment.** Removal of Existing Structures shall be paid for according to the contract unit price. Price bid shall include materials, labor, and equipment necessary for complete removal and disposal of all structures shown on the plans to be removed.

### **BID ITEM 90008-REINFORCED CONCRETE**

**A. Description.** The work shall consist of providing reinforced concrete stairs and approximately 28 lineal feet of new wall coping at the existing underground storage bunker as shown on the drawings.

**B. Materials.**

CONCRETE: Concrete shall conform to Sections 501 and 504 of the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2012 Edition. All concrete shall be Grade A or A-FA.

STEEL REINFORCEMENT: Uncoated and epoxy-coated high strength bar steel reinforcement shall conform to Section 505 of the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2012 Edition.

ADHESIVE ANCHORS: Adhesive anchors shall conform to the requirements of Section 502 of the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2012 Edition for Type L or S anchors.

**C. Construction Methods.** The reinforced concrete shall be constructed as shown on the drawings and as specified in Sections 501, 504, and 505 of the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2012 Edition.

**D. Method of Measurement.** The City will measure reinforced concrete by the cubic yard acceptably completed. The City will not measure work or material for forms, falsework, cofferdams, pumping, bracing or other incidentals necessary to complete the work as required in these specifications.

**E. Basis of Payment.** Reinforced Concrete shall be paid for according to the contract unit price. Price bid shall include materials, labor, and equipment necessary for a complete installation as shown and specified including providing forms and falsework; for furnishing, placing, finishing, curing, and

protecting concrete, and reinforcing; and for measuring and evaluating concrete strength including fabricating and testing cylinders, and evaluating maturity.

### **BID ITEM 90009–HANDRAILS**

**A. Description.** The work includes painted welded steel handrail system complete.

**B. Materials.** Rails and posts shall be ASTM A53 pipe, Grade B, 1 1/2-inch standard pipe. Finished joints shall be smooth. Posts shall be anchored to the top of walls and decks with a base plate. Base plate shall be ASTM A36 steel. Stainless steel expansion bolt anchoring system, as shown on the drawings shall be used. Welding materials shall be E70XX electrodes, AWS D1.1

All rails and posts shall be shop-primed with one coat of Sherwin Williams Macropoxy 646 Beige primer, or equal (minimum dry thickness of 4.0 mils). Field-applied finish coats shall consist of one coat of Sherwin Williams Macropoxy 646 (minimum dry thickness of 5.0 mils) and one coat of Acrolon 218HS (minimum thickness of 5.0 mils), or equal. City to select finish coat color.

**C. Construction Methods.** Install components plumb and level, accurately fitted, and free from distortion or defects.

**D. Method of Measurement.** The City will measure handrails as a single lump sum unit.

**E. Basis of Payment.** Handrails shall be paid for according to the contract unit price. Price bid shall include materials, labor, and equipment necessary for a complete installation as shown and specified.

### **BID ITEM 90010–EXCAVATION**

**A. Description.** This section describes excavation required for all new work not covered elsewhere in these specifications.

**B. Construction Methods.** Excavation shall be performed as shown on the drawings and as specified in Section 206 of the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2012 Edition. All old material including fill, concrete, asphalt, fencing, etc. that is removed and not used as part of the new work shall be disposed of off-site at the expense of Contractor.

**C. Method of Measurement.** The City will measure Excavation as a single lump sum unit.

**D. Basis of Payment.** Excavation shall be paid for according to the contract unit price. Price bid shall include materials, labor, and equipment necessary for complete removal and disposal of all structures shown on the plans to be removed.

### **BID ITEM 90011–REMOVING ASPHALTIC SURFACE**

**A. Description.** This section describes removing existing asphalt pavement driveways and parking areas where shown on the drawings.

**B. Construction Methods.** Removing asphaltic surface shall be performed as shown on the drawings and as specified in Section 204 of the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2012 Edition. Removed material shall be disposed of off-site at the expense of Contractor.

Existing base course (approximately 3-inches thick) shall be stockpiled on site and incorporated into the new work as described in bid item 90011.

In lieu of removing and disposing of off-site the asphalt surface of the main parking/playground area, Contractor may pulverize and reuse the existing 2-inch asphalt surface and 3-inch base course as described in Bid Item 90012.

**C. Method of Measurement.** The City will measure Removing Asphaltic Surface by the square yard acceptably completed regardless of the depth or number of courses encountered.

**D. Basis of Payment.** Removing asphaltic surface shall be paid for according to the contract unit price. Price bid shall include materials, labor, and equipment necessary for complete removal and disposal of asphaltic surfaces shown on the plans to be removed.

### **BID ITEM 90012–REUSE OF EXISTING BASE COURSE**

**A. Description.** This section describes the removal and reuse of existing crushed aggregate base course for below the new asphaltic pavement.

**B. Materials.** Existing crushed aggregate base course (approximately 3-inch thickness) shall conform to 401.1(b) of the standard specifications. The determination of the acceptability of the existing crushed aggregate base course shall be made by field evaluation by the project soils engineer.

**C. Construction Methods.** The existing crushed aggregate base course below the asphalt pavement in the main parking/playground area shall be stripped and stockpiled on-site. It shall be incorporated into the new work in accordance with Article 401 of the Standard Specifications including, but not limited to, spreading, shaping, and compacting.

**D. Method of Measurement.** The City will measure Reuse of Existing Base Course by the cubic yard of stripped and stockpiled material. The volume of material will be estimated after it is stockpiled, but before it is incorporated into the new work.

**E. Basis of Payment.** Reuse of existing base course shall be paid for according to the contract unit price. Price bid shall include materials, labor, and equipment necessary for complete removal and reuse of existing base course material.

### **BID ITEM 90013–CONCRETE SURFACE REPAIR**

**A. Description.** The work shall consist of concrete surface repairs on the existing exposed concrete retaining walls in the park that are to remain.

**B. Materials.** Concrete shall conform to Section 509 of the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2011 Edition.

**C. Construction Methods.** The concrete surface repair shall be performed as shown on the drawings and as specified in Section 509 of the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2012 Edition. The concrete surface repair work shall be completed after the existing fence has been removed, but before the new fence is installed. Contractor shall identify all locations that need repair. Prior to starting work, Contractor shall review all of the proposed repair locations with the City. After reviewing the locations, the City will identify which ones are to be repaired.

**D. Method of Measurement.** The City will measure Concrete Surface Repair by the square foot acceptably completed, measured as the exposed surface area, following removal, as delineated by the saw cuts.

**E. Basis of Payment.** Concrete Surface Repair shall be paid for according to the contract unit price. Price bid shall include removing and disposing of deteriorated concrete; and for cleaning reinforcing steel; for forming, furnishing, hauling, placing, curing, and protecting all materials.

## **BID ITEM 90014–PULVERIZE AND REUSE EXISTING ASPHALT AND BASE COURSE**

**A. Description.** This section describes pulverizing and reusing the existing 2-inch asphalt surface and 3-inch base course below the new asphaltic pavement in the upper playground surface lot (Alternate No. 2). If this work is selected, the asphalt in this area will not be removed as described in Bid Item 90010.

**B. Construction Methods.** The existing asphalt and crushed aggregate base course in the main parking/playground area shall be pulverized to a blended uniform well-graded material in accordance with specification section 403.3 and then stripped and stockpiled on-site. It shall be incorporated into the new work in accordance with Article 401 of the standard specifications including, but not limited to spreading, shaping, and compacting.

**C. Method of Measurement.** The City will measure Pulverize and Reuse Existing Asphalt and Base Course by the cubic yard of stripped and stockpiled material. The volume of material will be estimated after it is stockpiled, but before it is incorporated into the new work.

**D. Basis of Payment.** Pulverize and Reuse Existing Asphalt and Base Course shall be paid for according to the contract unit price. Price bid shall include materials, labor, and equipment necessary for complete pulverization, removal and reuse of existing base course material.



Construction • Geotechnical  
Consulting Engineering/Testing

December 22, 2011  
C11054-42

Mr. Bill Bauer, ASLA  
Parks Division, Department of Public Works  
210 Martin Luther King, Jr. Blvd, Suite 104  
Madison, WI 53701-2987

Re: Geotechnical Exploration Report  
Proposed Retaining Wall Replacement  
Olive Jones Park – Randall Elementary School  
Regent Street  
Madison, Wisconsin

Dear Mr. Bauer:

Construction • Geotechnical Consultants, Inc. (CGC) has completed the subsurface exploration program for the retaining wall proposed to replace the existing wall along the east side of Olive Jones Park. The purpose of this report is to evaluate the subsurface conditions in the vicinity of the wall and to provide geotechnical recommendations regarding retaining wall design/construction. One electronic copy of this report is submitted for your use, and we can mail a paper copy upon request. We are also sending electronic copies to Mr. Paul Stauffer, City of Madison and Mr. Keith Behrend, structural engineer with Strand Associates.

### PROJECT AND SITE DESCRIPTION

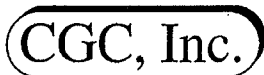
An 8-ft high cast-in-place concrete retaining wall currently exists along the east edge of Olive Jones Park, separating the park from the adjacent Randall Elementary School. The retaining wall is leaning outward in several locations, has been extensively repaired once already about 20 years ago, and is in need of replacement. The park property, west of the retaining wall, is a paved asphalt playground used by the school during school hours and by the neighborhood at other times. The playground serves as a parking lot on football weekends but is otherwise not open to vehicles.

Wall types being considered for the replacement include a modular block, mechanically stabilized earth (MSE) wall, a conventional cantilevered cast-in-place concrete wall, and possibly a concrete wall incorporating Geofam to essentially eliminate lateral earth pressures. The replacement wall would extend along the entire east side of the park and include shorter, tapered sections on the north and south sides.

### SUBSURFACE CONDITIONS

Subsurface conditions along the proposed replacement wall alignment were explored by drilling four Standard Penetration Test (SPT) soil borings behind the wall to planned depths of 25 ft and two SPT borings to 15 ft at the base of the wall on Randall School property. Actual termination depths for the borings behind the wall ranged from 16 to 24.5 ft where auger refusal was encountered on shallow bedrock. CGC marked the boring locations in the field and surveyed the ground surface elevations. The boring





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elevations are referenced to the northeast corner of the storage bunker that is built into the south half of the retaining wall, using an assumed benchmark elevation of 100.0 ft. The test borings were drilled on December 3, 2011 by Badger State Drilling (under subcontract to CGC) using a truck-mounted rotary CME-55 drill rig equipped with hollow-stem augers and an automatic hammer. The borings were drilled in general accordance with ASTM D1586 specifications. The specific procedures used for drilling and sampling are described in Appendix A. The boring locations are shown in plan on the Soil Boring Location Map attached in Appendix B.

The subsurface profiles at the boring locations are fairly similar after factoring in the greater fill thickness in the four borings behind the wall. The subsurface profile can be summarized in general terms by the following strata, in descending order:

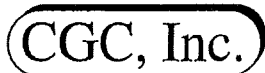
- About 1 to 8 ft of mixed soil *fill* (including the asphalt pavement and underlying layers of sand, crushed sandstone and clay); over
- 3 to 8 ft of medium stiff to hard *lean clay*; followed by
- 4.5 to 8 ft of medium to very dense *sand strata* with varying silt and gravel contents, underlain by
- Very dense probable *weathered sandstone* to auger refusal at 16 to 24.5 ft in the deeper borings.

As exceptions to the above profile, the sand stratum was not encountered between the clay and apparent bedrock in Boring 3, and apparent weathered bedrock extends to the maximum depth explored (15 ft) in Borings 5 and 6 without reaching auger refusal.

Groundwater was not detected in the borings during or shortly after drilling. Although groundwater levels can be expected to fluctuate with seasonal variations in precipitation, infiltration, evapotranspiration and other factors, the short-term readings and our past experience in this area of Madison suggest that the water table is likely well below the anticipated excavation depths on this project. A more detailed description of the site soil and groundwater conditions is presented on the Soil Boring Logs attached in Appendix B.

#### RETAINING WALL DISCUSSION AND RECOMMENDATIONS

Subject to the limitations discussed below and based on the subsurface exploration and our analysis, it is our opinion that both a modular block mechanically stabilized earth (MSE) wall and a conventional cantilevered cast-in-place reinforced concrete retaining wall are suitable for this site. Geofoam backfill can be considered for the concrete wall but may not be economical. The following paragraphs discuss the external stability, global stability and settlement analyses that we conducted for the two walls. We understand that the *internal stability analyses* will be completed by the contractor/wall designer.



Mr. Bill Bauer  
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## 1. External Stability & Global Stability Analyses – MSE Wall

For the MSE wall option, we performed an external stability analysis following procedures in Chapter 14 of the WisDOT *Bridge Manual* based on the following parameters, geometric assumptions and other information provided by the City or presumed from our past experience with similar projects:

- Under this option, the wall would be a mechanically stabilized earth (MSE) retaining wall with modular block facing and plastic geogrid reinforcement.
- Wall geometry will closely match the existing conditions. The maximum exposed wall height will be 8 ft, with an embedment of 1.5 ft for a total wall height of 9.5 ft.
- A typical setback angle of 7 degrees from vertical has been assumed, corresponding to a 1H:8V slope on the face of the block wall.
- Horizontal slopes will be maintained both behind and at the base of the wall.
- A surcharge load of 240 psf will act along the top surface behind the wall to account for vehicular traffic, per WisDOT *Bridge Manual* guidelines.
- The estimated unit weight, friction angle and cohesion of the soils encountered in the borings, which were used in the external stability analysis, are provided in Table 1.
- Per WisDOT guidance, a moist unit weight of 120 pcf and friction angle of 30 degrees were assumed for the reinforced zone.
- The groundwater table is well below the base of the wall and does not affect external stability.
- The minimum reinforcement length was initially assumed to be 0.7 times the total wall height and was then adjusted to satisfy external and global stability requirements.
- The bearing capacity analyses neglected the embedment depth (in front of the wall), and passive resistance was ignored for the sliding analyses.
- We have assumed adequate drainage will be provided behind the wall such that hydrostatic pressures do not develop.

**Table 1**  
**Summary of Design Parameters and Analyses Results**  
**Mechanically Stabilized Earth (MSE) Retaining Wall**  
Olive Jones Park / Randall Elementary School, Regent Street, Madison, WI

Soil Parameters	Case A	Case B
Retained Soil (Existing Wall)		
Friction angle, $\phi$ , degrees	26	26
Cohesion, psf	0	0
Moist unit weight, pcf	120	120
Infill Soil		
Friction angle, $\phi$ , degrees	30	30
Cohesion, psf	0	0
Moist unit weight, pcf	120	120
<b>Wall Surcharge, psf</b>	240	240
<b>Wall Geometry</b>		
Total wall height, H, ft	9.50	9.50
Exposed wall height, ft	8.00	8.00
Wall embedment, ft	1.50	1.50
Setback angle, A, degrees	7	7
Backslope angle, B, degrees (2)	0	0
Block width, ft	1.0	1.0
<b>Calculated Width of Reinforced Zone, ft (1)</b>	8	9
Controlling factor in width calculation	sliding	sliding
<b>Calculated Factors of Safety</b>		
Overturning	4.85	5.94
Sliding	1.44	1.63
Global stability	--	1.45
<b>Bearing Capacity Check</b>	1.54	1.56
<b>Satisfies Criteria?</b>	NO	YES

(1) Length of soil reinforcement plus block width

(2) Estimated allowable bearing pressure, controlled by settlement; includes factor of safety of at least 2.5.



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We first analyzed the MSE walls for sliding, overturning and bearing capacity using an Excel™ spreadsheet we developed from procedures in Chapter 14 of the WisDOT *Bridge Manual*. The factors of safety for sliding, overturning and bearing capacity were first checked for the initially assumed reinforcement length. Once the sliding, overturning and bearing capacity criteria were satisfied, global stability was checked using the PCSTABL™ program using the modified Janbu method. For global stability, the failure surfaces were forced to pass near the heel and toe of the reinforced zone, essentially modeling the wall for this purpose as a rigid block, per WisDOT guidance. Global stability was checked for both short-term ( $\phi=0^\circ$ ) and long-term (drained) conditions, with the long-term strength parameters controlling the overall stability of the wall.

Based on the external and global stability analyses, the minimum reinforcement length for the 9.5-ft high retaining wall is 8 ft (i.e., 9 ft counting the width of the blocks). The external and global stability results are summarized in Table 1. Details of the external stability calculations are included in Appendix C, along with the PCSTABL global stability cross sections. We recommend that the external and global stability of the final wall design(s) be checked if they differ from our estimates. *Internal stability was not included in our work scope and should be checked by the wall designer.*

Other design or construction considerations relative to an MSE wall include the following:

- Because the replacement wall will essentially be rebuilt to the same height as the existing wall, the increased load on the foundation soils should be negligible. Therefore, minimal, if any, additional settlement is expected. Note that the normally tolerable settlement range for MSE walls is 2 to 4 in. of total settlement, significantly higher than expected in this case.
- Standard drainage provisions should be included in the wall design. Typically this consists of a vertical drainage layer consisting of pea gravel or clear stone placed immediately behind the block facing. The stone layer should be sealed at the surface with the new asphalt pavement.
- As noted previously, the recommended minimum embedment depth is 1.5 ft for an MSE wall of this type. In addition, a 6 to 12-in. thick foundation bearing pad, either crushed aggregate base course or concrete (at the wall designer's discretion), is usually provided below the face of the wall. In this case, we recommend that at least a *2-ft thick* layer of stone (3-in. dense graded base course or similar) be included in the budget to account for removal and replacement of loose/soft wall backfill anticipated at the base of the existing wall. The stone layer should be placed in lifts less than 8 in. thick and compacted with a vibratory plate compactor until no further consolidation is evident.
- Note that it may be appropriate to leave the footing for the existing wall in place (after removing the stem wall), provided the foundation soils below the existing foundation are acceptable. This can only be determined during demolition of the existing wall by excavating alongside it to expose the underlying soils. We recommend that CGC be retained to review subgrade conditions and provide specific recommendations on subgrade stabilization and improvement.



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- Although groundwater is expected to remain below the excavation depths expected on this project, water seeping into the excavation from surface runoff or other sources should be removed by pumping from filtered sumps located at the perimeter of the excavation.

## 2. Cast-in-Place Reinforced Concrete Wall Analysis and Recommendations

A conventional cantilevered concrete retaining can also be considered at this site. A cast-in-place reinforced concrete retaining wall that is allowed to rotate slightly can be designed for *active* earth pressure conditions. To minimize the development of lateral pressures on walls, a high quality granular backfill should be placed within 6 to 8 ft of the walls. For drainage purposes, the backfill should consist of *imported* sand and/or gravel having no more than 12 percent passing the No. 200 U.S. Standard Sieve.

Granular backfill placed against the retaining wall should be hydraulically connected to a gravel layer that drains through weep holes to the front of the wall. To impede the inflow of surface moisture, the final foot of backfill should consist of base course and asphalt pavement. The cap should be graded in a manner which promotes positive drainage away from the walls.

Compaction of the backfill within 4 to 6 ft of the walls should be performed with hand-operated compaction equipment to prevent excess lateral earth pressures. The backfill should be compacted to at least 90% compaction (ASTM D1557) up to 3 ft below pavement and 95% in the upper 3 ft.

A retaining wall constructed in accordance with the above recommendations may be designed using the following parameters:

Active earth pressure coefficient	0.39
Active equivalent fluid pressure	45 psf/ft of depth
Passive earth pressure coefficient	2.7
Passive equivalent fluid pressure	300 psf/ft of depth
Typical soil unit weight for retained soil	120 lb/cu ft
Typical angle of internal friction for retained soil	26 degrees
Friction factor for mass concrete against lean clay or fine sand	0.35

*None of the values in the table above include a factor of safety (i.e., FS = 1) and therefore design values should be adjusted accordingly.* The wall design should also take into account surcharge effects which could be applied either during or after construction.



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Similar to the MSE wall analysis, we checked the global stability for a concrete wall designed according to the above recommendations. Global stability was checked using the PCSTABL™ program using the modified Janbu method, and the results of the analysis are included in Appendix C.

Other design or construction considerations relative to a cantilevered concrete retaining wall include the following:

- We recommend that the base of the retaining wall be founded at least 4 ft below finish grade for frost protection.
- Based on the stiff lean clays expected at this depth, we recommend that the retaining wall footing be designed for a net allowable bearing pressure of 2500 psf. Loose sands or clays with pocket penetrometer readings (an estimate of the approximate unconfined compressive strength of cohesive soils) of less than 1.25 TSF should be undercut and replaced with compacted 3-in. dense graded base course as described in the previous section.
- We understand that there is some interest on the part of the City to evaluate the use of expanded polystyrene (EPS) Geofoam in the wall design. Geofoam is a nearly weightless backfill material that would essentially eliminate the lateral earth pressures on the wall. To incorporate Geofoam, we recommend cutting the existing slope back to a stable slope angle, estimated to be 2H:1V. A reinforced concrete wall can then be constructed as described above and backfilled on both sides of the wall with compacted granular fill to match the ground surface in front of the wall. The remaining wedge of backfill from the back face of the wall to the 2H:1V slope should be filled with Geofoam. We recommend that the costs and benefits of Geofoam be evaluated before proceeding with a detailed design. Our preliminary evaluation is that although there may be some savings in a lighter, smaller concrete footing, these savings will not offset the added cost of the Geofoam. If in fact it does appear to have some significant cost savings, we can provide more detailed recommendations for design of the Geofoam backfill.

\*\*\*\*\*

It has been a pleasure to serve you on this project. Generalized limitations regarding the opinions and conclusions presented in this report is contained in Appendix D. If you have any questions or need additional consultation, please contact us.



Mr. Bill Bauer  
City of Madison  
December 22, 2011  
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Sincerely,

**CGC, INC.**

William W. Wuellner, P.E.  
Senior Geotechnical Engineer

Michael N. Schultz, P.E.  
Principal/Consulting Professional

Encl.: Appendix A - Field Exploration  
Appendix B - Soil Boring Location Map  
Logs of Recent Test Borings (6)  
Log of Test Borings-General Notes  
Unified Soil Classification System  
Appendix C - Retaining Wall External & Global Stability Analyses  
Appendix D - Document Qualifications

cc: Mr. Paul Stauffer, City of Madison (via email)  
Mr. Keith Behrend, Strand Associates (via email)

**APPENDIX A**  
**FIELD EXPLORATION**



## **APPENDIX A**

### **FIELD EXPLORATION**

Subsurface conditions along the proposed replacement wall alignment were explored by drilling four Standard Penetration Test (SPT) soil borings behind the wall to planned depths of 25 ft and two SPT borings to 15 ft at the base of the wall on Randall School property. Actual termination depths for the borings behind the wall ranged from 16 to 24.5 ft when auger refusal was encountered on shallow bedrock. CGC marked the boring locations in the field and surveyed the ground surface elevations. The test borings were drilled on December 3, 2011 by Badger State Drilling (under subcontract to CGC) using a truck-mounted rotary CME-55 drill rig equipped with hollow-stem augers and an automatic hammer. The boring locations are shown in plan on the Soil Boring Location Map attached in Appendix B.

In each boring, soil samples were obtained at 2.5-foot intervals to a depth of 10 ft and at 5 ft intervals thereafter. The soil samples were obtained in general accordance with specifications for standard penetration testing, ASTM D 1586. The specific procedures used for drilling and sampling are described below.

1. Boring Procedures between Samples

The boring is extended downward, between samples, by a hollow-stem auger.

2. Standard Penetration Test and Split-Barrel Sampling of Soils  
(ASTM Designation: D 1586)

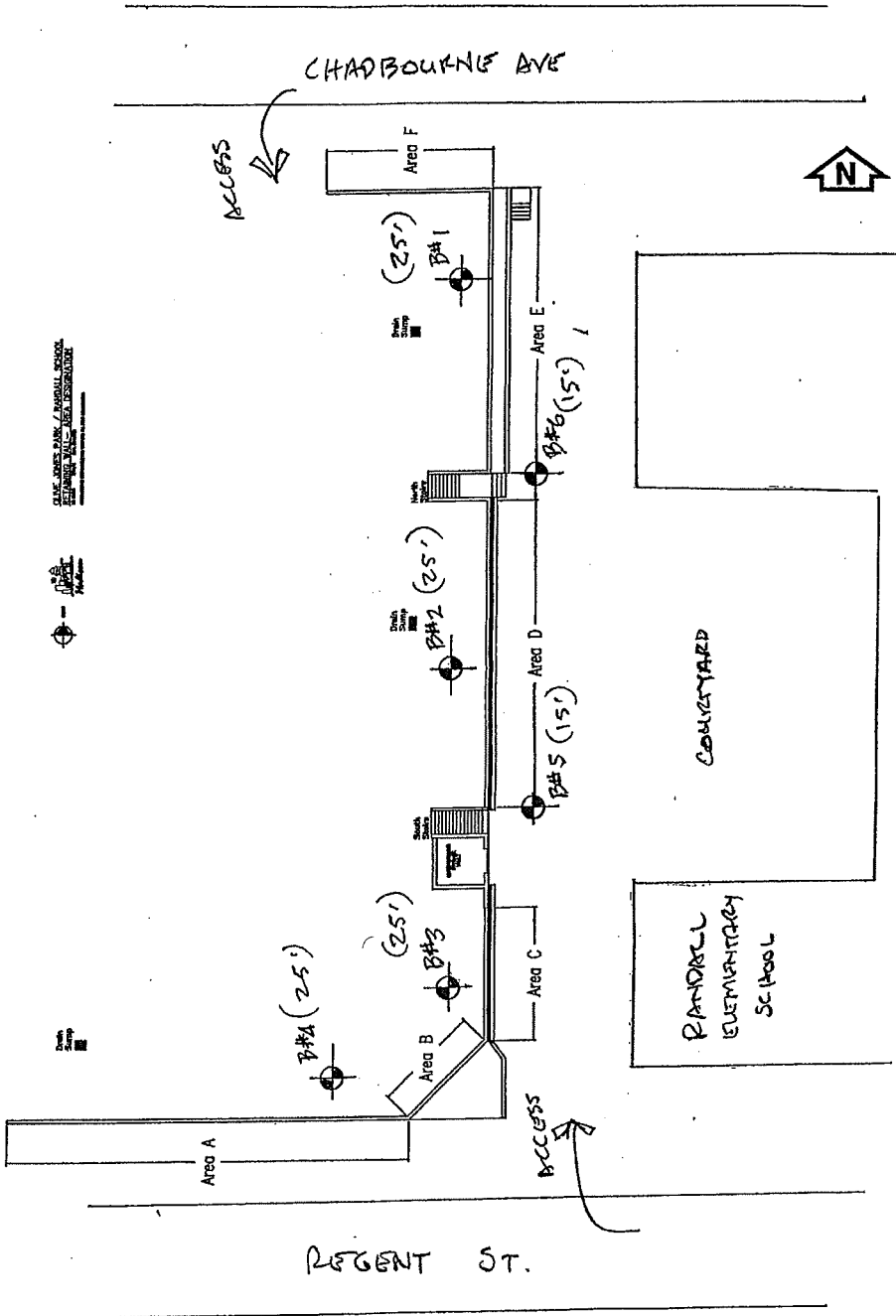
This method consists of driving a 2-inch outside diameter split-barrel sampler using a 140-pound weight falling freely through a distance of 30 inches. The sampler is first seated 6 inches into the material to be sampled and then driven 12 inches. The number of blows required to drive the sampler the final 12 inches is recorded on the log of borings and is known as the Standard Penetration Resistance.

During the field exploration, the driller visually classified the soil and prepared a field log. *Field screening of the soil samples for possible environmental contaminants was not conducted by the drillers as environmental site assessment activities were not part of CGC's work scope.* Water level observations were made in each boring during and after drilling and are shown at the bottom of each boring log. Upon completion of drilling, the borings were backfilled with bentonite slurry and chips to satisfy WDNR regulations (followed by cold-patch asphalt placement), and the soil samples were delivered to our laboratory for visual classification and laboratory testing. The soils were visually classified by a geotechnical engineer using the Unified Soil Classification System. The final logs prepared by the engineer and a description of the Unified Soil Classification System are presented in Appendix B.

**APPENDIX B**

**TEST BORING LOCATION MAP  
LOGS OF TEST BORINGS (2)  
LOG OF TEST BORING-GENERAL NOTES  
UNIFIED SOIL CLASSIFICATION SYSTEM**

N. ROBY RD



**Legend**

● Denotes soil boring location and number

Scale: Not to scale

**Notes**

1. Soil borings performed by Badger State Drilling in December 2011.
2. Base map provided by City of Madison.
3. Boring locations are approximate.

Date: 12/11

Job No.  
C11054-42

**CGC, Inc.**

**SOIL BORING LOCATION MAP**  
 Proposed Retaining Wall Replacement  
 Olive Jones Park - Randall Elementary School  
 Regent Street  
 Madison, Wisconsin



## LOG OF TEST BORING

Project Olive Jones Park Retaining Wall  
Randall Elementary School  
 Location Regent Street, Madison, WI

Boring No. 1  
 Surface Elevation (ft) 100.0  
 Job No. C11054-42  
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N		Depth (ft)	q <sub>u</sub> (qa) (tsf)	W	LL	PL
					0	2 in. Asphalt Pavement/3 in. Base Course				
1		10	M	3	1	FILL: White Crushed Sandstone; Brown Lean Clay; Brown Fine to Medium Sand, Some Silt				
2		2	M	8	2					
3		16	M	8	5	Stiff, Brown Lean CLAY (CL)				
4		16	M	6	10					
5		14	M	33	15	Dense to Very Dense, Brown Silty Fine to Medium SAND (SM)				
6		2	M	50/5"	20					
7		10	M	50/4"	25	Very Dense, Red-Brown Layered Silt and Silty Sand (ML/SM - Probable Weathered Shaley Sandstone)				
					24.5	End Boring at 24.5 ft				
					30	Borehole backfilled with bentonite chips				

### WATER LEVEL OBSERVATIONS

### GENERAL NOTES

While Drilling  NW      Upon Completion of Drilling \_\_\_\_\_  
 Time After Drilling \_\_\_\_\_ **15 min** \_\_\_\_\_  
 Depth to Water \_\_\_\_\_  
 Depth to Cave in \_\_\_\_\_

Start 12/3/11 End 12/3/11  
 Driller Badger Chief KD Rig CME-55  
 Logger AP Editor WWW  
 Drill Method 2 1/4" HSA; Autohammer

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



## LOG OF TEST BORING

Project Olive Jones Park Retaining Wall  
Randall Elementary School  
 Location Regent Street, Madison, WI

Boring No. 2  
 Surface Elevation (ft) 100.1  
 Job No. C11054-42  
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Rec (in.)	Moist	N	Depth (ft)		q <sub>u</sub> (qa) (tsf)	W	LL	PL	PID
					2 in. Asphalt Pavement/3 in. Base Course					
1	10	M	3		FILL: White Crushed Sandstone; Brown Lean Clay; Brown Fine to Medium Sand, Some Silt					
2	10	M	5							
3	12	M	5		Stiff, Brown Lean CLAY (CL)	(1.25)				
4	14	M	7			(1.25)				
5	10	M	13		Medium Dense, Brown Silty Fine to Medium SAND (SM)					
6	20	M	20		Medium Dense, Red-Brown Layered Silt and Silty Sand (ML/SM - Probable Weathered Shaley Sandstone)					
					End Boring/Auger Refusal at 22 ft on Probable Bedrock					
					Borehole backfilled with bentonite chips					

WATER LEVEL OBSERVATIONS	GENERAL NOTES
While Drilling <input checked="" type="checkbox"/> NW      Upon Completion of Drilling _____ Time After Drilling _____ 15 min Depth to Water _____ Depth to Cave in _____	Start <u>12/3/11</u> End <u>12/3/11</u> Driller <u>Badger</u> Chief <u>KD</u> Rig <u>CME-55</u> Logger <u>AP</u> Editor <u>WWW</u> Drill Method <u>2.1/4" HSA; Autohammer</u>
The stratification lines represent the approximate boundary between soil types and the transition may be gradual.	



### LOG OF TEST BORING

Project Olive Jones Park Retaining Wall  
Randall Elementary School  
 Location Regent Street, Madison, WI

Boring No. 3  
 Surface Elevation (ft) 100.2  
 Job No. C11054-42  
 Sheet 1 of 1

2921 Ferry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES					
No.	TYPE	Rec (in.)	Moist	N		Depth (ft)	q <sub>u</sub> (qa) (tsf)	W	LL	PL	PI
1		10	M	8	2 in. Asphalt Pavement/4 in. Base Course FILL: White Crushed Sandstone; Brown Lean Clay; Brown Fine to Medium Sand, Some Silt						
2		8	M	3							
3		10	M	4							
4		12	M	11		Stiff to Hard, Brown Lean CLAY (CL)					
5		14	M	6							
					End Boring/Auger Refusal at 16 ft on Probable Bedrock  Borehole backfilled with bentonite chips						

WATER LEVEL OBSERVATIONS					GENERAL NOTES				
While Drilling	<input checked="" type="checkbox"/>	NW	Upon Completion of Drilling	_____	Start	12/3/11	End	12/3/11	
Time After Drilling	_____	_____	_____	15 min	Driller	Badger	Chief	KD	Rig CME-55
Depth to Water	_____	_____	_____	_____	Logger	AP	Editor	WWW	
Depth to Cave in	_____	_____	_____	_____	Drill Method	2 1/4" HSA; Autohammer			
The stratification lines represent the approximate boundary between soil types and the transition may be gradual.									



# LOG OF TEST BORING

Project Olive Jones Park Retaining Wall  
Randall Elementary School  
 Location Regent Street, Madison, WI

Boring No. 4  
 Surface Elevation (ft) 99.9  
 Job No. C11054-42  
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	REV DEPTH (ft)	Rec (in.)	Moist	N		Depth (ft)	q <sub>u</sub> (qa) (tsf)	W	LL	PL
					X	4 in. Asphalt Pavement/3 in. Base Course				
1		8	M	6		FILL: White Crushed Sandstone; Brown Lean Clay; Brown Fine to Medium Sand, Some Silt				
2		10	M	10			(2.0)			
3		12	M	11	5					
						Hard, Brown Lean CLAY, Little Sand (CL)	(4.5)			
4		14	M	10			(4.5)			
					10					
5		14	M	30		Dense, Brown Fine SAND, Some Silt (SM)				
					15					
						Very Dense, Brown Fine to Medium SAND, Some Silt and Gravel (SM)				
6		6	M	50/2"						
					20	End Boring/Auger Refusal at 19.5 ft on Probable Bedrock				
						Borehole backfilled with bentonite chips				
					25					
					30					

### WATER LEVEL OBSERVATIONS

### GENERAL NOTES

While Drilling  NW Upon Completion of Drilling \_\_\_\_\_  
 Time After Drilling \_\_\_\_\_ 15 min  
 Depth to Water \_\_\_\_\_  
 Depth to Cave in \_\_\_\_\_

Start 12/3/11 End 12/3/11  
 Driller Badger Chief KD Rig CME-55  
 Logger AP Editor WWW  
 Drill Method 2 1/4" HSA; Autohammer

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



## LOG OF TEST BORING

Project Olive Jones Park Retaining Wall  
Randall Elementary School  
 Location Regent Street, Madison, WI

Boring No. 5  
 Surface Elevation (ft) 92.2  
 Job No. C11054-42  
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	DEPTH (ft)	Rec (in.)	Moist	N		Depth (ft)	$\sigma_u$ (qa) (tsf)	W	LL	PL
					X	6.5 in. Asphalt Pavement/6 in. Base Course				
1		6	M	4	5	Stiff to Medium Stiff, Brown Lean CLAY (CL)	(1.0-1.25)			
2		12	M	5			(1.5-1.75)			
3		14	M	4			(0.75-1.0)			
4		12	M	37	10	Dense, Brown Fine SAND, Little Silt and Gravel (SP-SM)				
5		10	M	30	15	Dense, Brown Silty Fine SAND and Fine to Coarse GRAVEL (SM/GM - Possible Weathered Sandstone Bedrock)				
					15	End Boring at 15 ft				
						Borehole backfilled with bentonite chips				
					20					
					25					
					30					

### WATER LEVEL OBSERVATIONS

### GENERAL NOTES

While Drilling  NW      Upon Completion of Drilling \_\_\_\_\_  
 Time After Drilling \_\_\_\_\_ 15 min   
 Depth to Water \_\_\_\_\_  
 Depth to Cave in \_\_\_\_\_

Start 12/3/11 End 12/3/11  
 Driller Badger Chief KD Rig CME-55  
 Logger AP Editor WWW  
 Drill Method 2 1/4" HSA; Autohammer

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.





## LOG OF TEST BORING

Project Olive Jones Park Retaining Wall  
Randall Elementary School  
 Location Regent Street, Madison, WI

Boring No. 6  
 Surface Elevation (ft) 93.0  
 Job No. C11054-42  
 Sheet 1 of 1

2921 Ferry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	RECYCLED Rec (in.)	Moist	N	Depth (ft)		q <sub>u</sub> (qa) (tsf)	W	LL	PL	PID
				0	X	6 in. Asphalt Pavement/6 in. Base Course				
1	4	M	6	0	[Grid Pattern]	FILL: Brown Clayey Fine to Coarse Sand, Some Gravel				
2	10	M	4	5	[Diagonal Lines]	(0.5)				
3	10	M	24	5	[Dotted]					
4	10	M	46	10	[Dotted]					
5	14	M	15	15	[Vertical Lines]					
				15		End Boring at 15				
				20		Borehole backfilled with bentonite chips				
				25						
				30						

### WATER LEVEL OBSERVATIONS

### GENERAL NOTES

While Drilling  NW Upon Completion of Drilling \_\_\_\_\_  
 Time After Drilling \_\_\_\_\_ 15 min  
 Depth to Water \_\_\_\_\_  
 Depth to Cave in \_\_\_\_\_

Start 12/3/11 End 12/3/11  
 Driller Badger Chief KD Rig CME-55  
 Logger AP Editor WWW  
 Drill Method 2 1/4" HSA; Autohammer

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**CGC, Inc.**

**LOG OF TEST BORING**  
**General Notes**

**Descriptive Soil Classification**

GRAIN SIZE TERMINOLOGY

Soil Fraction	Particle Size	U.S. Standard Sieve Size
Boulders	Larger than 12"	Larger than 12"
Cobbles	3" to 12"	3" to 12"
Gravel: Coarse	3/4" to 3"	3/4" to 3"
Fine	4.76 mm to 3/4"	#4 to 3/4"
Sand: Coarse	2.00 mm to 4.76 mm	#10 to #4
Medium	0.42 to mm to 2.00 mm	#40 to #10
Fine	0.074 mm to 0.42 mm	#200 to #40
Silt	0.005 mm to 0.074 mm	Smaller than #200
Clay	Smaller than 0.005 mm	Smaller than #200

Plasticity characteristics differentiate between silt and clay.

GENERAL TERMINOLOGY

Physical Characteristics  
Color, moisture, grain shape, fineness, etc.  
Major Constituents  
Clay, silt, sand, gravel  
Structure  
Laminated, varved, fibrous, stratified, cemented, fissured, etc.  
Geologic Origin  
Glacial, alluvial, eolian, residual, etc.

RELATIVE DENSITY

Term	"N" Value
Very Loose	0-4
Loose	4-10
Medium Dense	10-30
Dense	30-50
Very Dense	Over 50

RELATIVE PROPORTIONS OF OF COHESIONLESS SOILS

Proportional Term	Defining Range by Percentage of Weight
Trace	0%-5%
Little	5%-12%
Some	12%-35%
And	35%-50%

CONSISTENCY

Term	q <sub>c</sub> -tons/sq. ft.
Very Soft	0.0 to 0.25
Soft	0.25 to 0.50
Medium	0.50 to 1.0
Stiff	1.0 to 2.0
Very Stiff	2.0 to 4.0
Hard	Over 4.0

ORGANIC CONTENT BY COMBUSTION METHOD

Soil Description	Loss on Ignition
Non Organic	Less than 4%
Organic Silt/Clay	4-12%
Sedimentary Peat	12-50%
Fibrous and Woody Peat	More than 50%

PLASTICITY

Term	Plastic Index
None to Slight	0-4
Slight	5-7
Medium	8-22
High to Very High	Over 22

The penetration resistance, N, is the summation of the number of blows required to effect two successive 6" penetrations of the 2" split-barrel sampler. The sampler is driven with a 140 lb. weight falling 30" and is seated to a depth of 6" before commencing the standard penetration test.

**SYMBOLS**

DRILLING AND SAMPLING

CS--Continuous Sampling  
RC--Rock Coring: Size AW, BW, NW, 2"W  
RQD--Rock Quality Designator  
RB--Rock Bit  
FT--Fish Tail  
DC--Drive Casing  
C--Casing: Size 2 1/2", NW, 4", HW  
CW--Clear Water  
DM--Drilling Mud  
HSA--Hollow Stem Auger  
FA--Flight Auger  
HA--Hand Auger  
COA--Clean-Out Auger  
SS--2" Diameter Split-Barrel Sample  
2ST--2" Diameter Thin-Walled Tube Sample  
3ST--3" Diameter Thin-Walled Tube Sample  
PT--3" Diameter Piston Tube Sample  
AS--Auger Sample  
WS--Wash Sample  
PTS--Peat Sample  
PS--Pitcher Sample  
NR--No Recovery  
S--Sounding  
PMT--Borehole Pressuremeter Test  
VS--Vane Shear Test  
WPT--Water Pressure Test

LABORATORY TESTS

q<sub>c</sub>--Penetrometer Reading, tons/sq. ft.  
q<sub>u</sub>--Unconfined Strength, tons/sq. ft.  
W--Moisture Content, %  
LL--Liquid Limit, %  
PL--Plastic Limit, %  
SL--Shrinkage Limit, %  
LI--Loss on Ignition, %  
D--Dry Unit Weight, lbs/cu. ft.  
pH--Measure of Soil Alkalinity or Acidity  
FS--Free Swell, %

WATER LEVEL MEASUREMENT

▽--Water Level at time shown  
NW--No Water Encountered  
WD--While Drilling  
BCR--Before Casing Removal  
ACR--After Casing Removal  
CW--Caved and Wet  
CM--Caved and Moist

Note: Water level measurements shown on the boring logs represent conditions at the time indicated and may not reflect static levels, especially in cohesive soils.

# UNIFIED SOIL CLASSIFICATION SYSTEM

## COARSE-GRAINED SOILS

(More than half of material is larger than No. 200 sieve size.)

<b>GRAVELS</b> More than half of coarse fraction larger than No. 4 sieve size	<b>Clean Gravels (Little or no fines)</b>	
	<b>GW</b>	Well-graded gravels, gravel-sand mixtures, little or no fines
	<b>GP</b>	Poorly graded gravels, gravel-sand mixtures, little or no fines
	<b>Gravels with Fines (Appreciable amount of fines)</b>	
	<b>GM<sup>d</sup><sub>u</sub></b>	Silty gravels, gravel-sand-silt mixtures
	<b>GC</b>	Clayey gravels, gravel-sand-clay mixtures
<b>SANDS</b> More than half of coarse fraction smaller than No. 4 sieve size	<b>Clean Sands (Little or no fines)</b>	
	<b>SW</b>	Well-graded sands, gravelly sands, little or no fines
	<b>SP</b>	Poorly graded sands, gravelly sands, little or no fines
	<b>Sands with Fines (Appreciable amount of fines)</b>	
	<b>SM<sup>d</sup><sub>u</sub></b>	Silty sands, sand-silt mixtures
	<b>SC</b>	Clayey sands, sand-clay mixtures

## FINE-GRAINED SOILS

(More than half of material is smaller than No. 200 sieve.)

<b>SILTS AND CLAYS</b> Liquid limit less than 50%	<b>ML</b>	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
	<b>CL</b>	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	<b>OL</b>	Organic silts and organic silty clays of low plasticity
<b>SILTS AND CLAYS</b> Liquid limit greater than 50%	<b>MH</b>	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
	<b>CH</b>	Inorganic clays of high plasticity, fat clays
	<b>OH</b>	Organic clays of medium to high plasticity, organic silts
<b>HIGHLY ORGANIC SOILS</b>	<b>PT</b>	Peat and other highly organic soils

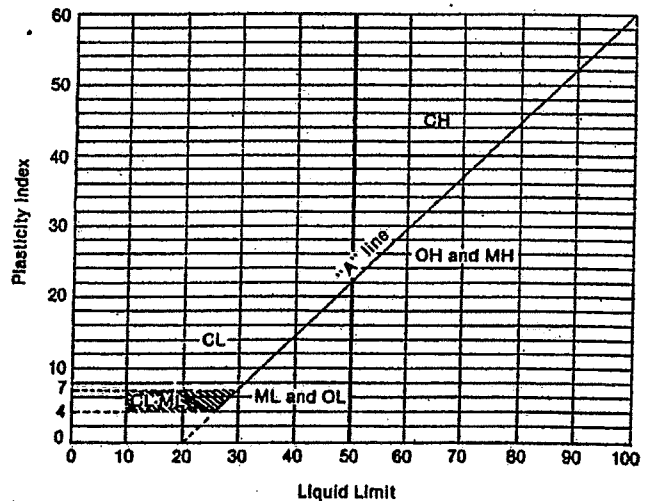
## LABORATORY CLASSIFICATION CRITERIA

<b>GW</b>	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	
<b>GP</b>	Not meeting all gradation requirements for GW	
<b>GM</b>	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
<b>GC</b>	Atterberg limits above "A" line with P.I. greater than 7	
<b>SW</b>	$C_u = \frac{D_{60}}{D_{10}}$ greater than 6; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	
<b>SP</b>	Not meeting all gradation requirements for SW	
<b>SM</b>	Atterberg limits below "A" line or P.I. less than 4	Limits plotting in hatched zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols.
<b>SC</b>	Atterberg limits above "A" line with P.I. greater than 7	

Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:

Less than 5 per cent ..... GW, GP, SW, SP  
 More than 12 per cent ..... GM, GC, SM, SC  
 5 to 12 per cent ..... Borderline cases requiring dual symbols

## PLASTICITY CHART



For classification of fine-grained soils and fine fraction of coarse-grained soils.

Atterberg Limits plotting in hatched area are borderline classifications requiring use of dual symbols.

Equation of A-line:  $PI = 0.73 (LL - 20)$

**APPENDIX C**

**EXTERNAL AND GLOBAL STABILITY ANALYSES**

**EXTERNAL STABILITY ANALYSIS  
MSE WALL OPTION**

Olive Jones Park - Randall Elementary School  
**Mechanically Stabilized Earth Retaining Walls w/ Modular Block Facings**  
 (from WDOT Bridge Manual, Section 14.3(H))

Active Earth Pressure

$$K_a = (\cos B)(\cos B - X)/(\cos B + X)$$

$$X = \text{SQRT}(\cos^2(B) - \cos^2(2\phi_r)) = 0.438371$$

$$K_a = 0.3904617$$

**Case A: Sloping or Horizontal Backfill**

Variables					
$\phi_r$	26	0.45	angle of internal friction of retained soil (degrees/radians)		
$\phi$	30	0.52	angle of internal friction of infill soil (degrees/radians)		
delta	26	0.45	lesser of $\phi_r$ and $\phi$ (degrees/radians)		
A	7	0.12	wall setback angle from vertical (degrees/radians)		
C	19	0.33	delta - A (degrees/radians)		
B	0.0	0.00	backslope angle from horizontal (degrees/radians)		
h	9.5		$H + \tan B(L - L \cdot \tan B \cdot \tan A)$ , ft		
H	9.5		wall height, ft		
L	7.0		0.7H but not less than 6 ft		
L2	8.0		L + WW, ft		
WW	1.0		width of wall units, ft		
W1	0.120		unit wt for reinf infill soil, kips/cu ft		
V1	1.680		$\text{SUR} \cdot W1(L + (h-H) \cdot \tan A)$		
V2	0.000		$W1 \cdot (h-H) \cdot L/2$		
V3	9.120		$W1 \cdot H \cdot L/2$		
H1	0.890		$\text{SUR} \cdot K_a \cdot W \cdot h$		
SUR	2.000		surcharge, ft		
H2	2.114		$K_a \cdot W \cdot h^2/2$		
Wr	0.120		unit wt for retained soil, kips/cu ft		
R	11.778		$V1 + V2 + V3 + \sin C(H + H/2)$		
tanS	0.45		friction factor at base of wall		

**Case A: 9.5 ft Total Height, 8 ft Exposed Height,  
 L = 7 ft**

Factor of Safety against Overturning

Resisting Moments:

Mres =	41.80	$V3 \cdot (L2 + H \cdot \tan A) / 2$
+	0.00	$V2 \cdot (H \cdot \tan A + WW + 2/3L)$
+	2.49	$H1 \cdot \sin C \cdot (L2 + (h/2) \cdot \tan A)$
+	5.77	$H2 \cdot \sin C \cdot (L2 + (h/3) \cdot \tan A)$
Sum of Mres =	50.06	

Driving Moments:

Mdriv =	4.00	$H1 \cdot \cos C \cdot (h/2)$
	9.33	$H2 \cdot \cos C \cdot (h/3)$
	10.33	

**F<sub>SoT</sub> = 4.85 (vs. 2.0 required)**

Factor of Safety against Sliding

Resisting Forces:

Fres =	4.10	$(V2 + V3) \cdot \tan S$
--------	------	--------------------------

Driving Forces:

Fdriv =	2.84	$\cos C(H1 + H2)$
---------	------	-------------------

**F<sub>ssl</sub> = 1.44 (vs. 1.5 required)**

Bearing Capacity Analysis

e =	3.998	$H1 \cdot \cos C \cdot h/2$
	6.331	$+ H2 \cdot \cos C \cdot h/3$
	-1.328	$- H1 \cdot \sin C \cdot (L2/2 + h/2 \cdot \tan A)$
	-3.021	$- H2 \cdot \sin C \cdot (L2/2 + h/3 \cdot \tan A)$
	-2.800	$- V1 \cdot ((h + H)/2 \cdot \tan A + WW/2)$
	0.000	$- V2 \cdot (H \cdot \tan A + 2L/3 + WW \cdot L/2)$
	-5.319	$- V3 \cdot (H/2 \cdot \tan A)$
sum =	-2.139	sum/R
pos e =	0.182	

**BP = 1.54 KSF**

**BP < Qall (=3000 PSF, estimated) OK**

$R/(L2 \cdot (2 \cdot e))$  check:  $h \cdot 0.130 = 1.14$

Olive Jones Park - Randall Elementary School  
 Mechanically Stabilized Earth Retaining Walls w/ Modular Block Facings  
 (from WDOT Bridge Manual, Section 14.3(H))

Active Earth Pressure

$K_a = (\cos B)(\cos B - X) / (\cos B + X)$   
 $X = \text{SQRT}(\cos^2(B) - \cos^2(\phi_r)) = 0.438371$   
 $B = 0$  deg  
 $\phi_r = 26$  deg  
 $0.453786$  rad

$K_a = 0.3904617$

Case A: Sloping or Horizontal Backfill

Variables			
$\phi_r$	26	0.45	angle of internal friction of retained soil (degrees/radians)
$\phi$	30	0.52	angle of internal friction of infill soil (degrees/radians)
delta	26	0.45	lesser of $\phi_r$ and $\phi$ (degrees/radians)
A	7	0.12	wall setback angle from vertical (degrees/radians)
C	19	0.33	delta - A (degrees/radians)
B	0.0	0.00	backslope angle from horizontal (degrees/radians)
h	9.5		H + tanB(L + L*tanB*tanA), ft
H	9.5		wall height, ft
L	8.0		0.7H but not less than 6 ft
L2	9.0		L + WW, ft
WW	1.0		width of wall units, ft
W1	0.120		unit wt for retained soil, kips/cu ft
V1	1.920		$\text{SUR} * W1 * (L + (h-H) * \tan A)$
V2	0.000		$W1 * (h-H) * L/2$
V3	10.260		$W1 * H * L2$
H1	0.890		$\text{SUR} * K_a * W1 * h$
SUR	2.000		surcharge, ft
H2	2.114		$K_a * W1 * h^2 / 2$
Wt	0.120		unit wt for retained soil, kips/cu ft
R	13.158		$V1 + V2 + V3 + \sin C(H1 + H2)$
tanS	0.45		friction factor at base of wall

Case B: 9.5 ft Total Height, 8 ft Exposed Height,  
 L = 8 ft

Factor of Safety against Overturning

Resisting Moments:  
 $M_{res} = 52.15$   
 $V3 * (L2 + H * \tan A) / 2$   
 $V2 * (H * \tan A + WW * 2/3L)$   
 $H1 * \sin C(L2 + (h/2) * \tan A)$   
 $H2 * \sin C(L2 + (h/3) * \tan A)$

Driving Moments:  
 $M_{driv} = 4.00$   
 $H1 * \cos C * (h/2)$   
 $H2 * \cos C * (h/3)$   
 $10.33$

Factor of Safety against Overturning

**F<sub>ot</sub> = 5.94 (vs. 2.0 required)**

Factor of Safety against Sliding

Resisting Forces:  
 $F_{res} = 4.62$   
 $(V2 + V3) * \tan S$

Driving Forces:  
 $F_{driv} = 2.84$   
 $\cos C(H1 + H2)$

Factor of Safety against Sliding

**F<sub>sl</sub> = 1.63 (vs. 1.5 required)**

Bearing Capacity Analysis

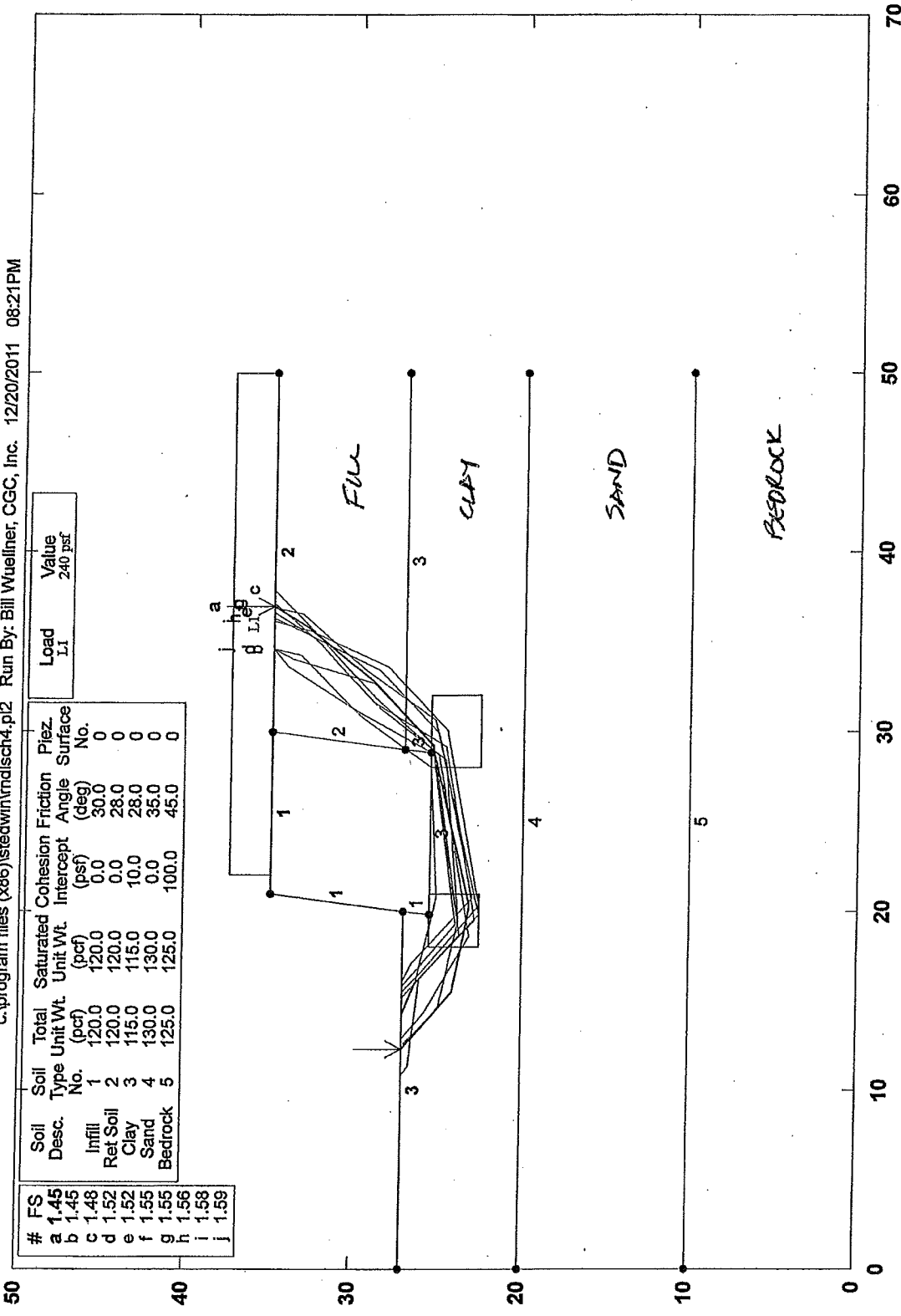
$e = 3.998$   
 $+H2 * \cos C * h/3$   
 $-H1 * \sin C * (L2/2 + h/2 * \tan A)$   
 $-H2 * \sin C * (L2/2 + h/3 * \tan A)$   
 $-V1 * ((h+H)/2 * \tan A + WW/2)$   
 $-V2 * (H * \tan A + 2L/3 + WW * L/2)$   
 $-V3 * (H/2 * \tan A)$   
 $sum/R$

**BP = 1.56 KSF**  
 $R / (L2 * (2 * e))$   
 check:  $h * 0.130 = 1.14$

BP < Qall (=3000 PSF, estimated) OK

# Olive Jones Park Retaining Wall - Regent Street, Madison, WI

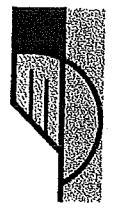
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a	1.45	Infill	1	120.0	120.0	0.0	30.0	0
b	1.45	Ret Soil	2	120.0	120.0	0.0	28.0	0
c	1.48	Clay	3	115.0	115.0	10.0	28.0	0
d	1.52	Sand	4	130.0	130.0	0.0	35.0	0
e	1.55	Bedrock	5	125.0	125.0	100.0	45.0	0

Load LL	Value
240 psf	

STED



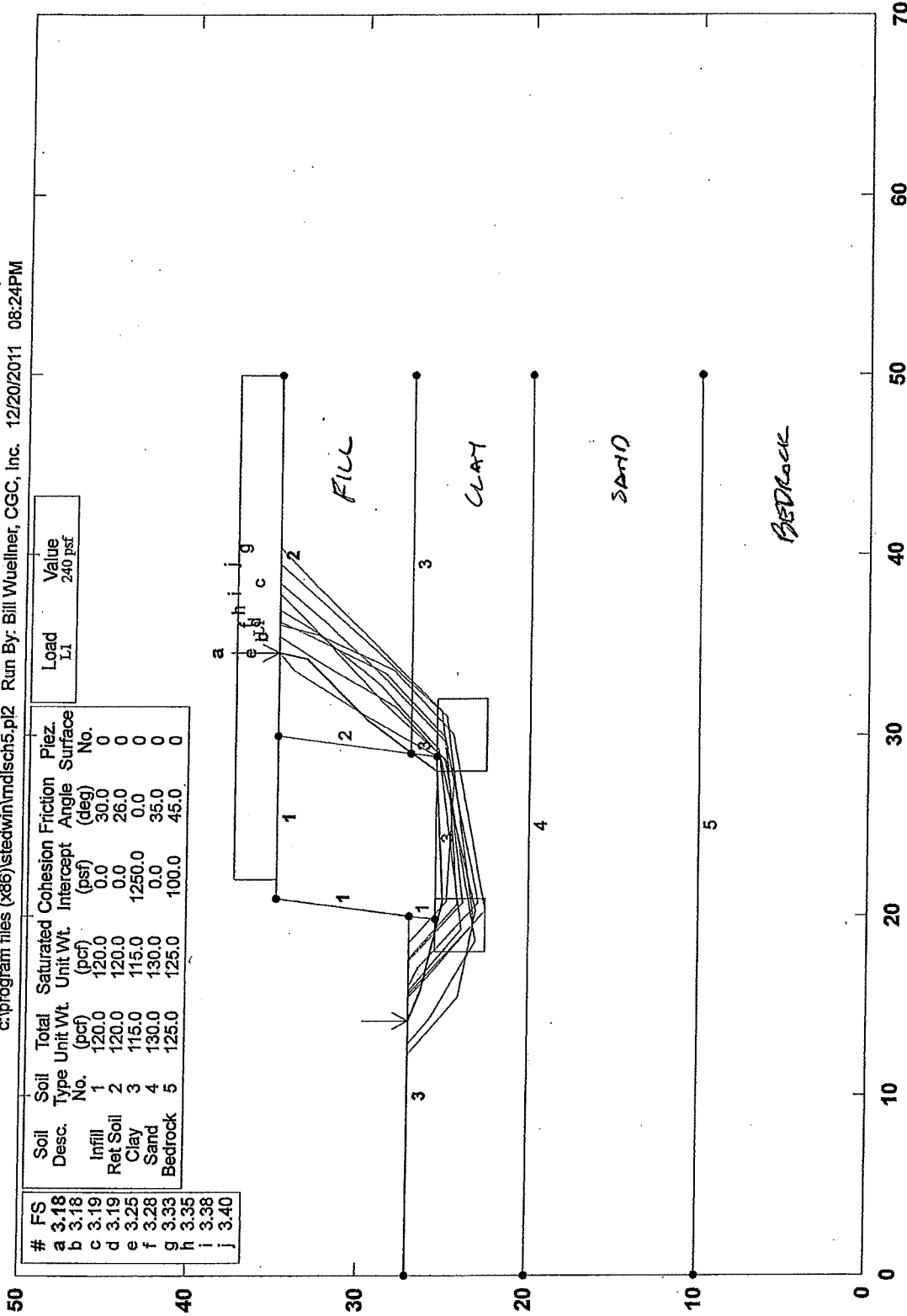
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Safety Factors Are Calculated By The Modified Janbu Method

Long-Term Strength Parameters (Drained Conditions)



# Olive Jones Park Retaining Wall - - Regent Street, Madison, WI

c:\program files (x86)\stedwin\mdsch5.pl2 Run By: Bill Wuellner, CGC, Inc. 12/20/2011 08:24PM



#	FS	Soil Desc.	Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion (psf)	Friction Angle (deg)	Piez. Surface No.
a	3.18	Infill	1	120.0	120.0	0.0	30.0	0
b	3.19	Ret. Soil	2	120.0	120.0	0.0	26.0	0
c	3.25	Clay	3	115.0	115.0	1250.0	0.0	0
d	3.28	Sand	4	130.0	130.0	0.0	35.0	0
e	3.33	Bedrock	5	125.0	125.0	100.0	45.0	0

Load	Value
L1	240 psf

STED



PCSTABL5M/si FSmin=3.18

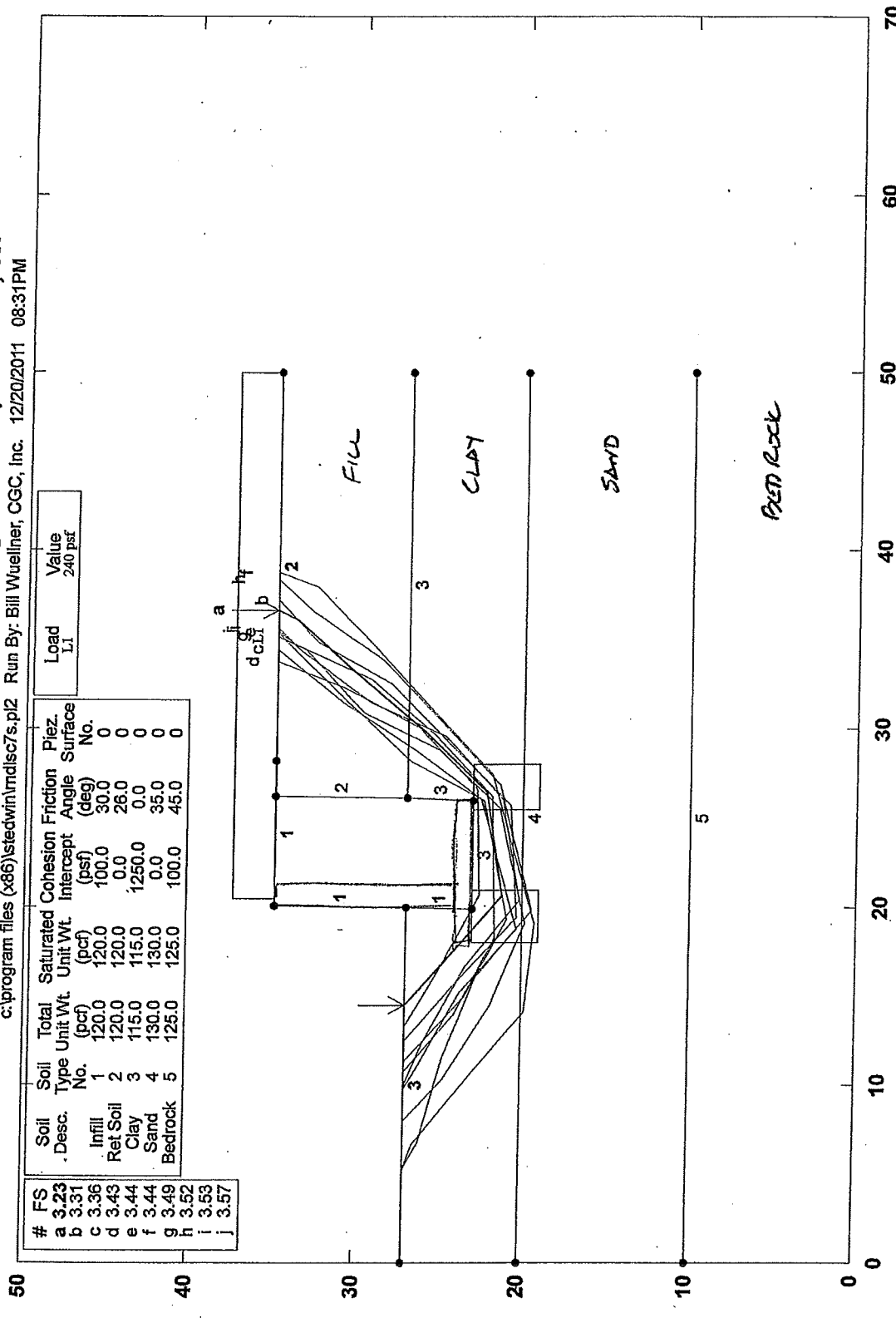
Safety Factors Are Calculated By The Modified Janbu Method

Short-Term Strength Parameters ( $\phi = 0^\circ$ )

**GLOBAL STABILITY ANALYSIS  
CANTILEVERED CONCRETE WALL OPTION**

# Olive Jones Park Retaining Wall - - Regent Street, Madison, WI

c:\program files (x86)\stedwin\mdisc7s.pl2 Run By: Bill Wuellner, CGC, Inc. 12/20/2011 08:31PM



#	FS	Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion (psf)	Friction Angle (deg)	Piez. Surface No.
a	3.23	Infill	1	120.0	120.0	100.0	30.0	0
b	3.31	Ret Soil	2	120.0	120.0	0.0	26.0	0
c	3.36	Clay	3	115.0	115.0	1250.0	0.0	0
d	3.43	Sand	4	130.0	130.0	0.0	35.0	0
e	3.44	Bedrock	5	125.0	125.0	100.0	45.0	0
g	3.49							
h	3.52							
i	3.53							
j	3.57							

Load	Value
L1	240 psf

STED



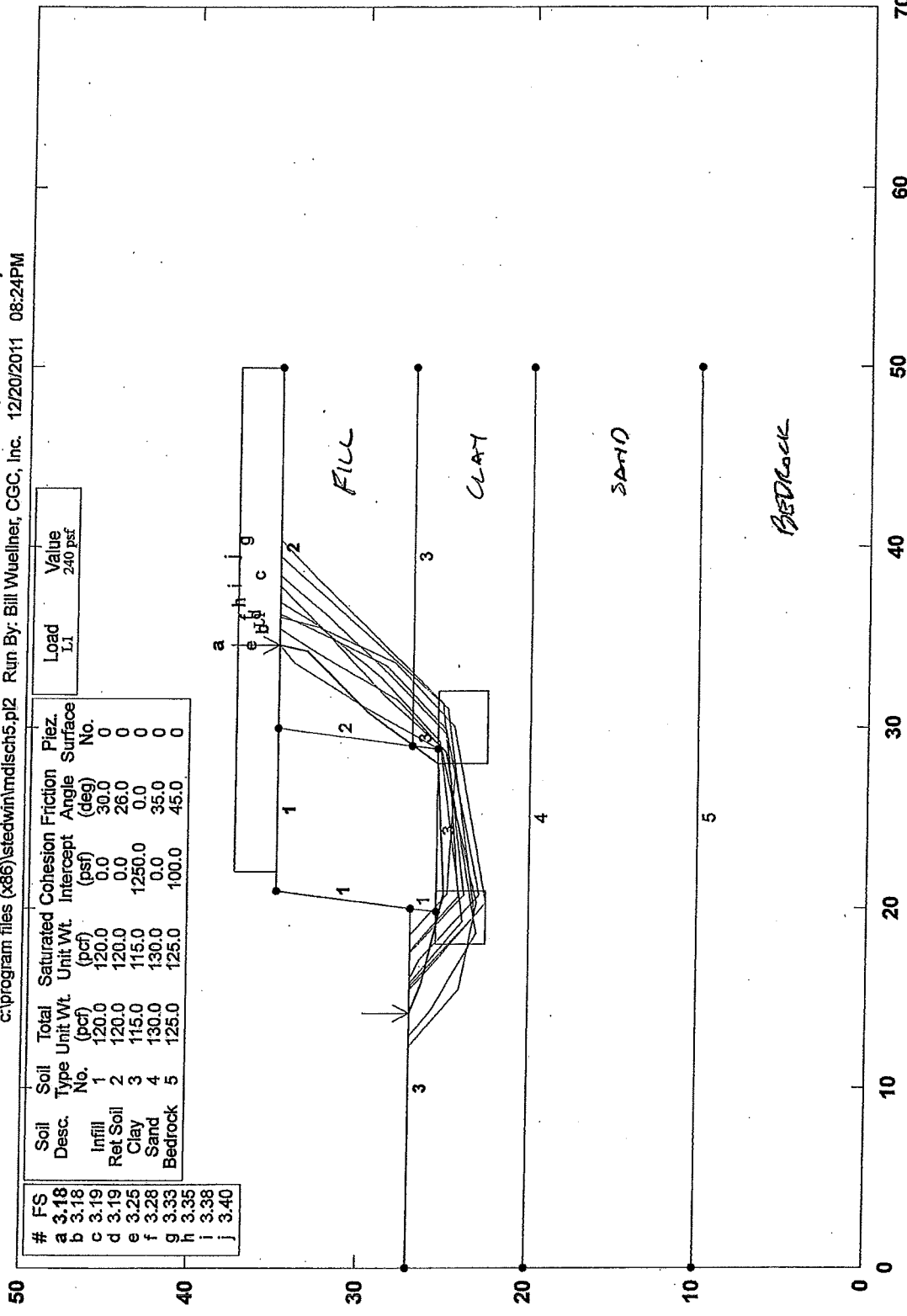
PCSTABL5M/sj FSmin=3.23

Safety Factors Are Calculated By The Modified Janbu Method

Short-Term Strength Parameters ( $\phi = 0^\circ$ ), Cantilevered Wall

# Olive Jones Park Retaining Wall - - Regent Street, Madison, WI

c:\program files (x86)\stedwin\mdisch5.pl2 Run By: Bill Wueller, CGC, Inc. 12/20/2011 08:24PM



#	FS	Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion (psf)	Friction Angle (deg)	Piez. Surface No.
a	3.18	Infill	1	120.0	120.0	0.0	30.0	0
b	3.18	Ret Soil	2	120.0	120.0	0.0	26.0	0
c	3.19	Clay	3	115.0	115.0	1250.0	0.0	0
d	3.25	Sand	4	130.0	130.0	0.0	35.0	0
e	3.28	Bedrock	5	125.0	125.0	100.0	45.0	0
f	3.33							
g	3.35							
h	3.38							
i	3.38							
j	3.40							

Load LI	Value
LI	240 psf

STED

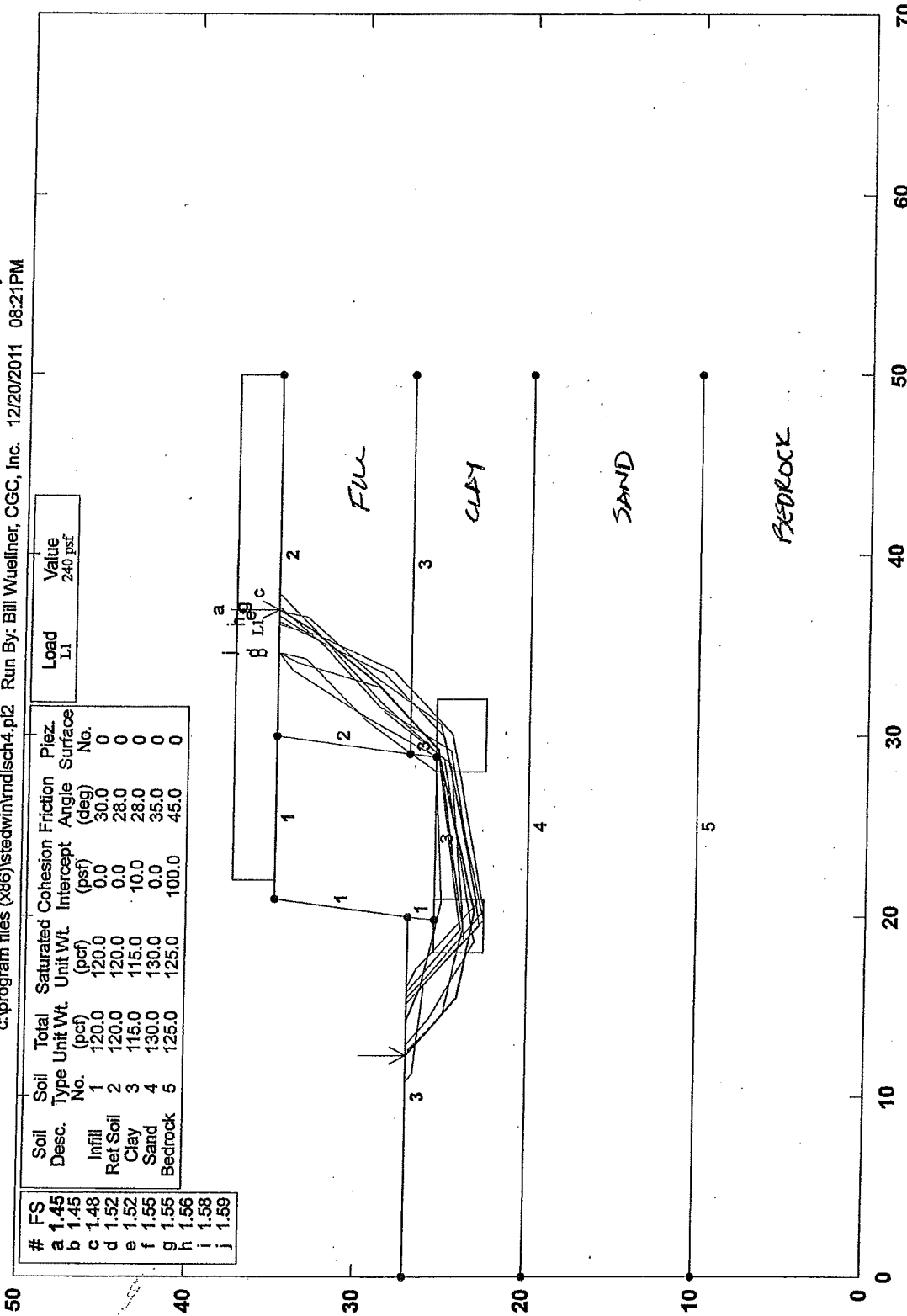


PCSTABL5M/si FSmin=3.18  
Safety Factors Are Calculated By The Modified Janbu Method

Short-Term Strength Parameters ( $\phi = 0^\circ$ )

# Olive Jones Park Retaining Wall - - Regent Street, Madison, WI

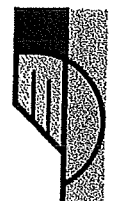
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#	FS	Soil Desc.	Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion (psf)	Friction Angle (deg)	Piez. Surface No.
a	1.45	Infill	1	120.0	120.0	0.0	30.0	0
b	1.45	Ret Soil	2	120.0	120.0	0.0	28.0	0
c	1.48	Clay	3	115.0	115.0	10.0	28.0	0
d	1.52	Sand	4	130.0	130.0	0.0	35.0	0
e	1.55	Bedrock	5	125.0	125.0	100.0	45.0	0
f	1.56							
g	1.56							
h	1.58							
i	1.58							
j	1.59							

Load	Value
L1	240 psf

STED



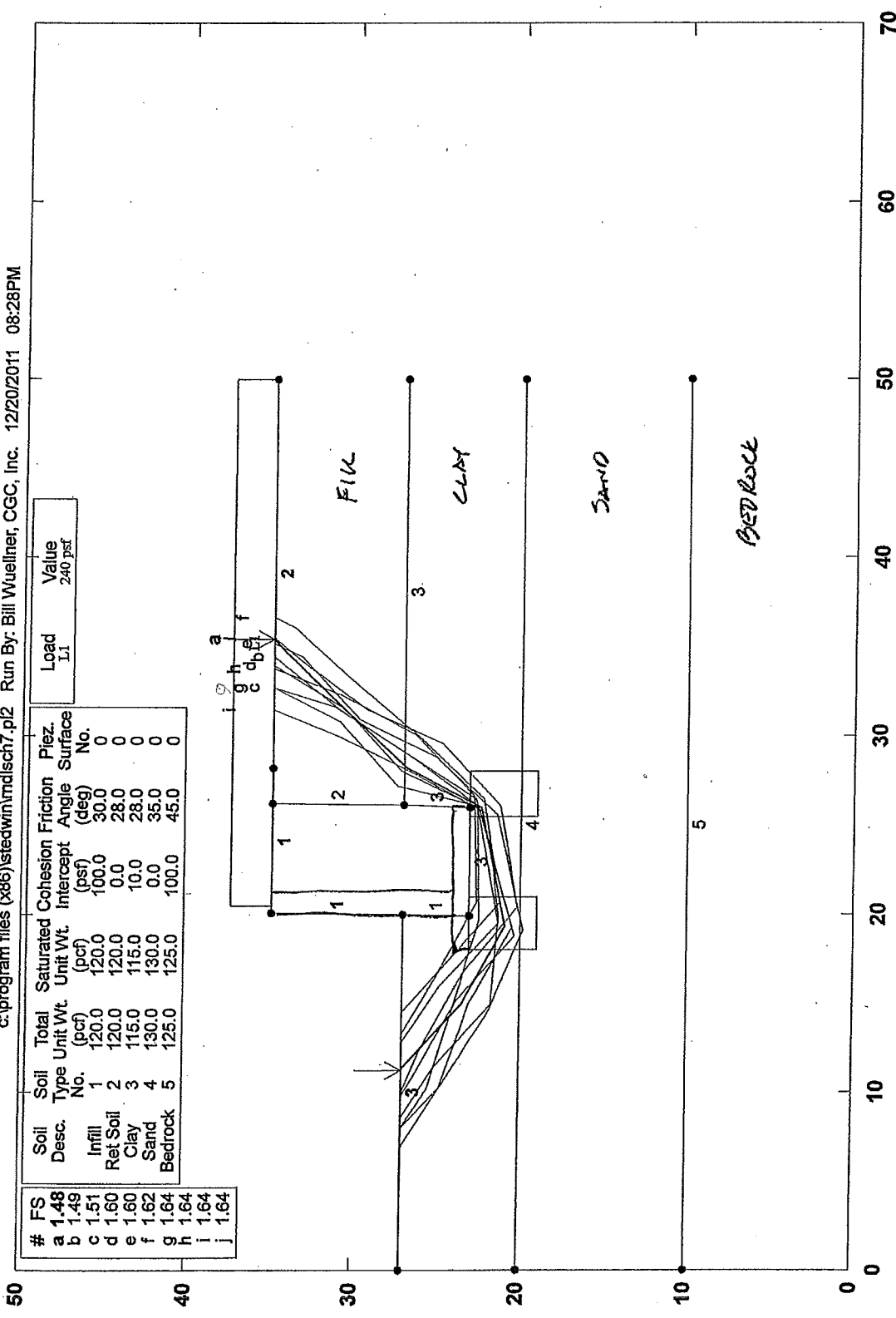
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Safety Factors Are Calculated By The Modified Janbu Method

Long-Term Strength Parameters (Drained Conditions)

# Olive Jones Park Retaining Wall - - Regent Street, Madison, WI

c:\program files (x86)\stedwin\mldisch7.pl2 Run By: Bill Wuellner, CGC, Inc. 12/20/2011 08:28PM



#	FS	Soil Desc.	Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion (psf)	Friction Angle (deg)	Piez. Surface No.
1	1.48	Infill	1	120.0	120.0	100.0	30.0	0
2	1.49	Ret Soil	2	120.0	120.0	0.0	28.0	0
3	1.51	Clay	3	115.0	115.0	10.0	28.0	0
4	1.60	Sand	4	130.0	130.0	0.0	35.0	0
5	1.62	Bedrock	5	125.0	125.0	100.0	45.0	0

Load	Value
L1	240 psf

STED



PCSTABL5M/si FSmin=1.48

Safety Factors Are Calculated By The Modified Janbu Method

Long-Term Strength Parameters  
(Drained Conditions,  
Cantilevered Wall)

**APPENDIX D**  
**DOCUMENT QUALIFICATIONS**

## APPENDIX D DOCUMENT QUALIFICATIONS

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### I. GENERAL RECOMMENDATIONS/LIMITATIONS

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CGC, Inc. should be provided the opportunity for a general review of the final design and specifications to confirm that earthwork and foundation requirements have been properly interpreted in the design and specifications. CGC should be retained to provide soil engineering services during excavation and subgrade preparation. This will allow us to observe that construction proceeds in compliance with the design concepts, specifications and recommendations, and also will allow design changes to be made in the event that subsurface conditions differ from those anticipated prior to the start of construction. CGC does not assume responsibility for compliance with the recommendations in this report unless we are retained to provide construction testing and observation services.

This report has been prepared in accordance with generally accepted soil and foundation engineering practices and no other warranties are expressed or implied. The opinions and recommendations submitted in this report are based on interpretation of the subsurface information revealed by the test borings indicated on the location plan. The report does not reflect potential variations in subsurface conditions between or beyond these borings. Therefore, variations in soil conditions can be expected between the boring locations and fluctuations of groundwater levels may occur with time. The nature and extent of the variations may not become evident until construction.

---

### II. IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL ENGINEERING REPORT

---

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. *No one except you* should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one - not even you* - should apply the report for any purpose or project except the one originally contemplated.

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or project ownership.

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

As a general rule, , *always* inform your geotechnical engineer of project changes - even minor ones - and request an assessment of their impact. *CGC cannot accept responsibility or liability for problems that occur because our reports do not consider developments of which we were not Informed.*

#### A GEOTECHNICAL ENGINEERING REPORT IS BASED ON A UNIQUE SET OF PROJECT-SPECIFIC FACTORS

#### SUBSURFACE CONDITIONS CAN CHANGE

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, *do not rely on a geotechnical engineering report* that was:

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

#### MOST GEOTECHNICAL FINDINGS ARE PROFESSIONAL OPINION.

Typical changes that can erode the reliability of an existing geotechnical report include those that affect:

Site exploration identifies subsurface conditions only at those points where surface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgement to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ - sometimes significantly - from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.



## **A REPORT'S RECOMMENDATIONS ARE NOT FINAL**

Do not over-rely on the construction recommendations included in your report. *Those recommendations are not final*, because geotechnical engineers develop them principally from judgement and opinion, geotechnical engineers can finalize their recommendations only by observing actual subsurface conditions revealed during construction. *CGC cannot assume responsibility or liability for the report's recommendations if we do not perform construction observation.*

## **A GEOTECHNICAL ENGINEERING REPORT IS SUBJECT TO MISINTERPRETATION**

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having CGC participate in prebid and preconstruction conferences, and by providing construction observation.

## **DO NOT REDRAW THE ENGINEER'S LOGS**

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

## **GIVE CONTRACTORS A COMPLETE REPORT AND GUIDANCE**

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time* to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

## **READ RESPONSIBILITY PROVISIONS CLOSELY**

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce such risks, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes

labeled "limitations," many of these provisions indicate where geotechnical engineer's responsibilities begin and end, to help others recognize their own responsibilities and risks. Read these provisions closely. Ask questions. Your geotechnical engineer should respond fully and frankly.

## **GEOENVIRONMENTAL CONCERNS ARE NOT COVERED**

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

## **OBTAIN PROFESSIONAL ASSISTANCE TO DEAL WITH MOLD**

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.*

## **RELY ON YOUR GEOTECHNICAL ENGINEER FOR ADDITIONAL ASSISTANCE**

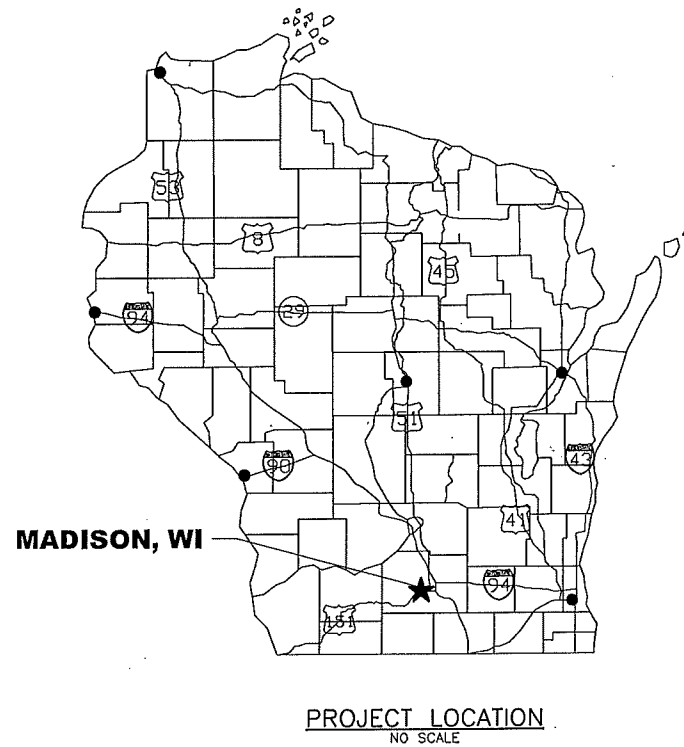
Membership in ASFE exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with CGC, a member of ASFE, for more information.

Modified and reprinted with permission from:

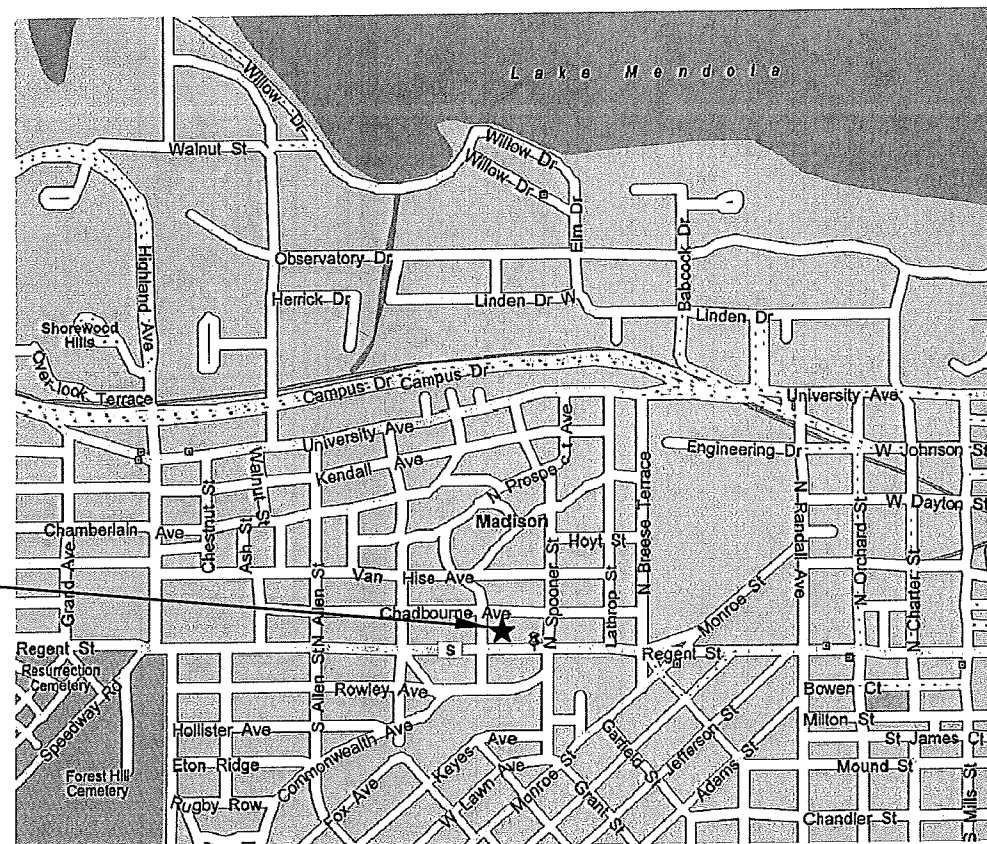
ASFE/The Best People on Earth  
881 Colesville Road, Suite G 106  
Silver Spring, MD 20910

# OLIVE JONES PARK RETAINING WALL, PAVEMENT, AND FENCE IMPROVEMENTS

## FOR THE CITY OF MADISON MADISON, WISCONSIN MARCH 2012



OLIVE JONES PARK  
1802 REGENT STREET

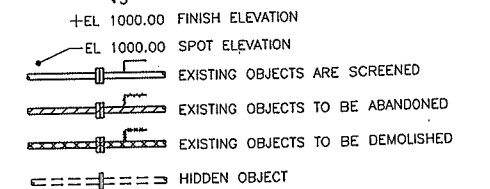
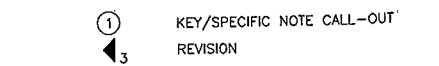
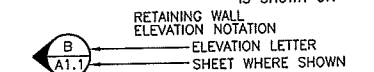
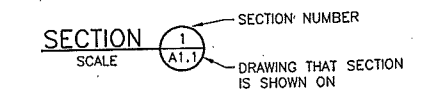
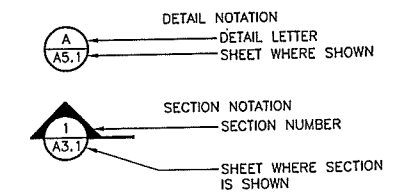


**LIST OF DRAWINGS**

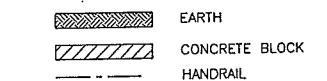
SHEET NO.	DRAWING TITLE
1	TITLE SHEET
2	SITE DEMOLITION PLAN
3	SITE PLAN
4	ENLARGED PLANS
5	WALL ELEVATIONS
6	DETAILS



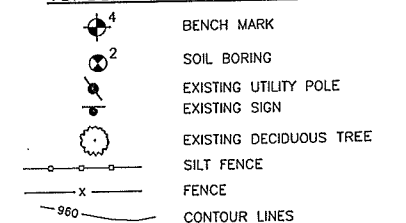
### DRAFTING SYMBOLS



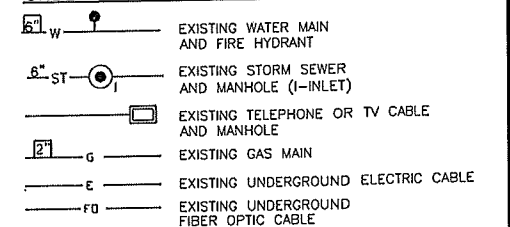
### ARCHITECTURAL SYMBOLS



### TOPOGRAPHICAL SYMBOLS



### UNDERGROUND UTILITY SYMBOLS

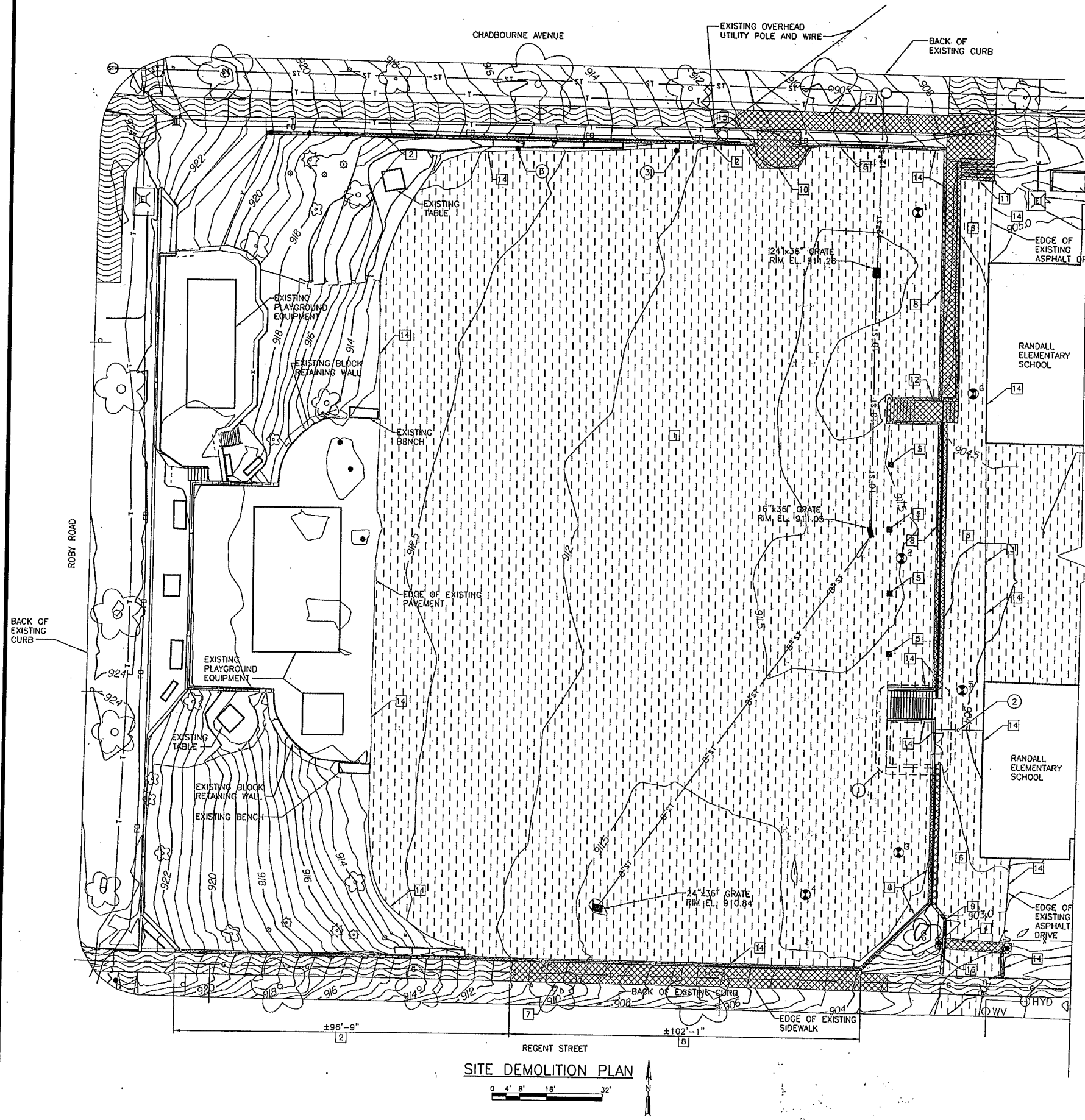


910 West Wingra Drive  
Madison, WI 53715  
608-251-4843  
608-251-8655 fax  
www.strand.com

**CONTRACT NO. 6827**

**SA**  
**STRAND**  
ASSOCIATES®

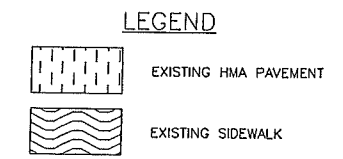
SHEET  
1



- GENERAL NOTES:**
1. ALL ELEVATIONS ARE IN FEET AND ARE BASED ON NAVD88 DATUM.
  2. EXISTING INFORMATION SHOWN ON DRAWINGS WAS OBTAINED FROM FIELD MEASUREMENTS AND CITY OF MADISON TOPOGRAPHIC SURVEY COMPLETED FROM DECEMBER 2009 TO NOVEMBER 2011.

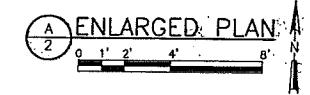
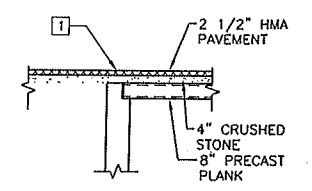
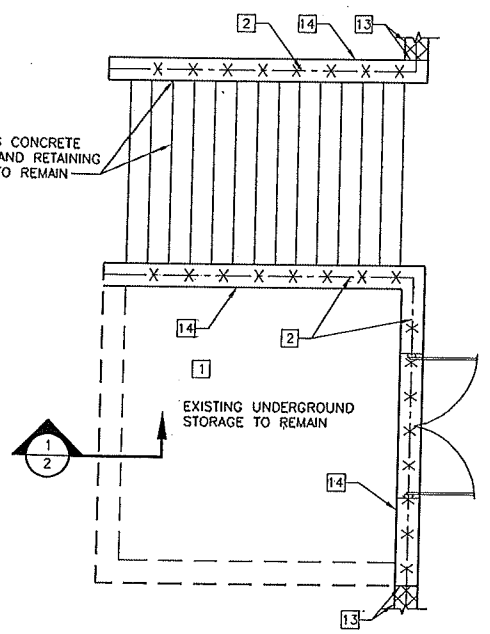
- DEMOLITION NOTES:**
- 1 REMOVE (ALTERNATE NO. 1) OR PULVERIZE (ALTERNATE NO. 2) EXISTING HMA PAVEMENT. APPROXIMATE AREA = 160FTx230FT.
  - 2 REMOVE EXISTING FENCE. CUT FENCE POSTS FLUSH WITH TOP OF CONCRETE. BURN BACK EMBEDDED FENCE POST 2" BELOW TOP OF CONCRETE AND PATCH WITH NON-SHRINK GROUT.
  - 3 SAWCUT EXISTING ASPHALT PAVEMENT.
  - 4 REMOVE EXISTING GATE AND GATE POSTS.
  - 5 REMOVE EXISTING POSTS.
  - 6 REMOVE EXISTING HMA PAVED ALLEYWAY FROM CHADBOURNE AVENUE TO REGENT STREET.
  - 7 REMOVE EXISTING SIDEWALK.
  - 8 REMOVE EXISTING FENCE, CONCRETE RETAINING WALL(S) AND CONCRETE RETAINING WALL FOUNDATION(S).
  - 9 REMOVE EXISTING CONCRETE RETAINING WALL AND FOOTING.
  - 10 REMOVE CONCRETE APRON/DRIVE.
  - 11 REMOVE CONCRETE STAIRS.
  - 12 REMOVE CONCRETE STAIRS, HANDRAILS, CONCRETE RETAINING WALLS AND FOOTINGS.
  - 13 SAWCUT AND REMOVE EXISTING RETAINING WALL AND FOOTING.
  - 14 LIMITS OF ASPHALT REMOVAL.
  - 15 REMOVE EXISTING CONCRETE RETAINING WALL FOR NEW MAN-GATE OPENING.
  - 16 SALVAGE EXISTING SIGN FOR REUSE.

- KEY NOTES:**
- 1 SEE ENLARGED PLAN (A/2) THIS SHEET.
  - 2 PROTECT EXISTING UNDERGROUND ELECTRICAL SERVICE.
  - 3 EXISTING BASKETBALL HOOP TO REMAIN. PROTECT EXISTING POST AND FOOTING DURING CONSTRUCTION.



**DIGGERS HOTLINE**

Toll Free (800) 242-8511  
 Milwaukee Area (414) 259-1181  
 Hearing Impaired TDD (800) 542-2289  
 www.DiggersHotline.com



NO.	ISSUED FOR	REVISIONS	DATE
0			03/14/12

**SITE DEMOLITION PLAN**

OLIVE JONES PARK  
 RETAINING WALL, PAVEMENT, AND FENCE IMPROVEMENTS  
 CITY OF MADISON  
 MADISON, WISCONSIN

**JOB NO.**  
1020.063

**PROJECT MGR.**  
KEITH BEHREND

**SA STRAND ASSOCIATES**

**SHEET**  
2

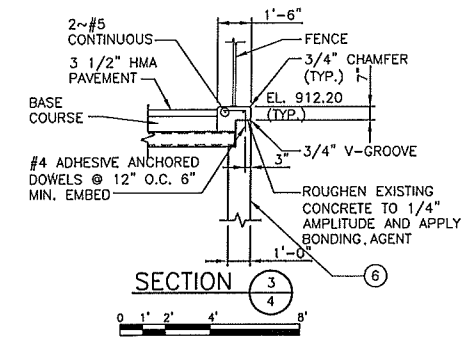
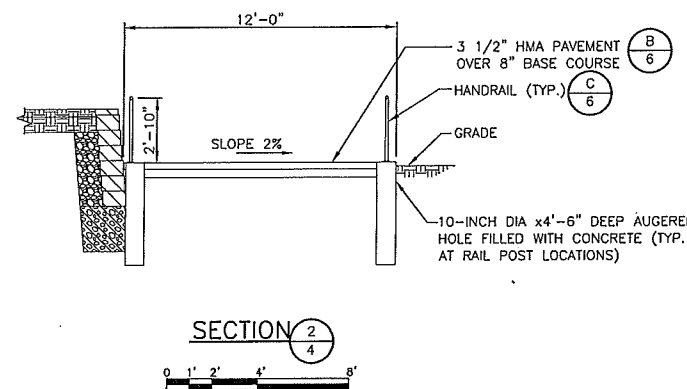
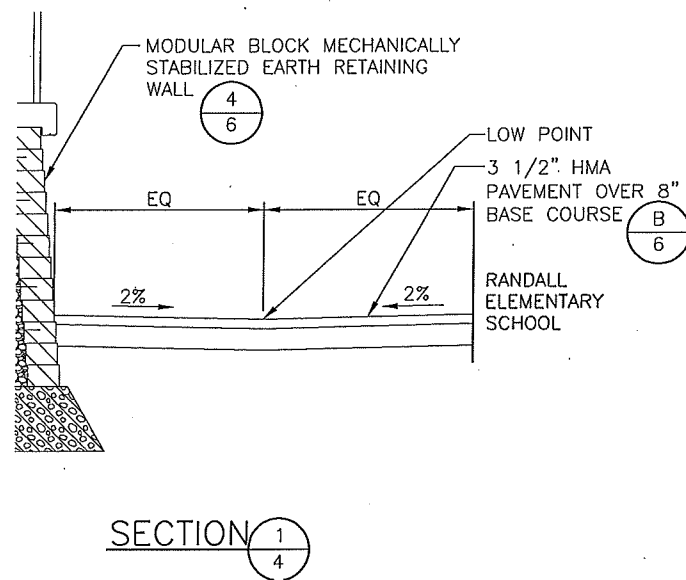
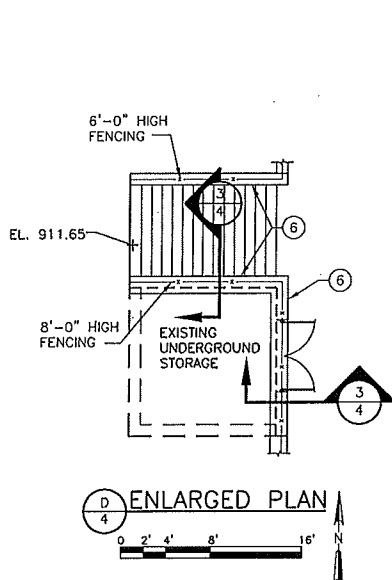
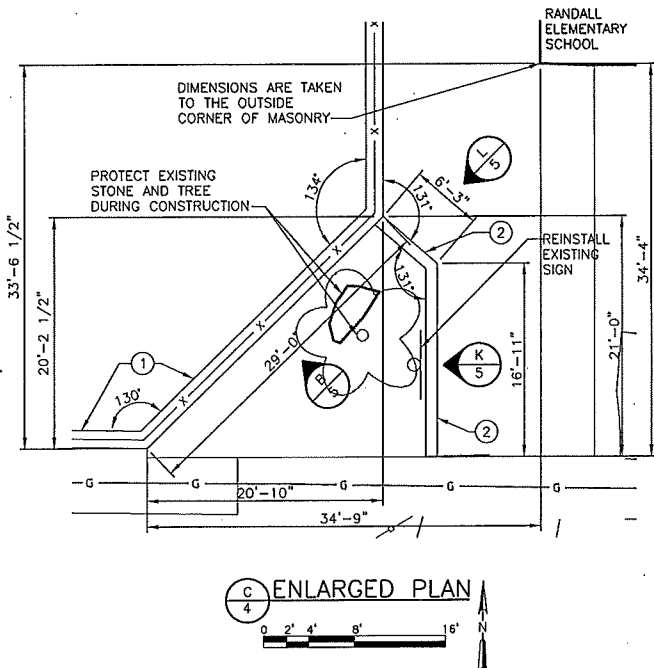
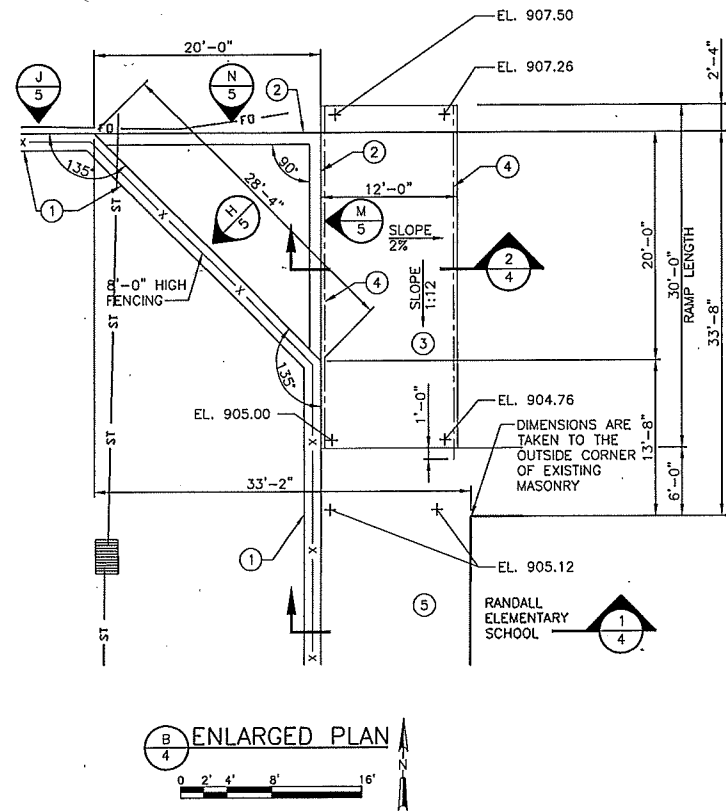
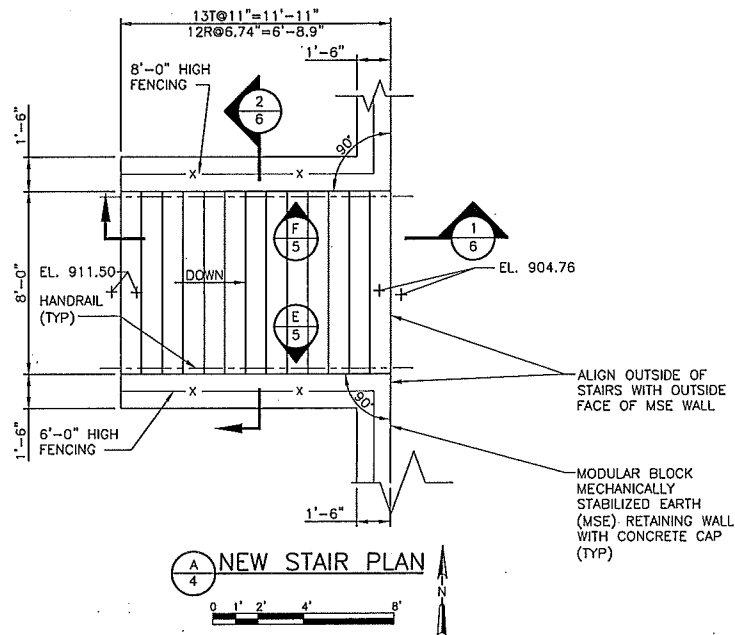


**GENERAL NOTES:**

1. ALL RETAINING WALL LENGTH DIMENSIONS ARE TAKEN TO THE OUTSIDE FACE OF THE WALL CAP.

**KEY NOTES:**

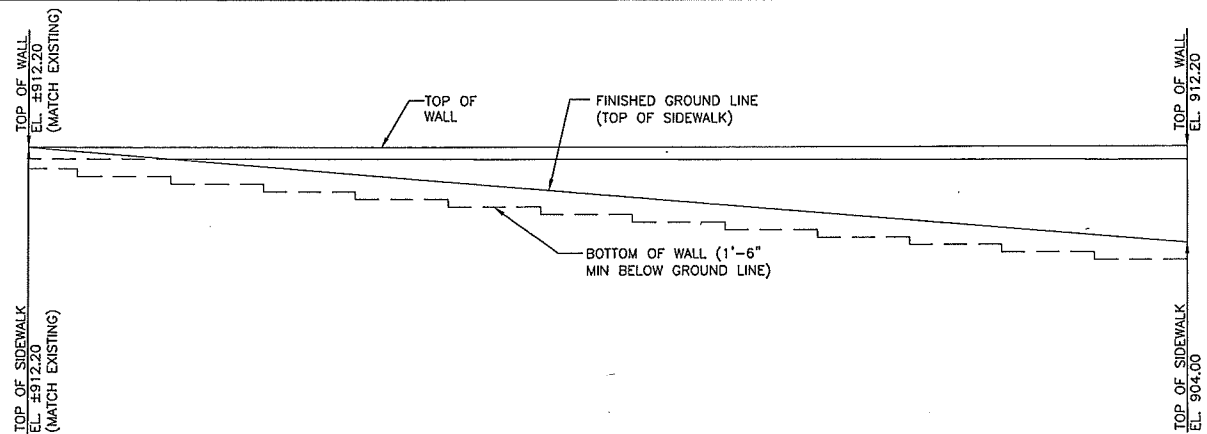
- ① MECHANICALLY STABILIZED EARTH MODULAR BLOCK WALL.
- ② GRAVITY MODULAR BLOCK WALL.
- ③ HMA RAMP.
- ④ HANDRAIL (C 6 / B 6).
- ⑤ HMA PAVEMENT (B 6).
- ⑥ APPLY WATERPROOF CEMENT-BASED COATING, GRAY FINISH, TO OUTSIDE WALL FACES OF EXISTING STAIR WELL WALLS AND UNDERGROUND STORAGE ROOM THAT ARE TO REMAIN. PRODUCT SHALL BE THOROUGH BY THORO CONSUMER PRODUCTS, OR EQUAL. INSTALL IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. PROVIDE SURFACE PREP AS RECOMMENDED BY MANUFACTURER. TOTAL APPROXIMATE SURFACE AREA EQUALS 180SF. WORK IS INCIDENTAL TO REMOVAL OF EXISTING STRUCTURES.



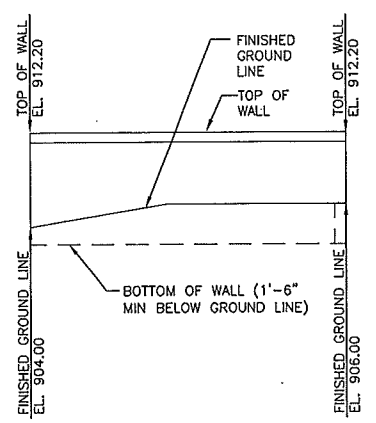
NO.	ISSUED FOR	REVISIONS	DATE
0			03/14/12

**ENLARGED PLANS**  
 OLIVE JONES PARK  
 RETAINING WALL, PAVEMENT, AND FENCE IMPROVEMENTS  
 CITY OF MADISON  
 MADISON, WISCONSIN

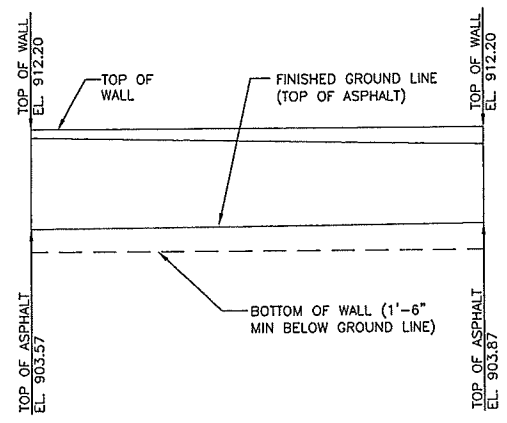
JOB NO.  
1020.063  
 PROJECT MGR.  
KEITH BEHREND  
  
 SHEET  
4



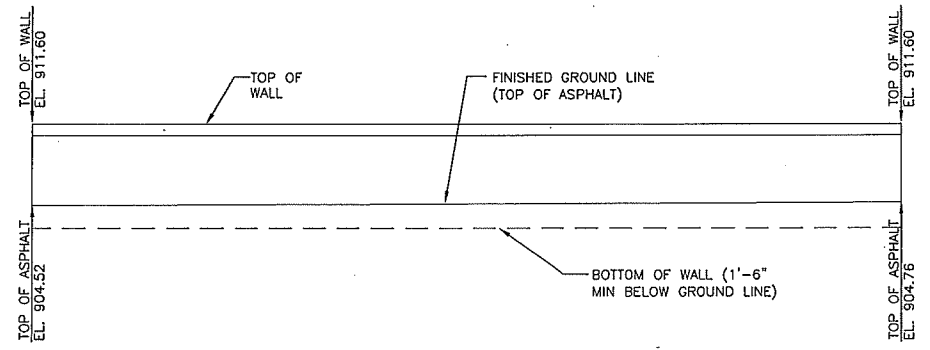
**A** RETAINING WALL ELEVATION  
0 2' 4' 8' 16'



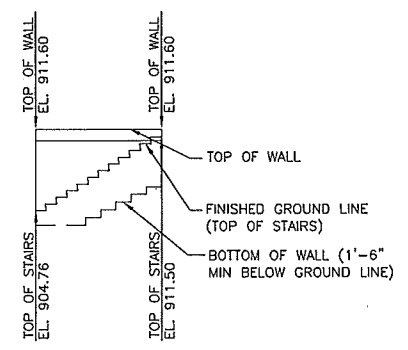
**B** RETAINING WALL ELEVATION  
0 2' 4' 8' 16'



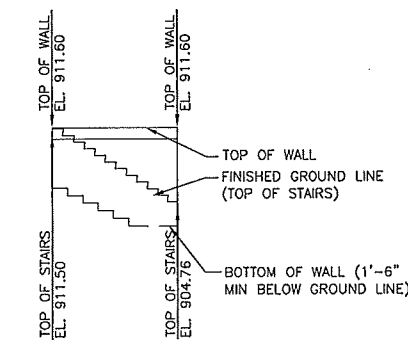
**C** RETAINING WALL ELEVATION  
0 2' 4' 8' 16'



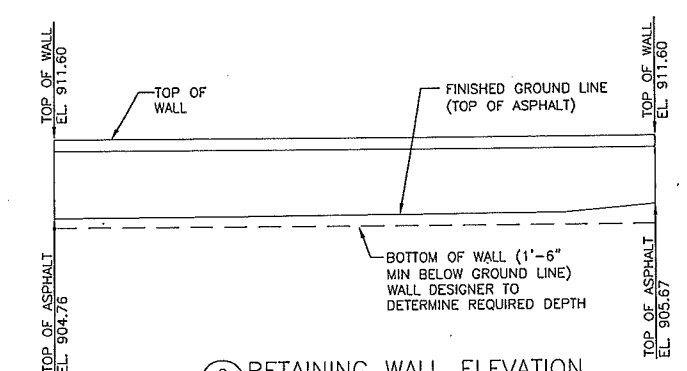
**D** RETAINING WALL ELEVATION  
0 2' 4' 8' 16'



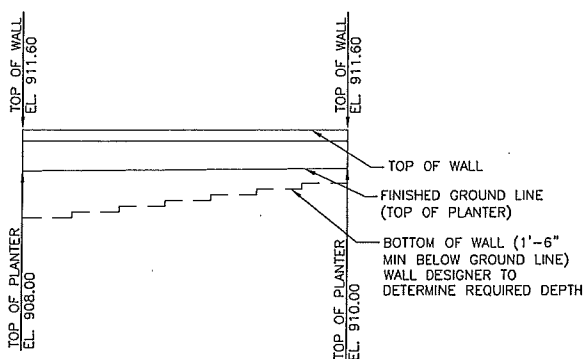
**E** RETAINING WALL ELEVATION  
0 2' 4' 8' 16'



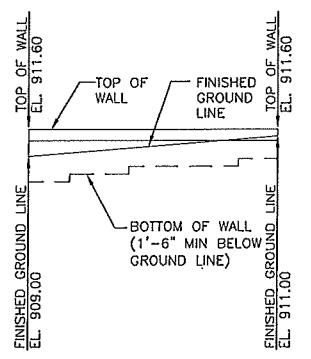
**F** RETAINING WALL ELEVATION  
0 2' 4' 8' 16'



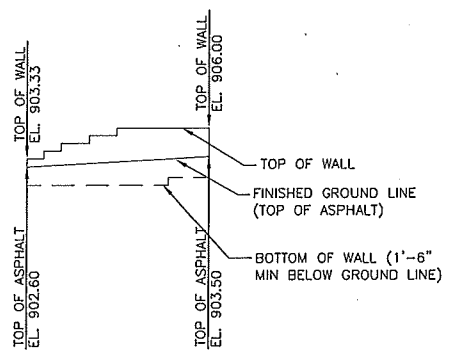
**G** RETAINING WALL ELEVATION  
0 2' 4' 8' 16'



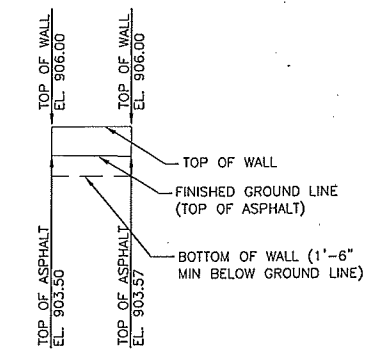
**H** RETAINING WALL ELEVATION  
0 2' 4' 8' 16'



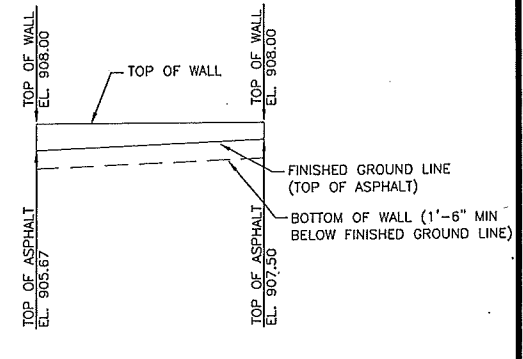
**J** RETAINING WALL ELEVATION  
0 2' 4' 8' 16'



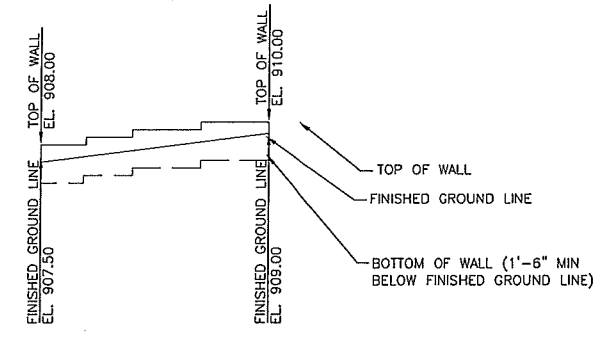
**K** RETAINING WALL ELEVATION  
0 2' 4' 8' 16'



**L** RETAINING WALL ELEVATION  
0 2' 4' 8' 16'



**M** RETAINING WALL ELEVATION  
0 2' 4' 8' 16'



**N** RETAINING WALL ELEVATION  
0 2' 4' 8' 16'

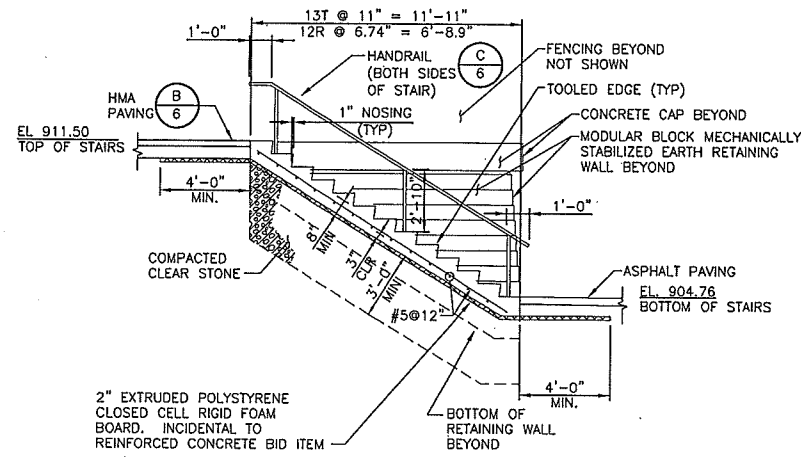
NO.	REVISIONS	DATE
0	ISSUED FOR BID	03/14/12

**WALL ELEVATIONS**  
OLIVE JONES PARK  
RETAINING WALL, PAVEMENT, AND FENCE IMPROVEMENTS  
CITY OF MADISON  
MADISON, WISCONSIN

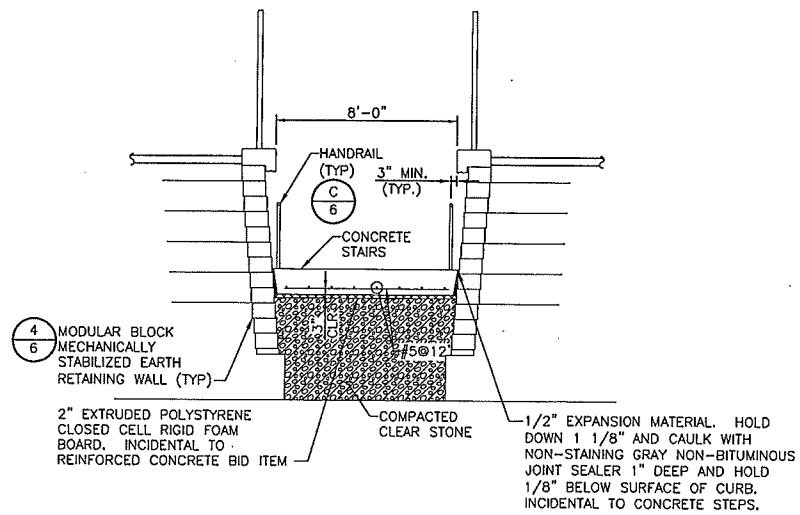
JOB NO.  
1020.063  
PROJECT MGR.  
KEITH BEHREND



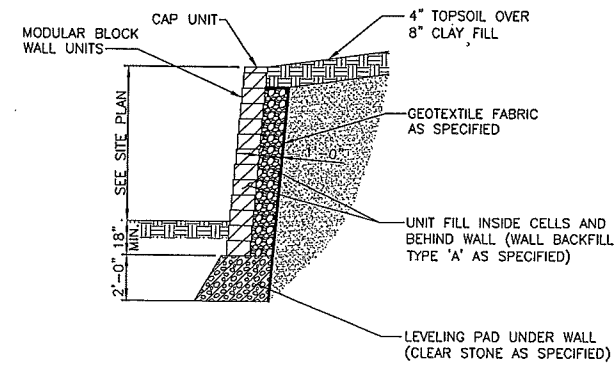
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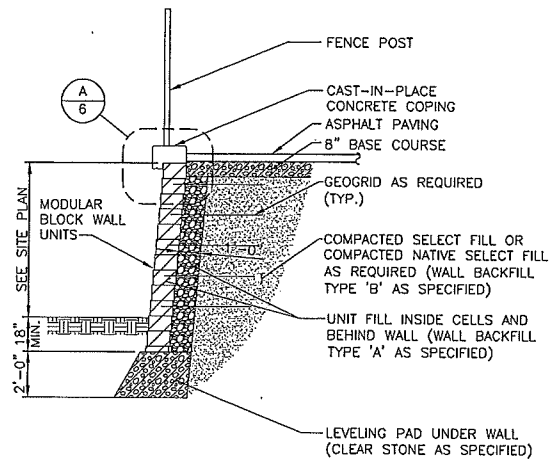
LONGITUDINAL STAIR SECTION (1/6)



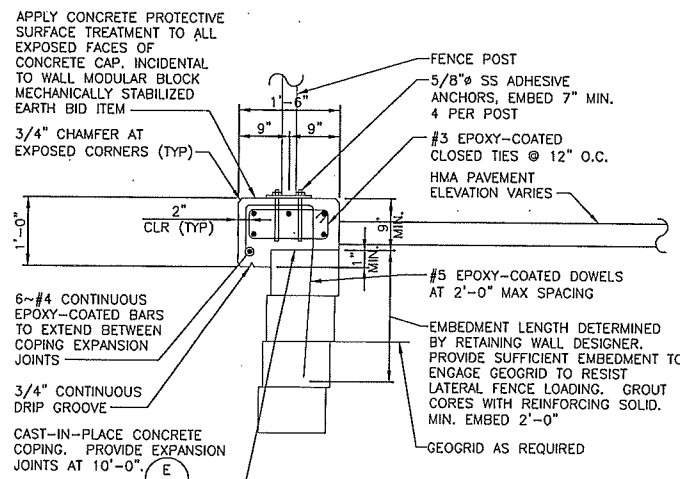
TRANSVERSE STAIR SECTION (2/6)



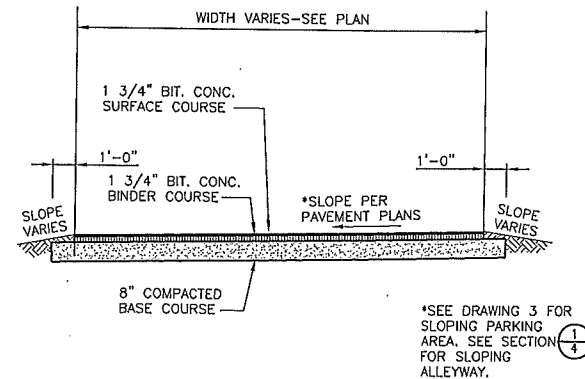
TYPICAL MODULAR BLOCK GRAVITY WALL (3/6)



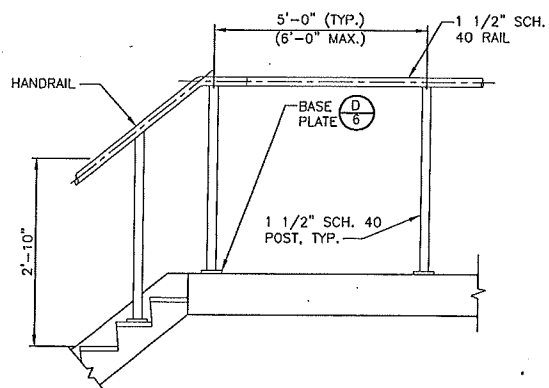
TYPICAL MODULAR BLOCK MECHANICALLY STABILIZED EARTH RETAINING WALL SECTION (4/6)



ENLARGED COPING DETAIL (5/6)



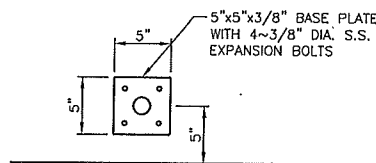
NEW HMA PAVEMENT SECTION (6/6)



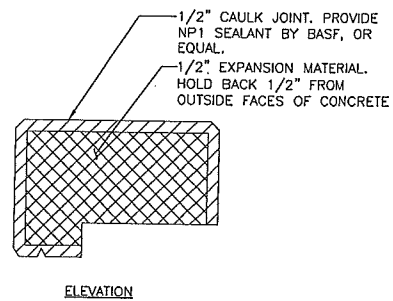
HANDRAIL (C/6)

NOTES:

- SEE SPECIAL PROVISIONS FOR MATERIAL AND FINISH REQUIREMENTS.
- ALL JOINTS TO BE FULLY WELDED ALL AROUND AND GROUND SMOOTH.
- EXTEND HANDRAILS HORIZONTALLY A MIN. 1'-0" BEYOND TOP RISER. HANDRAILS SHALL CONTINUE TO SLOPE FOR THE DEPTH OF ONE TREAD BEYOND THE BOTTOM RISER.



BASE PLATE (D/6)



WALL COPING EXPANSION JOINT (E/6)

NO.	REVISIONS	DATE
0	ISSUED FOR BID	02/14/12

**DETAILS**  
 OLIVE JONES PARK  
 RETAINING WALL, PAVEMENT, AND FENCE IMPROVEMENTS  
 CITY OF MADISON  
 MADISON, WISCONSIN

JOB NO.  
1020.063  
 PROJECT MGR.  
KEITH BEHREND



SHEET  
6

**SECTION E: PROPOSAL**

**OLIVE JONES PARK RETAINING WALL, PAVEMENT AND FENCE  
IMPROVEMENTS  
CONTRACT NO. 6827**

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

1. The undersigned having familiarized himself/herself with the Contract documents, including Advertisement for Bids, Instructions to Bidders, Form of Proposal, City of Madison Standard Specifications for Public Works Construction - 2012 Edition thereto, Form of Agreement, Form of Bond, and Addenda issued and attached to the plans and specifications on file in the office of the City Engineer, hereby proposes to provide and furnish all the labor, materials, tools, and expendable equipment necessary to perform and complete in a workmanlike manner the specified construction on this project for the City of Madison; all in accordance with the plans and specifications as prepared by the City Engineer, including Addenda to the Contract Nos. \_\_\_\_\_ through \_\_\_\_\_ issued thereto, at the prices for said work as contained in this proposal.
2. If awarded the Contract, we will initiate action within seven (7) days after notification or in accordance with the date specified in the contract to begin work and will proceed with diligence to bring the project to full completion within the number of work days allowed in the Contract or by the calendar date stated in the Contract.
3. The undersigned Bidder or Contractor certifies that he/she is not a party to any contract, combination in form of trust or otherwise, or conspiracy in restraint of trade or commerce or any other violation of the anti-trust laws of the State of Wisconsin or of the United States, with respect to this bid or contract or otherwise.
4. Accompanying this Proposal is  Bid Bond or  Certified Check in the amount of \_\_\_\_\_ Dollars (\$) or  a Certificate of Biennial Bid Bond as required by the Advertisement for Bids.  
*(IF BID BOND IS USED, IT SHALL BE SUBMITTED ON THE FORMS PROVIDED BY THE CITY. FAILURE TO DO SO MAY RESULT IN REJECTION OF THE BID).*
5. I hereby certify that all statements herein are made on behalf of \_\_\_\_\_  
(name of corporation, partnership, or person submitting bid)  
a corporation organized and existing under the laws of the State of \_\_\_\_\_ a partnership consisting of \_\_\_\_\_; an individual trading as \_\_\_\_\_; of the City of \_\_\_\_\_; State of \_\_\_\_\_; that I have examined and carefully prepared this Proposal, from the plans and specifications and have checked the same in detail before submitting this Proposal; that I have fully authority to make such statements and submit this Proposal in (its, their) behalf; and that the said statements are true and correct.

\_\_\_\_\_  
SIGNATURE

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

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

\_\_\_\_\_  
(Notary Public or other officer authorized to administer oaths)  
My Commission Expires \_\_\_\_\_

Bidders shall not add any conditions or qualifying statements to this Proposal.



**OLIVE JONES PARK RETAINING WALL, PAVEMENT AND FENCE IMPROVEMENTS  
CONTRACT NO. 6827**

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

**Disclosure of Ownership**

**Notice required under Section 15.04(1)(m), Wisconsin Statutes.** The statutory authority for the use of this form is prescribed in Sections 66.0903(12)(d) and 103.49(7)(d), Wisconsin Statutes. The use of this form is mandatory. The penalty for failing to complete this form is prescribed in Section 103.005(12), Wisconsin Statutes. Personal information you provide may be used for secondary purposes.

- (1) On the date a contractor submits a bid to or completes negotiations with a state agency or local governmental unit, on a project subject to Section 66.0903 or 103.49, Wisconsin Statutes, the contractor shall disclose to such state agency or local governmental unit the name of any "other construction business", which the contractor, or a shareholder, officer or partner of the contractor, owns or has owned within the preceding three (3) years.
- (2) The term "other construction business" means any business engaged in the erection, construction, remodeling, repairing, demolition, altering or painting and decorating of buildings, structures or facilities. It also means any business engaged in supplying mineral aggregate, or hauling excavated material or spoil as provided by Sections 66.0903(3), 103.49(2) and 103.50(2), Wisconsin Statutes.
- (3) This form must ONLY be filed, with the state agency or local governmental unit that will be awarding the contract, if **both (A) and (B) are met.**
  - (A) The contractor, or a shareholder, officer or partner of the contractor:
    - (1) Owns at least a 25% interest in the "other construction business", indicated below, on the date the contractor submits a bid or completes negotiations.
    - (2) Or has owned at least a 25% interest in the "other construction business" at any time within the preceding three (3) years.
  - (B) The Wisconsin Department of Workforce Development (DWD) has determined that the "other construction business" has failed to pay the prevailing wage rate or time and one-half the required hourly basic rate of pay, for hours worked in excess of the prevailing hours of labor, to any employee at any time within the preceding three (3) years.

**Other Construction Business**

Name of Business

Street Address or P O Box	City	State	Zip Code
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Name of Business

Street Address or P O Box	City	State	Zip Code
---------------------------	------	-------	----------

Name of Business

Street Address or P O Box	City	State	Zip Code
---------------------------	------	-------	----------

**I hereby state under penalty of perjury that the information, contained in this document, is true and accurate according to my knowledge and belief.**

Print the Name of Authorized Officer

Signature of Authorized Officer	Date Signed
---------------------------------	-------------

Name of Corporation, Partnership or Sole Proprietorship

Street Address or P O Box	City	State	Zip Code
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**If you have any questions call (608) 266-0028**

**OLIVE JONES PARK RETAINING WALL, PAVEMENT AND FENCE  
IMPROVEMENTS  
CONTRACT NO. 6827**

**Best Value Contracting**

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

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2. Some Contractors are exempt due to the size of the work force. Apprenticeable trades are those trades considered apprenticeable by the State of Wisconsin.

Check Here if the Contractor has a total skilled work force of four or less individuals in all apprenticeable trades combined. This contractor is exempt from Best Value Contracting.

3. The Contractor shall indicate on page E-4 which apprenticeable trades are to be used on this Contract and shall indicate by checking the appropriate box for the trades used, how the contractor will comply with Madison General Ordinance 33.07(7).

Legend

Number of Journeyworkers	The Contractor shall indicated for trades to be used on this Contract only, the number of journeyworkers that the Contractor has employed company wide.
W-ATT	The Contractor is an active trade trainer in the State of Wisconsin for the trade indicated.
US-ATT	The Contractor is an active trade trainer in an apprenticeship program approved by the U.S. Department of Labor or another state apprenticeship agency in the trade indicated.
SB-ATT	The Contractor shall become an active trade trainer prior to beginning work on the Contract in the trade indicated.

The Contractor has reviewed the list on page E-4 and shall not use any apprenticeable trades on this project.

The Contractor has reviewed this list on E-4 and has checked the appropriate box by each apprenticeable trade to be used on the project.

**OLIVE JONES PARK RETAINING WALL, PAVEMENT AND FENCE  
IMPROVEMENTS  
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**Apprenticeable Trades**

Check the box in the column "Trade Used on This Project" for each apprenticeable trades used on this project. For those trades used on the project indicated the number of journeyworkers that are employed company wide and check a box to the right of the trade as to how the Contractor will comply MGO 33.07(7). Refer to the legend on page E-3 for the meaning associated with each heading. The Contractor must check one of the boxes on the right for each apprenticeable trade used and checked on the left.

Trade Used on Contract	Apprenticeable Trades	Number of Journeyworkers	W-ATT	US-ATT	SB-ATT
<input type="checkbox"/>	Bricklayer		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Carpenter		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Cement Mason / Concrete Finisher		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Cement Mason (Heavy Highway)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Construction Craft Laborer		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Data Communication Installer		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Electrician		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Environmental Systems Technician / HVAC Service Tech/HVAC Install / Service		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Glazier		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Heavy Equipment Operator / Operating Engineer		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Insulation Worker (Heat & Frost)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Iron Worker		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Iron Worker (Assembler, Metal Bldgs)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Painter & Decorator		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Plasterer		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Plumber		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Residential Electrician		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Roofer & Waterproofer		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Sheet Metal Worker		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Sprinklerfitter		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Steamfitter		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Steamfitter (Refrigeration)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Steamfitter (Service)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Taper & Finisher		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Telecommunications (Voice, Data & Video) Installer-Technician		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Tile Setter		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NAME OF BIDDER: \_\_\_\_\_

Contract No. 6827

ITEM	TYPE OF WORK	ALTERNATE NO. 1		
		ESTIMATED QUANTITIES	UNIT PRICE BID	TOTAL BID
10701	TRAFFIC CONTROL	1	L.S.	
10911	MOBILIZATION	1	L.S.	
20109	FINISH GRADING	1	L.S.	
20201	FILL BORROW	16	TON	
20217	CLEAR STONE	16	TON	
20221	TOPSOIL	205	S.Y.	
20303	SAWCUT BITUMINOUS PAVEMENT	68	L.F.	
20323	REMOVE CONCRETE SIDEWALK AND DRIVE	1,182	S.F.	
20326	REMOVE FENCE	640	L.F.	
20503	ADJUST INLET	1	EACH	
20701	TERRACE SEEDING	170	S.Y.	
21001	EROSION CONTROL PLAN AND IMPLEMENTATION	1	L.S.	
21011	CONSTRUCTION ENTRANCE	1	EACH	
21021	SILT FENCE - COMPLETE	300	L.F.	
21031	INLET PROTECTION TYPE C - COMPLETE	3	EACH	
21064	EROSION MATTING, CLASS I, TYPE B	170	S.Y.	
30301	5-INCH CONCRETE SIDEWALK	930	S.F.	
30302	7-INCH CONCRETE SIDEWALK AND DRIVE	112	S.F.	
40101	CRUSHED AGGREGATE BASE COURSE, GRADATION NO. 1	460	TON	

ESTIMATED QUANTITIES	UNIT PRICE BID	TOTAL BID	ALTERNATE NO. 2	
			ESTIMATED QUANTITIES	UNIT PRICE BID
1	L.S.			
1	L.S.			
1	L.S.			
16	TON			
16	TON			
205	S.Y.			
68	L.F.			
1,182	S.F.			
640	L.F.			
1	EACH			
170	S.Y.			
1	L.S.			
1	EACH			
300	L.F.			
3	EACH			
170	S.Y.			
930	S.F.			
112	S.F.			
460	TON			

NAME OF BIDDER: \_\_\_\_\_

Contract No. 6827

ITEM	TYPE OF WORK	ALTERNATE NO. 1		
		ESTIMATED QUANTITIES	UNIT PRICE BID	TOTAL BID
40102	CRUSHED AGGREGATE BASE COURSE, GRADATION NO. 2 OR NO.	502	TON	
40201	HMA PAVEMENT TYPE E-0.3	836	TON	
40211	TACK COAT	450	GAL.	
90001	6-FOOT HEIGHT FENCING	100	L.F.	
90002	8-FOOT HEIGHT FENCING	540	L.F.	
90003	12-FOOT AUTO FENCE GATE	1	EACH	
90004	4-FOOT MAN FENCE GATE	1	EACH	
90005	WALL MODULAR BLOCK GRAVITY	200	S.F.	
90006	WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH	2,691	S.F.	
90007	REMOVAL OF EXISTING STRUCTURES	1	L.S.	
90008	REINFORCED CONCRETE	1	L.S.	
90009	HANDRAILS	1	L.S.	
90010	EXCAVATION	1	L.S.	
90011	REMOVING ASPHALTIC SURFACES	4,386	S.Y.	
90012	REUSE OF EXISTING BASE COURSE	340	C.Y.	
90013	CONCRETE SURFACE REPAIR	25	S.F.	
90014	PULVERIZE AND REUSE EXISTING ASPHALT AND BASE COURSE	0	C.Y.	
<b>GRAND TOTAL</b>				

ALTERNATE NO. 2				
ESTIMATED QUANTITIES	UNIT PRICE BID	TOTAL BID	ALTERNATE NO. 2	
			ESTIMATED QUANTITIES	UNIT PRICE BID
134	TON			
836	TON			
450	GAL.			
100	L.F.			
540	L.F.			
1	EACH			
1	EACH			
200	S.F.			
2,691	S.F.			
1	L.S.			
1	L.S.			
1	L.S.			
1	L.S.			
296	S.Y.			
0	C.Y.			
25	S.F.			
568	S.F.			
<b>GRAND TOTAL</b>				

NOTE: THE CONTRACT WILL BE AWARDED TO THE LOWEST OVERALL BID CONSIDERING BOTH ALTERNATES FROM ALL BIDDERS. YOU MAY CHOOSE TO BID ON ONLY ONE OF THE TWO ALTERNATES. BIDDING ON ONLY ONE ALTERNATE WILL NOT DISQUALIFY YOU FROM BIDDING.

E6

## SECTION F: BID BOND

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

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

OLIVE JONES PARK - RETAINING WALL, PAVEMENT AND FENCE  
IMPROVEMENTS  
CONTRACT NO. 6827

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

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

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

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

Seal

\_\_\_\_\_  
Principal

\_\_\_\_\_  
Date

By:

\_\_\_\_\_

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

By:

\_\_\_\_\_

\_\_\_\_\_  
Date

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

\_\_\_\_\_  
Date

\_\_\_\_\_  
Agent

\_\_\_\_\_  
Address

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

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

#### NOTE TO SURETY & PRINCIPAL

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

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

### Certificate of Biennial Bid Bond

TIME PERIOD - VALID (FROM/TO)
NAME OF SURETY
NAME OF CONTRACTOR
CERTIFICATE HOLDER <div style="text-align: center; margin-top: 10px;">City of Madison, Wisconsin</div>

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

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

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

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

\_\_\_\_\_  
Date



## SECTION G: AGREEMENT

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

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

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

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

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

**General and Authorization.** The Contractor shall compensate its employees at the prevailing wage rate in accordance with section 66.0903, Wis. Stats., DWD 290 of the Wisconsin Administrative Code and as hereinafter provided.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- a. That the Contractor has complied fully with the provisions and requirements of Sec. 66.0903(3), Wis. Stats., and Chapter DWD 290, Wis. Admin. Code; the Contractor has received evidence of compliance from each of the agents and subcontractors; and the names and addresses of all of the subcontractors and agents who worked on the contract.
- b. That full and accurate records have been kept, which clearly indicate the name and trade or occupation of every laborer, worker or mechanic employed by the Contractor in connection with work on the project. The records shall show the number of hours worked by each employee and the actual wages paid therefor; where these records will be kept and the name, address and telephone number of the person who will be responsible for keeping them. The records shall be retained and made available for a period of at least three (3) years following the completion of the project of public works and shall not be removed without prior notification to the municipality.

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

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

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

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

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

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

#### Articles of Agreement Article I

The Contractor shall take affirmative action in accordance with the provisions of this contract to insure that applicants are employed, and that employees are treated during employment without regard to race, religion, color, age, marital status, disability, sex or national origin and that the employer shall provide harassment free work environment for the realization of the potential of each employee. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation and selection for training including apprenticeship insofar as it is within the control of the Contractor. The Contractor agrees to post in conspicuous places available to employees and applicants notices to be provided by the City setting out the provisions of the nondiscrimination clauses in this contract.

#### Article II

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

#### Article III

The Contractor shall send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding a notice to be provided by the City advising the labor union or worker's representative of the Contractor's equal employment opportunity and affirmative action commitments. Such notices shall be posted in conspicuous places available to employees and applicants for employment.

#### Article V

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

## Article VI

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

## Article VII

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

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

## Article VIII

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

## Article IX

The Contractor shall allow the maximum feasible opportunity to small business enterprises to compete for any subcontracts entered into pursuant to this contract.

OLIVE JONES PARK - RETAINING WALL, PAVEMENT AND FENCE  
IMPROVEMENTS  
CONTRACT NO. 6827

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

Countersigned:

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

\_\_\_\_\_  
Witness Date

\_\_\_\_\_  
President Date

\_\_\_\_\_  
Witness Date

\_\_\_\_\_  
Secretary Date

CITY OF MADISON, WISCONSIN

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

Approved as to form:

\_\_\_\_\_  
Finance Director

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

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Mayor Date

\_\_\_\_\_  
Witness

\_\_\_\_\_  
City Clerk Date

**SECTION H: PAYMENT AND PERFORMANCE BOND**

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

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

**OLIVE JONES PARK - RETAINING WALL, PAVEMENT AND FENCE  
IMPROVEMENTS  
CONTRACT NO. 6827**

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

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

Countersigned:

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

\_\_\_\_\_  
Witness

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

\_\_\_\_\_  
Secretary

Approved as to form:

\_\_\_\_\_  
Surety Seal  
 Salary Employee       Commission

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

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

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

\_\_\_\_\_  
Date

\_\_\_\_\_  
Agent



# **MINIMUM WAGE SCALE**

FOR

**PUBLIC WORKS IMPROVEMENTS**

**APPROVED BY: BOARD OF PUBLIC WORKS**

**MADISON, WISCONSIN**

February 7, 2012

The attached "Prevailing Wage Rate Determination: (Pages 1 through 30), issued February 7, 2012, is hereby approved as the Minimum Wage Scale of the City of Madison.

State of Wisconsin Department of Workforce Development Equal Rights Division	<b>DEPARTMENTAL ORDER</b>
<b>ISSUE DATE: 1/13/2012</b>	
<b>PROJECT:</b> ALL PUBLIC WORKS PROJECTS UNDER SEC 66.0903, STATS - CITY OF MADISON MADISON CITY, DANE COUNTY, WI Determination No. 201200105	
<b>PROJECT OWNER:</b> ROBERT F. PHILLIPS, CITY ENGINEER CITY OF MADISON-ENGINEERING 210 MARTIN L KING JR BLVD, RM 115 MADISON, WI 53703	<b>REQUESTER:</b> ROBERT F. PHILLIPS, CITY ENGINEER CITY OF MADISON-ENGINEERING 210 MARTIN L KING JR BLVD, RM 115 MADISON, WI 53703
<b>ADDITIONAL CONTACT:</b> NORMAN DAVIS, CONTRACT COMPLIANCE CITY OF MADISON-DEPT OF CIVIL RTS-AA DIV 210 MARTIN L KING JR BLVD, RM 523 MADISON, WI 537033342	
<p>The department received an application for prevailing wage rate determination for the above-captioned project. The department conducted a survey to determine the prevailing wage rate for the trade(s) or occupation(s) needed to complete the project. The survey's findings appear in the attached project determination.</p> <p>If you believe that the wage rate for any trade or occupation does not accurately reflect the prevailing wage rate in the city, village or town where the project is located, you may ask the department to conduct an administrative review of such wage rate. You must submit this request in writing within 30 days from the date indicated above. Additionally, your request must include wage rate information from at least three similar projects in the city, village or town where the proposed project is located and on which some work has been performed by the contested trade(s) during the current survey period and was previously considered by the department in issuing the attached determination. See DWD 290.10 of the Wisconsin Administrative Code and either s. 66.0903(3)(br), s. 66.0904(4)(e), or s. 103.49(3)(c), Stats., for a complete explanation of the administrative review process.</p> <p>Enclosures</p>	
<p>It is hereby ordered that the prevailing wage rates set forth in the attached project determination shall only be applicable to the above referenced project. This order is a <b>FINAL ORDER</b> of the department unless a timely request for an administrative review is filed with the department.</p> <p>ISSUED BY:</p> <p style="text-align: center;">         Equal Rights Division          Labor Standards Bureau          Construction Wage Standards Section          PO Box 8928 Madison, WI 53708-8928          (608)266-6861       </p> <p style="text-align: center;">Web Site: <a href="http://dwd.wisconsin.gov/er/">http://dwd.wisconsin.gov/er/</a></p>	

**PREVAILING WAGE RATE DETERMINATION**

Issued by the State of Wisconsin  
Department of Workforce Development  
Pursuant to s. 66.0903, Wis. Stats.  
Issued On: 1/13/2012

**DETERMINATION NUMBER:** 201200105

**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 MADISON

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

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

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

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

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**

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
101	Acoustic Ceiling Tile Installer	29.06	15.16	44.22
102	Bollermaker	31.09	23.75	54.84
103	Bricklayer, Blocklayer or Stonemason Future Increase(s): Add \$.50/hr on 6/1/2012; Add \$ .80 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.	32.26	16.60	48.86
104	Cabinet Installer	29.06	15.16	44.22
105	Carpenter	29.06	15.16	44.22
106	Carpet Layer or Soft Floor Coverer	29.06	15.16	44.22
107	Cement Finisher	32.03	15.13	47.16
108	Drywall Taper or Finisher	26.10	13.65	39.75
109	Electrician Future Increase(s): Add \$.50/hr on 6/1/2012. 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.	32.55	18.68	51.23
110	Elevator Constructor	43.79	25.48	69.27
111	Fence Erector	25.50	0.26	25.76
112	Fire Sprinkler Fitter	36.39	16.75	53.14
113	Glazier	36.23	11.22	47.45
114	Heat or Frost Insulator	33.28	22.51	55.79
115	Insulator (Batt or Blown)	23.62	11.55	35.17
116	Ironworker	30.90	19.11	50.01
117	Lather	29.06	15.16	44.22

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
118	Line Constructor (Electrical)	35.97	18.08	54.05
119	Marble Finisher	31.16	16.27	47.43
120	Marble Mason	32.66	16.20	48.86
121	Metal Building Erector	22.00	4.11	26.11
122	Millwright	30.66	15.21	45.87
123	Overhead Door Installer	18.00	4.86	22.86
124	Painter	25.65	14.11	39.76
125	Pavement Marking Operator	26.00	0.00	26.00
126	Piledriver	29.56	15.16	44.72
127	Pipeline Fuser or Welder (Gas or Utility)	29.54	18.84	48.38
129	Plasterer	29.03	15.16	44.19
130	Plumber	36.20	15.02	51.22
132	Refrigeration Mechanic Future Increase(s): Add \$.85/hr on 12/1/11; Add \$.90/hr on 6/1/12; Add \$.85/hr on 12/1/12.	40.35	16.21	56.56
133	Roofer or Waterproofer	28.06	0.00	28.06
134	Sheet Metal Worker	34.23	20.19	54.42
135	Steamfitter Future Increase(s): Add \$.85/hr on 12/1/11; Add \$.90/hr on 6/1/12; Add \$.85/hr on 12/1/12.	40.35	16.21	56.56
137	Teledata Technician or Installer	21.26	6.99	28.25
138	Temperature Control Installer	32.55	18.68	51.23
139	Terrazzo Finisher	18.00	5.35	23.35
140	Terrazzo Mechanic	31.16	16.27	47.43
141	Tile Finisher Future Increase(s): Add \$.50/hr on 6/1/2012; Add \$.80/hr on 6/1/2013.	23.77	16.00	39.77
142	Tile Setter Future Increase(s): Add \$.50/hr on 6/1/2012; Add \$.80/hr on 6/1/2013.	29.71	16.00	45.71
143	Tuckpointer, Caulker or Cleaner	22.00	9.75	31.75
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

**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> \$
147	Sliding Installer	16.74	2.58	19.32
150	Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	32.37	16.48	48.85
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 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> \$
201	Single Axle or Two Axle	18.00	6.98	24.98
203	Three or More Axle Future Increase(s): Add \$1.57/hr on 6/1/2012.	18.00	13.83	31.83
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
207	Truck Mechanic	18.00	13.68	31.68

**LABORERS**

**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> \$
301	General Laborer Future Increase(s): Add \$.50/hr. on 06/04/2012; Add \$.75/hr. on 06/03/2013 Premium Increase(s): Add \$1.00/hr for certified welder; Add \$.25/hr for mason tender	24.14	13.45	37.59
302	Asbestos Abatement Worker	23.96	12.88	36.84
303	Landscaper	17.00	6.36	23.36
310	Gas or Utility Pipeline Laborer (Other Than Sewer and Water)	20.39	12.20	32.59
311	Fiber Optic Laborer (Outside, Other Than Concrete Encased)	16.51	0.00	16.51
314	Railroad Track Laborer	14.00	4.77	18.77

**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
<u>CODE</u>	<u>TRADE OR OCCUPATION</u>	\$	\$	\$
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, Ciamshells; 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). Future Increase(s): Add \$1/hr on 6/3/2012; Add \$1/hr on 6/2/2013.	32.42	17.98	50.40
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).	31.89	14.44	46.33
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. Future Increase(s): Add \$1/hr on 6/3/2012; Add \$1/hr on 6/2/2013.	31.89	17.98	49.87
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



<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>				
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
		\$	\$	\$
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, Sllp, 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**

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>				
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
		\$	\$	\$
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. Future Increase(s): Add \$1/hr on 6/3/2012; Add \$1/hr on 6/2/2013. Premium Increase(s): Add \$.50/hr at 200 ton; Add \$1.00/hr. at 300 ton; Add \$1.50/hr at 400 ton; Add \$2.00/hr at 500 ton.	34.62	17.98	52.60
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). Future Increase(s): Add \$1/hr on 6/3/2012; Add \$1/hr on 6/2/2013. Premium Increase(s): Add \$.25/hr for cranes with lifting capacity of 45 ton or over.	33.62	17.98	51.60
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-Alre Type); Hydro-Blaster (10,000 PSI or Over); Milling Machine; Skid Rig; Traveling Crane (Bridge Type). Future Increase(s): Add \$1/hr on 6/3/2012; Add \$1/hr on 6/2/2013.	32.42	17.98	50.40

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
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 Levelling 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). Future Increase(s): Add \$1/hr on 6/3/2012; Add \$1/hr on 6/2/2013.	31.89	17.98	49.87
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.	35.59	19.10	54.69
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. Future Increase(s): Add \$1/hr on 6/3/2012; Add \$1/hr on 6/2/2013.	29.19	17.98	47.17
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).	30.32	17.40	47.72
516	Fiber Optic Cable Equipment	22.00	7.27	29.27

**SEWER, WATER OR TUNNEL CONSTRUCTION**

Includes those projects that primarily involve public sewer or water distribution, transmission or collection systems and related tunnel work (excluding buildings).

**SKILLED TRADES**

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
103	Bricklayer, Blocklayer or Stonemason	32.66	16.20	48.86
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.	30.68	15.68	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	25.50	0.26	25.76
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	29.56	15.16	44.72
130	Plumber	36.20	15.02	51.22
135	Steamfitter	39.90	15.76	55.66
137	Teledata Technician or Installer	21.26	6.99	28.25

**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> \$
143	Tuckpointer, Caulker or Cleaner	22.00	9.75	31.75
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	32.37	16.48	48.85
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 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> \$
201	Single Axle or Two Axle	23.00	8.64	31.64
203	Three or More Axle	21.17	9.51	30.68
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	21.17	9.51	30.68

**LABORERS**

**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> \$
301	General Laborer Future Increase(s): Add \$.70/hr. on 06/04/2012; Add \$.80/hr. on 06/03/2013 Premium Increase(s): Add \$.20 for blaster, bracer, manhole builder, caulker, bottomman and power tool; Add \$.55 for pipelayer; Add \$1.00 for tunnel work 0-15 lbs. compressed air; Add \$2.00 for over 15-30 lbs. compressed air; Add \$3.00 for over 30 lbs. compressed air.	25.28	13.44	38.72

**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> \$
303	Landscaper	17.00	6.36	23.36
304	Flagperson or Traffic Control Person	12.00	17.89	29.89
311	Fiber Optic Laborer (Outside, Other Than Concrete Encased)	16.51	0.00	16.51
314	Railroad Track Laborer	14.00	4.77	18.77

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

**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> \$
521	Backhoe (Track Type) Having a Mfr.'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. Future Increase(s): Add \$1/hr on 6/3/2012; Add \$1/hr on 6/2/2013. Premium Increase(s): Add \$.25/hr for cranes with lifting capacity of 45 ton or over.	33.62	17.98	51.60
522	Backhoe (Track Type) Having a Mfr.'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; Travelling Crane (Bridge Type). Future Increase(s): Add \$1/hr on 6/3/2012; Add \$1/hr on 6/2/2013.	32.42	17.98	50.40

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>				
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
		\$	\$	\$
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); Manholst; 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 \$1/hr on 6/3/2012; Add \$1/hr on 6/2/2013.	31.89	17.98	49.87
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; Holst (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 Curling Machine; Trencher (Wheel Type or Chain Type Having 8-Inch Bucket & Under); Winches & A-Frames.	30.89	17.16	48.05
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 \$1/hr on 6/3/2012; Add \$1/hr on 6/2/2013.	29.19	17.98	47.17
526	Boller (Temporary Heat); Forklift; Greaser; Oiler.	29.19	17.96	47.15
527	Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	36.20	18.81	55.01
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

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

Fringe Benefits Must Be Paid On <u>All</u> 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> \$
103	Bricklayer, Blocklayer or Stonemason	32.66	15.92	48.58
105	Carpenter	30.23	15.16	45.39
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.	30.68	15.68	46.36
109	Electrician	37.25	14.68	51.93
111	Fence Erector	35.62	0.00	35.62
116	Ironworker	30.90	19.11	50.01
118	Line Constructor (Electrical)	35.97	18.08	54.05
124	Painter	28.00	11.15	39.15
125	Pavement Marking Operator	26.65	14.92	41.57
126	Piledriver	29.56	15.16	44.72
133	Roofer or Waterproofer	28.06	0.00	28.06
137	Teledata Technician or Installer	21.26	6.99	28.25
143	Tuckpointer, Caulker or Cleaner	22.00	9.75	31.75
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	35.50	14.27	49.77
152	Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	25.18	14.07	39.25
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
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**TRUCK DRIVERS**

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> \$
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 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	24.91	15.63	40.54
205	Pavement Marking Vehicle	23.84	14.76	38.60
206	Shadow or Pilot Vehicle	24.76	15.35	40.11
207	Truck Mechanic	24.91	15.35	40.26

**LABORERS**

Fringe Benefits Must Be Paid On <u>All</u> 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> \$
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 \$.10/hr for topman, air tool operator, vibrator or tamper operator (mechanical hand operated), chain saw operator and demolition burning torch laborer; Add \$.15/hr for bituminous worker (raker and luteman), formsetter (curb, sidewalk and pavement) and strike off man; Add \$.20/hr for blaster and powderman; Add \$.25/hr for bottomman; Add \$.35/hr for line and grade specialist; Add \$.45/hr for pipelayer. / DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).	27.20	13.45	40.65
302	Asbestos Abatement Worker	23.96	12.88	36.84
303	Landscaoper Future Increase(s): Add \$1.60/hr on 6/1/12; Add \$1.70/hr on 6/1/13; Add \$1.60/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).	27.20	13.45	40.65
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

**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> \$
311	Fiber Optic Laborer (Outside, Other Than Concrete Encased)	16.51	0.00	16.51
314	Railroad Track Laborer	14.00	4.77	18.77

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

**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> \$
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

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>				
<u>CODE</u>	<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u> \$	<u>HOURLY FRINGE BENEFITS</u> \$	<u>TOTAL</u> \$
533	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 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); 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. 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

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
534	<p>Belting, Burlap, Texturing Machine; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed &amp; Light Equipment); Concrete Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Asphalt Plant, Pile Driver &amp; Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; Hoist (Tugger, Automatic); Jeep Digger; Joint Sawyer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Self Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or Without Attachments); Telehandler; Tining or Curling 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 &amp; 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 (&amp;/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical &amp; Horizontal); Automatic Belt Conveyor &amp; Surge Bin; Boiler (Temporary Heat); Concrete Proportioning Plant; Crusher, Screening or Wash Plant; Generator (&amp;/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Mudjack; Oiler; Prestress Machine; Pug Mill; Pump (3 Inch or Over) or Well Points; Rock, Stone Breaker; Screed (Milling Machine); Stump Chipper; Tank Car Heaters; Vibratory Hammer or Extractor, Power Pack.</p> <p>Future Increase(s): 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 &amp; 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.	22.00	7.27	29.27
537	Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	36.20	18.81	55.01

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

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**

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
103	Bricklayer, Blocklayer or Stonemason	32.66	16.20	48.86
105	Carpenter	29.06	15.16	44.22
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.	30.68	15.68	46.36
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	25.50	0.26	25.76
116	Ironworker	30.90	19.11	50.01
118	Line Constructor (Electrical)	35.97	18.08	54.05
124	Painter	25.65	14.11	39.76
125	Pavement Marking Operator	26.00	0.00	26.00
126	Piledriver	29.56	15.16	44.72
133	Roofer or Waterproofer	28.06	0.00	28.06
137	Teledata Technician or Installer	21.26	6.99	28.25
143	Tuckpointer, Caulker or Cleaner	22.00	9.75	31.75
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

**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> \$
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 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> \$
201	Single Axle or Two Axle	15.00	0.00	15.00
203	Three or More Axle	19.50	4.97	24.47
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	19.50	4.97	24.47

**LABORERS**

**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> \$
301	General Laborer	26.15	12.29	38.44
303	Landscaper	23.71	15.07	38.78
304	Flagperson or Traffic Control Person	12.00	17.89	29.89
311	Fiber Optic Laborer (Outside, Other Than Concrete Encased)	16.51	0.00	16.51
314	Railroad Track Laborer	14.00	4.77	18.77



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

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
541	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. 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
542	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. 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

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
543	<p>Air Track, Rotary or Percussion Drilling Machine &amp;/or Hammers, Blaster; Automatic Subgrader (Concrete); Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. &amp; Under); Boring Machine (Directional, Horizontal or Vertical); Bridge (Bidwell) Paver; Bulldozer or Endloader; Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Conveyor System; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump, Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb &amp; Gutter Machine; Concrete Spreader &amp; Distributor; Crane (Carr Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane With a Lifting Capacity of 25 Tons or Under; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Grout Pump; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Manhoist; Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Sideboom; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Straddle Carrier or Travel Lift; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Trencher (Wheel Type or Chain Type); Tube Finisher; Tugger (NOT Performing Work on the Great Lakes); Winches &amp; A-Frames.</p> <p>Future Increase(s): 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 &amp; 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

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>				
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
		<b>\$</b>	<b>\$</b>	<b>\$</b>
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
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.	22.00	7.27	29.27
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**

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
551	Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self Erecting Tower Crane With a Lifting Capacity of Over 4,000 Lbs., Crane With Boom Dollies; Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads and/or Jib Lengths Measuring 176 Ft or Over; Master Mechanic.	34.62	17.96	52.58
552	Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of 130,000 Lbs. or Over; Calsson 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. 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

<b>Fringe Benefits Must Be Paid On All Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
553	Air, Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Heater, Planer & Scarifier; Asphalt Milling Machine; Asphalt Screed; Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Bituminous (Asphalt) Plant & Paver, Screed; Boring Machine (Directional, Horizontal or Vertical); Bulldozer or Endloader; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Concrete Conveyor System; Concrete Laser/Screed; Concrete Slipform Placer Curb & Gutter Machine; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane With a Lifting Capacity of 25 Tons or Under; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Manhoist; Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Railroad Track Rail Leveling Machine, Tie Placer, Extractor, Tamper, Stone Leveler or Rehabilitation Equipment; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Sideboom; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Trencher (Wheel Type or Chain Type); Tube Finisher; Tugger (NOT Performing Work on the Great Lakes); Winches & A-Frames. 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
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 Chlp Spreader; Shouldering Machine; Skid Steer Loader (With or Without Attachments); Telehandler.	31.52	17.89	49.41
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.	22.00	7.27	29.27

**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**

Fringe Benefits Must Be Paid On <u>All</u> Hours Worked		HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
CODE	TRADE OR OCCUPATION	\$	\$	\$
101	Acoustic Ceiling Tile Installer	27.00	2.47	29.47
102	Bollermaker	31.09	23.75	54.84
103	Bricklayer, Blocklayer or Stonemason	32.00	3.00	35.00
104	Cabinet Installer	22.00	2.74	24.74
105	Carpenter	27.00	3.46	30.46
106	Carpet Layer or Soft Floor Coverer	23.95	2.78	26.73
107	Cement Finisher	21.33	4.25	25.58
108	Drywall Taper or Finisher	23.80	1.55	25.35
109	Electrician	22.00	9.18	31.18
110	Elevator Constructor	43.79	25.48	69.27
111	Fence Erector	17.64	4.33	21.97
112	Fire Sprinkler Fitter	36.39	16.97	53.36
113	Glazier	36.23	11.22	47.45
114	Heat or Frost Insulator	29.04	19.73	48.77
115	Insulator (Batt or Blown)	18.95	1.70	20.65
116	Ironworker	30.90	19.11	50.01
117	Lather	28.15	15.14	43.29
119	Marble Finisher	31.16	16.27	47.43
120	Marble Mason	32.66	16.20	48.86
121	Metal Building Erector	17.50	2.80	20.30
123	Overhead Door Installer	17.00	0.00	17.00
124	Painter	25.65	6.33	31.98
125	Pavement Marking Operator	26.00	0.00	26.00

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
129	Plasterer	19.00	0.29	19.29
130	Plumber	30.00	10.34	40.34
132	Refrigeration Mechanic	30.96	0.00	30.96
133	Roofer or Waterproofer	29.85	1.55	31.40
134	Sheet Metal Worker	21.03	3.40	24.43
135	Steamfitter	32.59	11.05	43.64
137	Teledata Technician or Installer	19.23	5.32	24.55
138	Temperature Control Installer	22.45	4.11	26.56
139	Terrazzo Finisher	18.00	5.35	23.35
140	Terrazzo Mechanic	31.16	16.27	47.43
141	Tile Finisher	23.96	13.36	37.32
142	Tile Setter	21.00	0.00	21.00
143	Tuckpointer, Caulker or Cleaner	23.96	12.88	36.84
146	Well Driller or Pump Installer	15.10	12.38	27.48
147	Sliding Installer	18.80	1.42	20.22

**TRUCK DRIVERS**

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
201	Single Axle or Two Axle	19.86	2.54	22.40
203	Three or More Axle	19.50	14.27	33.77
205	Pavement Marking Vehicle	19.25	10.84	30.09
207	Truck Mechanic	19.00	1.75	20.75

**LABORERS**

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
301	General Laborer	16.09	7.18	23.27
302	Asbestos Abatement Worker	17.00	2.21	19.21
303	Landscaper	25.00	0.54	25.54

311	Fiber Optic Laborer (Outside, Other Than Concrete Encased)	16.51	0.00	16.51
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**HEAVY EQUIPMENT OPERATORS  
RESIDENTIAL OR AGRICULTURAL CONSTRUCTION**

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
557	Asphalt Heater, Planer & Scarifier; Asphalt Milling Machine; Asphalt Screed; Backhoe (Track Type); Backhoe (Mini, 15,000 Lbs. & Under); Bituminous (Asphalt) Plant & Paver, Screed; Borling Machine (Directional, Horizontal or Vertical); Bulldozer or Endloader; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Conveyor System; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump, Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Concrete Spreader & Distributor; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane With a Lifting Capacity of 25 Tons or Under; Crane, Shovel, Dragline, Clamshells; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Grader or Motor Patrol; Grout Pump; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Manholst; Material or Stack Holst; 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; Stablilzing or Concrete Mixer (Self-Propelled or 14S or Over); Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Tractor or Truck Mounted Hydraulic Crane (10 Tons or Under); Trencher (Wheel Type or Chain Type); Winches & A-Frames.	29.45	15.37	44.82
558	Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Backfiller; Belting, Burlap, Texturlng 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.	26.45	14.35	40.80

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