

RFB NO. 318002



CONSTRUCTION DOCUMENTS PROJECT MANUAL

DANE COUNTY DEPARTMENT OF PUBLIC WORKS,
HIGHWAY AND TRANSPORTATION

PUBLIC WORKS ENGINEERING DIVISION
1919 ALLIANT ENERGY CENTER WAY
MADISON, WISCONSIN 53713

REQUEST FOR BIDS NO. 318002 CAPITAL CITY TRAIL PAVEMENT RESTORATION CAPITAL CITY TRAIL 3101 LAKE FARM RD MADISON, WISCONSIN

Due Date / Time: **TUESDAY, MARCH 20, 2018 / 2:00 P.M.**

Location: **PUBLIC WORKS OFFICE**

Performance / Payment Bond: **100% OF CONTRACT AMOUNT**

Bid Deposit: **5% OF BID AMOUNT**

FOR INFORMATION ON THIS REQUEST FOR BIDS, PLEASE CONTACT:

RYAN SHORE, PROJECT MANAGER
TELEPHONE NO.: 608/266-4475
FAX NO.: 608/267-1533
E-MAIL: SHORE@COUNTYOFDANE.COM

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ADDITIONAL SPECIFICATIONS (CITY OF MADISON)

Part II – 205.1-205.3 – Adjustment of Castings
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DRAWINGS

Plot drawings on 11" x 17" (ANSI B) paper for correct scale or size.

G1.0 – Title Page
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LEGAL NOTICE

INVITATION TO BID

Dane County Public Works, Highway & Transportation Dept., 1919 Alliant Energy Center Way, Madison, WI 53713, will receive sealed Bids until:

2:00 P.M., TUESDAY, MARCH 20, 2018

REQUEST FOR BIDS NO. 318002

CAPITAL CITY TRAIL PAVEMENT RESTORATION

CAPITAL CITY TRAIL

3101 LAKE FARM RD

MADISON, WISCONSIN

Dane County is inviting Bids for construction services for the Capital City Trail Pavement Restoration project. This project will include removal and replacement of asphalt pavement, shoulder work and restoration, pedestrian detectable crossing warnings, replacement of existing culverts, and utility enclosure adjustment. Only firms with capabilities, experience & expertise with similar projects should obtain this Request for Bids document & submit Bids.

Request for Bids document may be obtained after **2:00 p.m. on Tuesday, February 20, 2018** by downloading it from bids-pwht.countyofdane.com. Please call Ryan Shore, Project Manager, at 608/266-4475, or our office at 608/266-4018, for any questions or additional information.

All Bidders must be a registered vendor with Dane County & pay an annual registration fee & must be pre-qualified as a Best Value Contractor before award of Contract. Complete Vendor Registration Form at danepurchasing.com/Account/Login? or obtain one by calling 608/266-4131. Complete Pre-qualification Application for Contractors at countyofdane.com/pwht/BVC_Application.aspx or obtain one by calling 608/266-4029.

A pre-bid site tour will be held on Thursday, March 8 at 2:00 p.m. at 3101 Lake Farm Road. Bidders are strongly encouraged to attend this tour.

PUBLISH: FEBRUARY 20TH & 27TH, 2018 - WISCONSIN STATE JOURNAL
FEBRUARY 20TH & 27TH, 2018 - THE DAILY REPORTER

INSTRUCTIONS TO BIDDERS

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1. GENERAL

- A. Before submitting Bid, bidder shall thoroughly examine all Construction Documents. Successful Bidder shall be required to provide all the Work that is shown on Drawings, set forth in Specifications, or reasonably implied as necessary to complete Contract for this project.
- B. Bidder shall visit site to become acquainted with adjacent areas, means of approach to site, conditions of actual site and facilities for delivering, storing, placing, and handling of materials and equipment.
- C. Pre-bid meeting is scheduled for Thursday, March 8, 2018 at 2:00 p.m. at the Lussier Family Heritage Center, 3101 Lake Farm Road, starting in the parking lot. Attendance by all bidders is optional, however bidders and subcontractors are strongly encouraged to attend.
- D. Failure to visit site or failure to examine any and all Construction Documents will in no way relieve successful Bidder from necessity of furnishing any necessary materials or equipment, or performing any work, that may be required to complete the Work in accordance with Drawings and Specifications. Neglect of above requirements will not be accepted as reason for delay in the Work or additional compensation.

2. DRAWINGS AND SPECIFICATIONS

- E. Drawings and Specifications that form part of this Contract, as stated in Article 1 of General Conditions of Contract are enumerated in Document Index of these Construction Documents.

- F. Complete sets of Drawings and Specifications for all trades will be available to all Bidders, irrespective of category of work to be bid on, in order that all Bidders may be familiar with work of other trades as they affect their bid.

3. INTERPRETATION

- A. No verbal explanation or instructions will be given in regard to meaning of Drawings or Specifications before Bid Due Date. Bidders shall bring inadequacies, omissions or conflicts to Owner or Architect / Engineer's attention at least ten (10) calendar days before Bid Due Date. Prompt clarification will be available to all bidders by Addendum.
- B. Failure to so request clarification or interpretation of Drawings and Specifications will not relieve successful Bidder of responsibility. Signing of Contract will be considered as implicitly denoting that Contractor has thorough understanding of scope of the Work and comprehension of Construction Documents.
- C. Owner or Architect / Engineer will not be responsible for verbal instructions.

4. QUALIFICATIONS OF BIDDER (CONTRACTOR AND SUBCONTRACTOR)

- A. Before award of Contract can be approved, Owner shall be satisfied that Bidder involved meets following requirements:
 - 1. Has completed at least one (1) project of at least fifty percent (50%) of size or value of Division of work being bid and type of work completed is similar to that being bid. If greater magnitude of experience is deemed necessary, other than size or value of work, such requirements will be described in appropriate section of Specifications.
 - 2. Maintains permanent place of business.
 - 3. Can be bonded for terms of proposed Contract.
 - 4. Has record of satisfactorily completing past projects and supplies list of no more than three (3) most recent, similar projects, with architect or engineer's and owner's names, addresses and telephone numbers for each project. Submit to Public Works Project Engineer with Bid. Criteria which will be considered in determining satisfactory completion of projects by bidder will include:
 - a. Completed contracts in accordance with drawings and specifications.
 - b. Diligently pursued execution of work and completed contracts according to established time schedule unless Owner grants extensions.
 - c. Fulfilled guarantee requirements of construction documents.
 - d. Is not presently on ineligible list maintained by County's Department of Administration for noncompliance with equal employment opportunities and affirmative action requirements.
 - e. Authorized to conduct business in Wisconsin. By submitting Bid, bidder warrants that it has: complied with all necessary requirements to do business in State of Wisconsin; that persons executing contract on its behalf are authorized to do so; and, if corporation, that name and address of bidder's registered agent are as set forth in Contract. Bidder shall notify Owner immediately, in writing, of any change in its registered agent, their address, and bidder's legal status. For partnership, term "registered agent" shall mean general partner.
- B. County's Public Works Project Engineer will make such investigations as are deemed necessary to determine ability of bidder to perform the Work, and bidder shall furnish to

County's Public Works Project Engineer or designee all such information and data for this purpose as County's Public Works Project Engineer may request. Owner reserves right to reject Bid if evidence submitted by, or investigation of, bidder fails to satisfy Owner that bidder is responsible and qualified to carry out obligations of Contract and to complete the Work contemplated therein.

5. BID GUARANTEE

- A. Bank certified check, cashier's check or Bid Bond, payable to County in amount not less than five percent (5%) of maximum bid, shall accompany each Bid as guarantee that if Bid is accepted, Bidder will execute and return proposed Contract and Performance and Payment Bonds within ten (10) business days after being notified of acceptance of Bid. Company issuing bonds must be licensed to do business in Wisconsin.
- B. Any bid, which is not accompanied by bid guarantee, will be considered "No Bid" and will not be read at Bid Due Date.
- C. If successful Bidder so delivers Contract, Certificate of Insurance, and Performance and Payment Bonds, check will be returned to Bidder. In case Bidder fails to deliver such Contract, insurance, and bond, amount of bid guarantee will be forfeited to County as liquidated damages.
- D. All checks tendered as bid guarantee, except those of three (3) lowest qualified, responsible bidders, will be returned to their makers within three (3) business days after Bid Due Date. All such retained checks will be returned immediately upon signing of Contract and Performance and Payment Bonds by successful Bidder.

6. WITHDRAWAL OF BIDS

- A. Bids may be withdrawn by written request received from bidder or authorized representative thereof prior to time fixed for Bid Due Date, without prejudice to right of bidder to file new Bid. Withdrawn Bids will be returned unopened. Negligence on part of bidder in preparing their Bid confers no right for withdrawal of Bid after it has been opened.
- B. No Bid may be withdrawn for period of sixty (60) calendar days after Bid Due Date.
- C. If Bid contains error, omission or mistake, bidder may limit liability to amount of bidder's guarantee by giving written Notice of Intent not to execute Contract to Owner within seventy-two (72) hours of Bid Due Date.

7. CONTRACT FORM

- A. Sample copy of contract that successful Bidder will be required to enter into is included in these Construction Documents and bidders are required to familiarize themselves with all conditions contained therein.

8. CONTRACT INTERESTS BY COUNTY PUBLIC OFFICIALS

- A. In accordance with Wisconsin Statute 946.13, county official may not bid for or enter into any contract involving receipts or disbursements of more than \$15,000.00 in a year, in which they have private pecuniary interest, direct or indirect if at same time they are authorized to take official action with respect to making of this Contract. Any contract entered into in violation of this Statute is void and County incurs no liability thereon. This subsection does not affect application and enforcement of Wisconsin Statute 946.13 by state prosecutors in criminal courts of this state.

9. EMERGING SMALL BUSINESS PROVISIONS

- A. **Emerging Small Business Definition.** For purposes of this provision, ESB is defined as:
1. Independent business concern that has been in business minimum of one year;
 2. Business located in State of Wisconsin;
 3. Business comprised of less than twenty-five (25) employees;
 4. Business must not have gross sales in excess of three million dollars (\$3,000,000.00) over past three years; and
 5. Business does not have history of failing to complete projects.
- B. **Emerging Small Business (ESB) Involvement.** Bidder shall make good faith effort to award minimum of ten percent (10%) of the Work to ESBs. Bidder shall submit report to Dane County Contract Compliance Officer within ten (10) business days of Bid Due Date demonstrating such efforts. Good faith efforts means significant contact with ESBs for purposes of soliciting bids from them. Failure to make or demonstrate good faith efforts will be grounds for disqualification.
- C. **Emerging Small Business Report.** Emerging Small Business Enterprise Report is to be submitted by Bidder in separate envelope marked "Emerging Small Business Report". This report is due by 2:00 p.m. following specified ten (10) business days after Bid Due Date. Bidder who fails to submit Emerging Small Business Report shall be deemed not responsive.
- D. **ESB Goal.** Goal of this project is ten percent (10%) ESB participation. ESB utilizations are shown as percentage of total Bid. If Bidder meets or exceeds specified goal, Bidder is only required to submit Form A - Certification, and Form B - Involvement. Goal shall be met if Bidder qualifies as ESB.
- E. **Report Contents.** Following award of Contract, Bidder shall submit copies of executed contracts for all Emerging Small Businesses. Emerging Small Business Report shall consist of these:
1. Form A - Certification;
 2. Form B - Involvement;
 3. Form C - Contacts;
 4. Form D - Certification Statement (if appropriate); and
 5. Supportive documentation (i.e., copies of correspondence, telephone logs, copies of advertisements).
- F. **ESB Listing.** Bidders may solicit bids from this ESB listing: pdf.countyofdane.com/commissions/2013-2015_Targeted_Business_Directory.pdf.
- G. **ESB Certification.** All contractors, subcontractors and suppliers seeking ESB certification must complete and submit Emerging Small Business Report to Dane County Contract Compliance Program.
- H. **Certification Statement.** If ESB firm has not been certified by County as ESB prior to submittal of this Bid, ESB Report cannot be used to fulfill ESB goal for this project unless

firm provides "Form D - Certification Statement". Certification statement must be completed and signed by ESB firm.

I. **Questions.** Questions concerning Emerging Small Business provisions shall be directed to:

Dane County Contract Compliance Officer
City-County Building, Room 421
210 Martin Luther King, Jr. Blvd.
Madison, WI 53703
608/266-5623

J. **Substituting ESBs.** In event of any significant changes in subcontract arrangements or if need arises to substitute ESBs, Bidder shall report such proposed changes to Contract Compliance Officer to making any official changes and request authorization to substitute ESB firm. Bidder further agrees to make every possible effort to replace ESB firm with another qualified ESB firm.

K. **Good Faith Efforts.** Good faith efforts can be demonstrated by meeting all of these obligations:

1. Selecting portions of the Work to be performed by ESBs in order to increase likelihood of meeting ESB goal including, where appropriate, breaking down Contract into smaller units to facilitate ESB participation.
2. Advertising in general circulation, trade associations and women / minority focus media concerning subcontracting opportunities.
3. Providing written notices to reasonable number of specific ESBs that their interest in Contract was being solicited in sufficient time to allow ESBs to participate effectively.
4. Following up on initial solicitations of interest by contacting ESBs within five (5) business days prior to Bid Due Date to determine with certainty whether ESB were interested, to allow ESBs to prepare bids.
5. Providing interested ESB with adequate information about Drawings, Specifications and requirements of Contract.
6. Using services of available minority, women and small business organizations and other organizations that provide assistance in recruitment of MBEs / WBEs / ESBs.
7. Negotiating in good faith with interested ESBs, not rejecting ESBs as unqualified without sound reason based on thorough investigation of their capabilities.
8. Submitting required project reports and accompanying documents to County's Contract Compliance Officer within twenty-four (24) hours after Bid Due Date.

L. **Appeals Disqualification of Bid.** Bidder who is disqualified may appeal to Public Works & Transportation Committee and Equal Opportunity Commission.

10. METHOD OF AWARD - RESERVATIONS

A. Following will be basis of award of Contract, providing cost does not exceed amount of funds then estimated by County as available to finance Contract(s):

1. Lowest dollar amount submitted by qualified responsible bidder on Base Bid for all work comprising project, combined with such additive Owner accepted alternates.
2. Owner reserves right to reject all bids or any bid, to waive any informality in any bid, and to accept any bid that will best serve interests of County.
3. Unit Prices and Informational Bids will not be considered in establishing low bidder.

11. SECURITY FOR PERFORMANCE AND PAYMENTS

- A. Simultaneous with delivery of signed Contract, Bidder shall be required to furnish Performance and Payment Bonds as specified in Article 29 of General Conditions of Contract, "Contract Security". Surety Company shall be licensed to do business in Wisconsin. Performance and Payment Bonds must be dated same date or subsequent to date of Contract. Performance and Payment Bonds must emulate information in Sample Performance and Payment Bonds in Construction Documents.
- B. Provide certified copy of power of attorney from Surety Company showing that agent who signs Bond has power of attorney to sign for Surety Company. Secretary or Assistant Secretary of company must sign this certification, not attorney-in-fact. Certification must bear same or later date as Bond. Power of Attorney must emulate model power of attorney information detailed in Sample Performance and Payment Bonds.
- C. If Bidder is partnership or joint venture, State certified list, providing names of individuals constituting partnership or joint venture must be furnished. Contract itself may be signed by one partner of partnership, or one partner of each firm comprising joint venture, but Performance and Payment Bonds must be signed by all partners.
- D. If Bidder is corporation, it is necessary that current certified copy of resolution or other official act of directors of corporation be submitted showing that person who signs Contract is authorized to sign contracts for corporation. It is also necessary that corporate seal be affixed to resolution, contract, and performance and payment bonds. If your corporation has no seal, it is required that above documents include statement or notation to effect that corporation has no seal.

12. TAXES

- A. Wisconsin Statute 77.54 (9m) allows building materials that become part of local unit government facilities to be exempt from sales & use tax. Vendors & materials suppliers may not charge Bidders sales & use tax on these purchases. This does not include highways, streets or roads. Any other Sales, Consumer, Use & other similar taxes or fees required by law shall be included in Bid.
- B. In accordance with Wisconsin Statute 71.80(16)(a), successful nonresident bidder, whether incorporated or not, and not otherwise regularly engaged in business in this state, shall file surety bond with State of Wisconsin Department of Revenue payable to Department of Revenue, to guarantee payment of income taxes, required unemployment compensation contributions, sales and use taxes and income taxes withheld from wages of employees, together with any penalties and interest thereon. Amount of bond shall be three percent (3%) of Contract or subcontract price on all contracts of \$50,000 or more.

13. SUBMISSION OF BIDS

- A. All Bids shall be submitted on standard Bid Form bound herein and only Bids that are made on this Bid Form will be considered. Entire Bid Form and other supporting documents, if

any, shall be removed or copied from Construction Documents, filled out, and submitted in manner specified hereinafter. Submit completed Bid Bond with Bid as well.

- B. No bids for any subdivision or any sub-classification of this Work, except as indicated, will be accepted. Any conditional Bid, amendment to Bid Form or appended item thereto, or inclusion of any correspondence, written or printed matter, or details of any nature other than that specifically called for, which would alter any essential provision of Construction Documents, or require consideration of unsolicited material or data in determining award of Contract, will disqualify Bid. Telecommunication alterations to Bid will not be accepted.
- C. Bidders must submit single Bid for all the Work.
- D. Bid amounts shall be inserted in words and in figures in spaces provided on Bid Form; in case of conflict, written word amounts will govern.
- E. Addenda issued after Bid Letting shall become part of Construction Documents. Bidders shall acknowledge receipt of such addenda in appropriate space provided on Bid Form. Bid may be rejected if receipt of any particular addendum applicable to award of Contract has not been acknowledged on Bid Form.
- F. Bids shall be signed, placed in envelope, sealed and delivered before due time to place designated in Invitation to Bid, and identified with project name, bid number, location, category of work being bid upon, Bid Due Date, name and address of bidder.
- G. Bidder shall be responsible for sealed Bid being delivered to place designated for Bid Due Date on or before date and time specified. Bids received after time of closing will be rejected and returned to bidder unopened.
- H. Bid will be considered invalid and will be rejected if bidder has not signed it.
- I. Faxed or emailed Bids will not be accepted.
- J. Bidder's organization shall submit completed with Bid, Fair Labor Practices Certification form, included in these Construction Documents.

14. SUBCONTRACTOR LISTING

- A. Bidders shall be required to submit list of major subcontractors for General Construction, Plumbing, HVAC, and Electrical work proposed for this project to include committed prices for each subcontractor. List shall be placed in separate sealed envelope that must be clearly identified as "Major Subcontractor List", for named project and name of Bidder submitting it. County must receive envelope no later than date by which successful Bidder is required to submit his or her signed Contract, as established in Construction Documents.

15. ALTERNATE BIDS

- A. Bidder shall carefully read requests for Alternate Bids, and thoroughly examine Drawings and Specifications to determine extent various changes and conditions will affect Bid.
- B. Bidder shall state amount to be added / subtracted to Base Bid for providing alternates, including all incidentals, omissions, additions, and adjustments as may be necessary or required by such changes. If there is no difference in price, Bidder shall state, "No Change".
- C. Descriptions of requested Alternate Bids are as set forth in Construction Documents.

16. INFORMATIONAL BIDS

- A. Not Applicable

17. UNIT PRICES

- A. Provide unit prices where requested on Bid Form. Unit prices will include all costs for materials, labor, insurance, taxes, overhead and profit necessary to perform specified work. Estimated quantities are approximate only. Payment will be based upon actual quantities placed, provided or installed. Failure to provide requested unit prices may result in rejection of entire Bid.
- B. Owner reserves right to accept or reject any unit prices as given in Bid.
- C. Bidder shall refer to Bid Form and applicable specification section to determine basis of unit measure and detailed information related to each unit price item requested.

18. COMMENCEMENT AND COMPLETION

- A. Successful Bidder shall commence work when schedule and weather permit, but no later than stated in Bid Form. Contractor shall pursue the Work regularly and continuously at reasonable rate to insure completion of the Work within time stated in Bid
- B. Should it be found impossible to complete the Work on or before time specified for completion, written request may be submitted for extension of time setting forth reasons believed to justify granting of such request. Refer to Article 20 of General Conditions of Contract.

19. WORK BY OWNER

- A. This work will be accomplished by Owner or will be let under separate contracts and will not be included under this Contract:
 - 1. Removal and replacement of trail signage.

20. SPECIAL HAZARDS COVERAGE

Not Applicable.

FORM A

**DANE COUNTY
EMERGING SMALL BUSINESS REPORT - CERTIFICATION**

In accordance with General Conditions of Contract, submit this Emerging Small Business Report within ten (10) days after Bid Due Date.

PROJECT NAME: _____

BID NO.: _____ BID DUE DATE: _____

BIDDER INFORMATION

COMPANY NAME: _____

ADDRESS: _____

TELEPHONE NO.: _____

CONTACT PERSON: _____

EMAIL ADDRESS: _____

FORM B

Page ___ of ___

DANE COUNTY

(Copy this Form as necessary to provide complete information)

EMERGING SMALL BUSINESS REPORT - INVOLVEMENT

COMPANY NAME: _____

PROJECT NAME: _____

BID NO.: _____ BID DUE DATE: _____

ESB NAME: _____

CONTACT PERSON: _____

ADDRESS: _____

PHONE NO & EMAIL.: _____

Indicate percentage of financial commitment to this ESB: _____ % Amount: \$ _____

ESB NAME: _____

CONTACT PERSON: _____

ADDRESS: _____

PHONE NO & EMAIL.: _____

Indicate percentage of financial commitment to this ESB: _____ % Amount: \$ _____

FORM C

Page ___ of ___

**DANE COUNTY
EMERGING SMALL BUSINESS REPORT - CONTACTS**

(Copy this Form as necessary to provide complete information)

COMPANY NAME: _____

PROJECT NAME: _____

BID NO.: _____ BID DUE DATE: _____

	<u>ESB FIRM NAME CONTACTED</u>	<u>DATE</u>	<u>PERSON CONTACTED</u>	<u>DID ESB BID?</u>	<u>ACC- EPT BID?</u>	<u>REASON FOR REJECTION</u>
1)	_____	_____	_____	_____	_____	_____
2)	_____	_____	_____	_____	_____	_____
3)	_____	_____	_____	_____	_____	_____
4)	_____	_____	_____	_____	_____	_____
5)	_____	_____	_____	_____	_____	_____
6)	_____	_____	_____	_____	_____	_____
7)	_____	_____	_____	_____	_____	_____
8)	_____	_____	_____	_____	_____	_____

FORM D

**DANE COUNTY
EMERGING SMALL BUSINESS REPORT - CERTIFICATION STATEMENT**

I, _____, _____ of
Name Title

_____ certify to best of my knowledge and
Company

belief that this business meets Emerging Small Business definition as indicated in Article 9 and
that information contained in this Emerging Small Business Report is true and correct.

Bidder's Signature

Date

Name of Bidding Firm: _____

BID FORM

BID NO. 318002

**PROJECT: CAPTIAL CITY TRAIL PAVEMENT RESTORATION
CAPITAL CITY TRAIL**

**TO: DANE COUNTY DEPARTMENT OF PUBLIC WORKS, HIGHWAY &
TRANSPORTATION PROJECT MANAGER
1919 ALLIANT ENERGY CENTER WAY
MADISON, WISCONSIN 53713**

**NOTE: WISCONSIN STATUTE 77.54 (9M) ALLOWS FOR NO SALES & USE TAX ON
THE PURCHASE OF MATERIALS FOR COUNTY PUBLIC WORKS PROJECTS.**

BASE BID - LUMP SUM:

This project will include removal and replacement of asphalt pavement, shoulder work and restoration, at-grade railroad crossings, replacement of existing culverts, and adjusting a utility enclosure. The undersigned, having examined the site where the Work is to be executed and having become familiar with local conditions affecting the cost of the Work and having carefully examined the Drawings and Specifications, all other Construction Documents and Addenda thereto prepared by Dane County Department of Public Works, Highway & Transportation hereby agrees to provide all labor, materials, equipment and services necessary for the complete and satisfactory execution of the entire Work, as specified in the Construction Documents, for the Base Bid stipulated sum of:

_____ and _____ /100 Dollars
Written Price

\$ _____
Numeric Price

It is estimated the project will require 6200 tons of asphalt and 1170 tons of stone for base course. Provide UNIT PRICES for additional materials and work, if needed, to complete this project:

- Gravel base and shouldering: @ \$ _____/cu.yd.
- Asphaltic Concrete Paving: @ \$ _____/ln.ft.
- Mill and Pulverize Existing Asphalt: @ \$ _____/ln.ft.
- Existing Pavement Removal: @ \$ _____/sq.yd.
- Topsoil, Seed & Mulch @ \$ _____/sq.yd.

Receipt of the following addenda and inclusion of their provisions in this Bid is hereby acknowledged:

Addendum No(s). _____ through _____

Dated _____

Dane County Parks must have this project occur during a continuous six week time period with completion by no later than November 1, 2018. Assuming this Work can be started by July 9, 2018, what dates can you commence and complete this job?

Commencement Date: _____ Completion Date: _____
(final, not substantial)

I hereby certify that all statements herein are made on behalf of:

(Name of Corporation, Partnership or Person submitting Bid)

Select one of the following:

1. A corporation organized and existing under the laws of the State of _____, or
2. A partnership consisting of _____, or
3. A person conducting business as _____;

Of the City, Village, or Town of _____ of the State of _____.

I have examined and carefully prepared this Bid from the associated Construction Documents and have checked the same in detail before submitting this Bid; that I have full authority to make such statements and submit this Bid in (its) (their) (my) behalf; and that the said statements are true and correct. In signing this Bid, we also certify that we have not, either directly or indirectly, entered into any agreement or participated in any collusion or otherwise taken any action in restraint of free competition; that no attempt has been made to induce any other person or firm to submit or not to submit a Bid; that this Bid has been independently arrived at without collusion with any other bidder, competitor, or potential competitor; that this Bid has not been knowingly disclosed prior to the Bids Due Date to another bidder or competitor; that the above statement is accurate under penalty of perjury.

The undersigned further agrees to honor the Base Bid and the Alternate Bid(s) for sixty (60) calendar days from date of Award of Contract.

SIGNATURE: _____
(Bid is invalid without signature)

Print Name: _____ Date: _____

Title: _____

Address: _____

Telephone No.: _____ Fax No.: _____

Email Address: _____

Contact Person: _____

THIS PAGE IS FOR BIDDERS' REFERENCE AND NEED NOT BE SUBMITTED WITH BID FORM.

BID CHECK LIST:

These items **must** be included with Bid:

- Bid Form Bid Bond Fair Labor Practices Certification
 Project Experience / Reference Summary

BIDDERS SHOULD BE AWARE OF THE FOLLOWING:

DANE COUNTY VENDOR REGISTRATION PROGRAM

Any person bidding on any County contract must be registered with the Dane County Purchasing Division & pay an annual registration fee. A contract will not be awarded to an unregistered vendor. Obtain a *Vendor Registration Form* by calling 608/266-4131 or complete a new form or renewal online at:
www.danepurchasing.com/registration

DANE COUNTY BEST VALUE CONTRACTING PRE-QUALIFICATION

Contractors must be pre-qualified as a Best Value Contractor with the Dane County Public Works Engineering Division before the award of contract. Obtain a *Best Value Contracting Application* by calling 608/266-4018 or complete one online at:
www.countyofdane.com/pwht/BVC_Application.aspx

EQUAL BENEFITS REQUIREMENT

By submitting a Bid, the contractor acknowledges that a condition of this contract is to provide equal benefits as required by Dane County Code of Ordinances Chapter 25.13. Contractor shall provide equal benefits as required by that Ordinance to all required employees during the term of the contract. Equal Benefits Compliance Payment Certification shall be submitted with final pay request. For more information:
www.danepurchasing.com/partner_benefit.aspx

FAIR LABOR PRACTICES CERTIFICATION

The undersigned, for and on behalf of the BIDDER, APPLICANT or PROPOSER named herein, certifies as follows:

- A. That he or she is an officer or duly authorized agent of the above-referenced BIDDER, APPLICANT or PROPOSER, which has submitted a bid, application or proposal for a contract or agreement with the county of Dane.
- B. That BIDDER, APPLICANT or PROPOSER has (check one):

_____ not been found by the National Labor Relations Board (“NLRB”) or the Wisconsin Employment Relations Commission (“WERC”) to have violated any statute or regulation regarding labor standards or relations in the seven years prior to the signature date of this Certification.

_____ been found by the National Labor Relations Board (“NLRB”) or the Wisconsin Employment Relations Commission (“WERC”) to have violated any statute or regulation regarding labor standards or relations in the seven years prior to the signature date of this Certification.

Officer or Authorized Agent Signature	Date
Printed or Typed Name and Title	
Printed or Typed Business Name	

NOTE: You can find information regarding the violations described above at: www.nlr.gov and werc.wi.gov.

For reference, Dane County Ordinance 25.09 is as follows:

- (1) BIDDER RESPONSIBILITY. (a) Any bid, application or proposal for any contract with the county, including public works contracts regulated under chapter 40, shall include a certification indicating whether the bidder has been found by the National Labor Relations Board (NLRB) or the Wisconsin Employment Relations Committee (WERC) to have violated any statute or regulation regarding labor standards or relations within the last seven years. The Controller shall investigate any such finding and make a recommendation to the committee, which shall determine whether the conduct resulting in the finding affects the bidder’s responsibility to perform the contract.

If you indicated that the NLRB or WERC have found you to have such a violation, you must include copies of any relevant information regarding such violation with your proposal, bid or application.

Include this completed Certification with your bid, application or proposal.

COUNTY OF DANE

PUBLIC WORKS CONSTRUCTION CONTRACT

Contract No. _____ Bid No. 318002

Authority: 2017 RES - _____

THIS CONTRACT, made and entered into as of the date by which authorized representatives of both parties have affixed their signatures, by and between the County of Dane (hereafter referred to as "COUNTY") and _____ (hereafter, "CONTRACTOR"), and

WITNESSETH:

WHEREAS, COUNTY, whose address is c/o Assistant Public Works Director, 1919 Alliant Energy Center Way, Madison, WI 53713, desires to have CONTRACTOR provide construction services for the Capital City Trail Pavement Restoration project ("the Project"); and

WHEREAS, CONTRACTOR, whose address is _____ is able and willing to construct the Project, in accordance with the Construction Documents;

NOW, THEREFORE, in consideration of the above premises and the mutual covenants of the parties hereinafter set forth, the receipt and sufficiency of which is acknowledged by each party for itself, COUNTY and CONTRACTOR do agree as follows:

1. CONTRACTOR agrees to construct, for the price of \$ _____ the Project and at the CONTRACTOR'S own proper cost and expense to furnish all materials, supplies, machinery, equipment, tools, superintendence labor, insurance, and other accessories and services necessary to complete the Project in accordance with the conditions and prices stated in the Bid Form, General Conditions of Contract, the drawings which include all maps, plats, plans, and other drawings and printed or written explanatory matter thereof, and the specifications therefore as prepared by General Engineering Company (hereinafter referred to as "the Architect / Engineer"), and as enumerated in the Project Manual Table of Contents, all of which are made a part hereof and collectively evidence and constitute the Contract.
2. COUNTY agrees to pay the CONTRACTOR in current funds for the performance of the Contract subject to additions and deductions, as provided in the General Conditions of Contract, and to make payments on account thereof as provided in Article entitled, "Payments to Contractor" of the General Conditions of Contract.
3. During the term of this Contract, CONTRACTOR agrees to take affirmative action to ensure equal employment opportunities. The CONTRACTOR agrees in accordance with Wisconsin Statute 111.321 and Chapter 19 of the Dane County Code of Ordinances not to discriminate on the basis of age, race, ethnicity, religion, color, gender, disability, marital status, sexual orientation, national origin, cultural differences, ancestry, physical appearance, arrest record or conviction record, military participation or membership in the national guard, state defense force or any other reserve component of the military forces of the United States, or political beliefs. Such equal opportunity shall include, but not be limited to, the following: employment, upgrading, demotion, transfer, recruitment, advertising, layoff, termination, training, rates of pay,

and any other form of compensation. CONTRACTOR agrees to post in conspicuous places, available to all employees and applicants for employment, notices setting forth the provisions of this paragraph.

4. CONTRACTOR shall file an Affirmative Action Plan with the Dane County Contract Compliance Officer in accord with Chapter 19 of the Dane County Code of Ordinances. CONTRACTOR must file such plan within fifteen (15) business days of the effective date of this Contract. During the term of this Contract CONTRACTOR shall also provide copies of all announcements of employment opportunities to COUNTY'S Contract Compliance Office, and shall report annually the number of persons, by race, ethnicity, gender, and disability status, which apply for employment and, similarly classified, the number hired and number rejected.

5. During the term of this Contract, all solicitations for employment placed on CONTRACTOR'S behalf shall include a statement to the effect that CONTRACTOR is an "Equal Opportunity Employer".

6. CONTRACTOR agrees to comply with provisions of Chapter 25.13 of the Dane County Code of Ordinances, which pertains to domestic partnership benefits.

7. CONTRACTOR agrees to furnish all information and reports required by COUNTY'S Contract Compliance Officer as the same relate to affirmative action and nondiscrimination, which may include any books, records, or accounts deemed appropriate to determine compliance with Chapter 19, Dane County Code of Ordinances, and the provisions of this Contract.

8. This Contract is intended to be a Contract solely between the parties hereto and for their benefit only. No part of this Contract shall be construed to add to, supplement, amend, abridge or repeal existing rights, benefits or privileges of any third party or parties including, but not limited to, employees of either of the parties.

9. The entire agreement of the parties is contained herein and this Contract supersedes any and all oral agreements and negotiations between the parties relating to the subject matter hereof. The parties expressly agree that the express terms of this Contract shall not be amended in any fashion except in writing, executed by both parties.

10. CONTRACTOR must be pre-qualified as a Best Value Contractor with Dane County Public Works Engineering Division before award of Contract. Subcontractors must be pre-qualified ten (10) business days prior to commencing Work under this Contract.

IN WITNESS WHEREOF, COUNTY and CONTRACTOR, by their respective authorized agents, have caused this Contract and its Schedules to be executed, effective as of the date by which all parties hereto have affixed their respective signatures, as indicated below.

* * * * *

FOR CONTRACTOR:

Signature Date

Printed or Typed Name and Title

Signature Date

Printed or Typed Name and Title

NOTE: If CONTRACTOR is a corporation, Secretary should attest. In accordance with IRS Regulations, unincorporated entities are required to provide either their Social Security or Employer Number in order to receive payment for services rendered.

* * * * *

This Contract is not valid or effectual for any purpose until approved by the appropriate authority designated below, and no work is authorized until the CONTRACTOR has been given notice to proceed by COUNTY'S Assistant Public Works Director.

FOR COUNTY:

Joseph T. Parisi, County Executive Date

Scott McDonell, County Clerk Date

AIA[®] Document A310[™] – 2010

Bid Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

BOND AMOUNT:**PROJECT:**

(Name, location or address, and Project number, if any)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this _____ day of _____

_____	(Contractor as Principal)	_____	(Seal)
(Witness)		_____	(Title)
		_____	(Surety)
_____		_____	(Seal)
(Witness)		_____	(Title)

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

AIA[®] Document A312[™] – 2010

Performance Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

CONSTRUCTION CONTRACT

Date:

Amount:

Description:

(Name and location)

BOND

Date:

(Not earlier than Construction Contract Date)

Amount:

Modifications to this Bond: None See Section 16

CONTRACTOR AS PRINCIPAL

Company: (Corporate Seal)

SURETY

Company: (Corporate Seal)

Signature: _____

Name and Title:

(Any additional signatures appear on the last page of this Performance Bond.)

Signature: _____

Name and Title:

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

AIA Document A312–2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 **Balance of the Contract Price.** The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 **Construction Contract.** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 **Contractor Default.** Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

Sample

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

SURETY

Company: _____

(Corporate Seal)

Company: _____

(Corporate Seal)

Signature: _____

Name and Title: _____

Address _____

Signature: _____

Name and Title: _____

Address _____

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.



AIA® Document A312™ – 2010

Payment Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

AIA Document A312–2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

CONSTRUCTION CONTRACT

Date:

Amount:

Description:

(Name and location)

BOND

Date:

(Not earlier than Construction Contract Date)

Amount:

Modifications to this Bond: None See Section 18

CONTRACTOR AS PRINCIPAL

Company: *(Corporate Seal)*

SURETY

Company: *(Corporate Seal)*

Signature: _____

Name _____
and Title: _____

Signature: _____

Name _____
and Title: _____

(Any additional signatures appear on the last page of this Payment Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____

(Corporate Seal)

SURETY

Company: _____

(Corporate Seal)

Signature: _____

Name and Title: _____

Address _____

Signature: _____

Name and Title: _____

Address _____

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

EQUAL BENEFITS COMPLIANCE PAYMENT CERTIFICATION FORM

PURPOSE

25.13 of the Dane County Ordinance requires that each contractor receiving payment for contracted services must certify that he or she has complied fully with the requirements of Chapter 25.13 "Equal Benefits Requirement" of the Dane County Ordinances. Such certification must be submitted prior to the final payment on the contract.

This form should be included with a copy of the final contract invoice forwarded to your contract representative at Dane County.

CERTIFICATION

I, _____ certify that
Printed or Typed Name and Title

Printed or Typed Name of Contractor

has complied fully with the requirements of Chapter 25.13 of the Dane County Ordinances "Equal Benefits Requirements".

Signed _____

Date _____

For questions on this form, please contact Chuck Hicklin at 608-266-4109 or your contract representative at Dane County.

GENERAL CONDITIONS OF CONTRACT

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1. CONSTRUCTION DOCUMENTS

- A. Construction Documents, listed in Table of Contents of this Specification volume shall form part of this Contract and provisions of Construction Documents shall be as binding upon parties as if they were fully set forth in Contract itself.
- B. These shall also be considered as part of Construction Documents: Addenda, including additions and modifications incorporated in such addenda before execution of Contract; requests for information; construction bulletins; change orders; and written interpretations by Architect / Engineer or Public Works Project Manager that are made after execution of Contract.
- C. Construction Documents are complementary, and what is required by one shall be as binding as if required by all. Intent of Construction Documents is to include all labor, materials and equipment necessary for proper execution of the Work.

2. DEFINITIONS

- A. These terms as used in this Contract are respectively defined as follows:
 - 1. All uses of term “County” in Construction Documents shall mean Dane County.
 - 2. All uses of term “Department” in Construction Documents shall mean Department of Public Works, Highway & Transportation, which is a unit of Dane County government. Department is County agency overseeing Contract with Contractor.
 - 3. Public Works Project Manager is appointed by and responsible to Department. Public Works Project Manager has authority to act on behalf of Department and will sign change orders, payment requests and other administrative matters related to projects.
 - 4. Public Works Project Manager is responsible for supervision, administration and management of field operations involved in construction phase of this Work.
 - 5. Term “Work” includes all labor, equipment and materials necessary to produce project required by Construction Documents.
 - 6. Term “Substantial Completion” is date when project or specified area of project is certified by Architect / Engineer that construction is sufficiently completed, in accordance with Construction Documents, and as modified by any subsequent changes agreed to by parties, so that County may occupy project or specified area of project for use for which it was intended subject to permit approval for occupancy.
 - 7. Contractor is person, firm, or corporation with whom County makes Contract. Though multiple contracts may be involved, Construction Documents treat them throughout as if each were of singular number.

3. ADDITIONAL INSTRUCTIONS AND DRAWINGS

- A. Contractor may be furnished additional instructions and detail drawings as necessary to carry out the Work included in Contract. Additional drawings and instructions thus supplied to Contractor will coordinate with Construction Documents and will be so prepared that they can be reasonably interpreted as part thereof. Contractor shall carry out the Work in accordance with additional detail drawings and instructions.

4. SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. Unless otherwise specified, Contractor shall submit three (3) copies of all Shop Drawings for each submission, until receiving final approval. After final approval, provide five (5) additional copies for distribution and such other copies as may be required.
- B. Contractor shall submit, on an on-going basis and as directed, Product Data such as brochures that shall contain catalog cuts and specifications of all furnished mechanical and electrical equipment. After Architect / Engineer's approval, one (1) copy shall remain in Architect / Engineer's file, one (1) kept at Department's office and one (1) kept at job site by Contractor for reference purposes.
- C. Samples shall consist of physical examples furnished by Contractor in sufficient size and quantity to illustrate materials, equipment or workmanship, and to establish standards to compare the Work.
 - 1. Submit Samples in sufficient quantity (minimum of two (2)) to permit Architect / Engineer to make all necessary tests and of adequate size showing quality, type, color range, finish, and texture. Label each Sample stating material, type, color, thickness, size, project name, and Contractor's name.
 - 2. Submit transmittal letter requesting approval, and prepay transportation charges to Architect / Engineer's office on samples forwarded.
 - 3. Materials installed shall match approved Samples.
- D. Contractor shall review Shop Drawings and place their dated stamp thereon to evidence their review and approval and shall submit with reasonable promptness and in orderly sequence to cause no delay in the Work or in work of any other contractor. At time of submission, Contractor shall inform Architect / Engineer in writing of any deviation in Shop Drawings or Samples from requirements of Construction Documents. Architect / Engineer will not consider partial lists.
- E. Architect / Engineer will review and approve or reject Shop Drawings with reasonable promptness to cause no delay. Architect / Engineer's approval shall not relieve Contractor from responsibility for errors or omissions in Shop Drawings.
- F. Contractor shall not commence any work requiring Shop Drawing, Product Data or Sample submission until Architect / Engineer has approved submission. All such work shall be in accordance with approved Shop Drawings, Product Data and Samples.
- G. Contractor shall keep on site of the Work, approved or conformed copy of Shop Drawings and shall at all times give Department access thereto.
- H. By stamping and submitting Shop Drawings, Product Data and Samples, Contractor thereby represents that he or she has or will determine and verify all field measurements, field construction criteria, materials, catalog numbers, and similar data and that he or she has checked and coordinated each Shop Drawing, Product Data and Sample with requirements of the Work and of Construction Documents. Architect / Engineer shall return without examination, Shop Drawings, Product Data and Samples not so noted.
- I. All Shop Drawings from any one Contractor should be numbered consecutively and on cover sheet shall bear name and location of project, name of Contractor, date of submittal and date of each correction or revision and associated Specification section and page number.

5. CUTTING AND PATCHING

- A. Contractor shall be responsible for all cutting, fitting or patching required to complete the Work or to make its parts fit together properly.
- B. Contractor shall not damage or endanger portion of the Work or fully or partially completed construction of County or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. Contractor shall not cut or otherwise alter such construction by County or separate contractor except with written consent of County and of such separate contractor; such consent shall not be unreasonably withheld. Contractor shall not withhold unreasonably from County or separate contractor, Contractor's consent to cutting or otherwise altering the Work.

6. CLEANING UP

- A. Contractor shall keep premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under Contract. Contractor shall remove from and about the Work waste materials, rubbish, Contractor's tools, construction equipment, machinery, and surplus materials at completion of the Work. Contractor shall maintain streets and sidewalks around the Work site in clean condition. Contractor shall remove all spillage and prevent tracking of spillage arising from performance of the Work, into, out of, and within the Work site. Contractor shall establish regular maintenance program of sweeping, vacuuming and / or hosing to minimize accumulation of dirt and dust upon such areas.
- B. If Contractor fails to clean up as directed in Construction Documents, County may do so and shall charge Contractor cost thereof.
- C. Contractor shall be responsible for broken windows and glass, and at completion of the Work shall replace such damaged or broken windows and glass. After replacing damaged or broken windows and glass, Contractor shall remove all labels, wash and polish both sides of all windows and glass.
- D. In addition to general cleaning (sweeping, vacuuming and / or hosing, as is appropriate to work surface), Contractor shall perform following final cleaning for all trades at completion of the Work:
 - 1. Remove temporary protections;
 - 2. Remove marks, stains, fingerprints and other soil or dirt from painted, decorated and finished woodwork and wall surfaces;
 - 3. Remove spots, plaster, soil and paint from ceramic tile, marble and other finished materials, and wash or wipe clean;
 - 4. Clean fixtures, cabinet work and equipment, removing stains, paint, dirt and dust, and leave same in undamaged, new condition;
 - 5. Clean aluminum in accordance with recommendations of manufacturer; and
 - 6. Clean resilient floors thoroughly with well-rinsed mop containing only enough moisture to clean off any surface dirt or dust and buff dry by machine to bring surfaces to sheen.

7. USE OF SITE

- A. Contractor shall provide County and Architect / Engineer access to the Work under all circumstances.

- B. Contractor shall confine operations at site to areas permitted by County, law, ordinance, permits and Construction Documents and shall not unreasonably encumber site with materials or equipment. Contractor shall assure free, convenient, unencumbered, direct and safe access to all properties adjacent to the Work for County, its employees, invitees and guests.

8. MATERIALS AND WORKMANSHIP

- A. Contractor shall perform all work and furnish all supplies and materials, machinery, equipment, facilities and means, necessary to complete the Work required by this Contract, within time specified, in accordance with provisions of Construction Documents.
- B. All equipment and materials incorporated in the Work covered by this Contract are to be new; use recycled and / or recovered materials to extent that such use is technically and economically feasible. Recovered materials are products recovered from solid waste in form identical to original form for use that is same as, or similar to original use. Recycled materials are products manufactured from solid waste.
- C. If requested, Contractor shall furnish satisfactory evidence as to kind and quality of construction materials proposed or used. Contractor shall furnish to Architect / Engineer, for approval, manufacturer name and model, performance capacities and other pertinent information of machinery, mechanical, electrical or other types of equipment, which Contractor plans to install.
- D. If not otherwise provided, materials and labor called for in this Contract shall be provided and performed in accordance with established practice and standards recognized by Architects, Engineers, Department, and construction industry.
- E. Reference to “Standard” specifications of any association or manufacturer, or codes of County authorities, intends most recent printed edition or catalog in effect on date that corresponds with date of Construction Documents.
- F. Whenever reference is made in Specifications that work shall be “performed”, “applied”, in accordance with “manufacturer’s directions or instructions”, Contractor to whom those instructions are directed shall furnish three (3) printed copies of such instructions to Architect / Engineer before execution of the Work.

9. CONTRACTOR’S TITLE TO MATERIALS

- A. Contractor or any subcontractor shall not purchase materials or supplies for the Work subject to any chattel mortgage or under conditional sale contract or other agreement by which seller retains interest. Contractor warrants that all materials and supplies used in the Work are free from all liens, claims or encumbrances and Contractor has good title to them.

10. “OR EQUAL” CLAUSE

- A. Whenever equipment or materials are identified on Drawings or in Specifications by reference to manufacturer’s or vendor’s name, trade name, catalog number, and other identifying information, it is intended to establish standards; and any equipment or material of other manufacturers and vendors which will perform adequately duties imposed by

general design will be considered equally accepted provided equipment or material so proposed is, in opinion of Architect / Engineer, of equal substance and function. Architect / Engineer and Department shall provide written approval before Contractor may purchase or install it.

- B. Equipment or materials of manufacturers, other than those named, may be used only upon following conditions:
1. That, in opinion of Architect / Engineer and Department, proposed material or equipment item is fully equal or superior (in design, materials, construction, workmanship, performance, finish, etc.) to named item. No compromise in quality level, however small, is acceptable.
 2. That, in substituting materials or equipment, Contractor assumes responsibility for any changes in system or for modifications required in adjacent or related work to accommodate such substitution despite Architect / Engineer's and Department's approval, and all costs growing out of approval of "or equal" items shall be responsibility of Contractor. No extra costs resulting from such approval shall become responsibility of Department, Architect / Engineer or any other separate Contractor.
 3. It shall be understood that use of materials or equipment other than those specified, or approved equal by Architect / Engineer and Department, shall constitute violation of Contract, and that Architect / Engineer and Department shall have right to require removal of such materials or equipment and their replacement with specified materials or equipment at Contractor's expense.
 4. Product and manufacturer named first in Specifications or on information shown on Drawings is basis of selection of manufactured items and equipment, particularly mechanical equipment. In using other than first named products or manufacturers, including those specified as additionally approved or acceptable, Contractor assumes responsibility for any changes in system and for modifications in any work required to accommodate them. Architect / Engineer's approval of such additionally acceptable products or manufacturers, either in Specifications or in Addendum, does not relieve Contractor from obligation to coordinate such optional products with other Contractors, whose work may be affected by them, and to pay all additional costs resulting from their inclusion into the Work. Contractor's liability shall include payment of Architect / Engineer's fees for any additional services made necessary by or directly connected to such product changes. No extra costs resulting from such changes shall become responsibility of Department, Architect / Engineer or any other separate Contractor.
- C. No request for approval of "or equal" materials will be entertained except from Contractor. Identify any request for substitution as substitution on Contractor's letter of transmittal and give reasons for substitution. Department may in its sole discretion allow substitutions of materials.

11. PATENTS AND ROYALTIES

- A. If Contractor uses any design, device or material covered by letters, patent or copyright, it is mutually agreed and understood, that, without exception, contract prices shall include all royalties or costs arising from use of such design, device or materials, in any way involved in the Work.
- B. Contractor shall indemnify and save harmless County from any and all claims for infringement by reason of use of such patent or copyright in connection with the Work agreed to be performed under this Contract, and shall indemnify County for any cost,

expense or damage which it may be obliged to pay by reason of such infringement at any time during prosecution of the Work or after completion of the Work.

12. SURVEYS, PERMITS, REGULATIONS AND TAXES

- A. Department will furnish to Contractor all site, topography and property surveys necessary for execution of the Work.
- B. Contractor shall procure all permits, licenses and approvals necessary for execution of this Contract.
- C. Contractor shall give all notices and comply with all State of Wisconsin, Federal and local laws, codes, rules and regulations relating to performance of the Work, protection of adjacent property, and maintenance of passageways, guard fences or other protective facilities.
- D. Contractor shall pay all Sales, Consumer, Use and other similar taxes required by law.
- E. Contractor shall promptly notify Architect / Engineer of any variances of Drawings or Specifications with that of any State of Wisconsin, federal or local law, code, rule or regulation. Upon such notification, Architect / Engineer will require correction of variance to comply with applicable law, code, rule or regulation at no additional cost to Contractor.
- F. Work under this Contract shall comply with all applicable State of Wisconsin, Federal and local laws, codes and regulations.
- G. Contractor shall pay charges for water, sewer and other utility connections made by municipalities where required by Specifications.

13. CONTRACTOR'S OBLIGATIONS AND SUPERINTENDENCE

- A. Contractor shall provide and pay for all materials, labor, tools, equipment, transportation and superintendence necessary to execute, complete and deliver the Work within specified time. Contractor agrees to secure at their own expense all personnel necessary to carry out the Work. Such personnel shall not be deemed County employees nor shall they have or be deemed to have any direct contractual relationship with County.
- B. Performance of any work necessary after regular working hours, on Sundays or Legal Holidays shall be without additional expense to County. Performance of any work at site at other than normal working hours must be coordinated with Public Works Project Manager.
- C. Contractor shall furnish, erect, maintain and remove such temporary works as may be required.
- D. Contractor shall observe, comply with, and be subject to all terms, conditions, requirements and limitations of Construction Documents.
- E. At the Work site, Contractor shall give personal superintendence to the Work or shall employ construction superintendent or foreman, experienced in character of work covered by Contract, who shall have full authority to act for Contractor. Understand that such superintendent or foreman shall be acceptable to Architect / Engineer and Department.

- F. Remove from project or take other corrective action upon notice from Architect / Engineer or Department for Contractor's employees whose work is considered by Architect / Engineer or Department to be unsatisfactory, careless, incompetent, unskilled or otherwise objectionable.
- G. Contractor and subcontractors shall be required to conform to Labor Laws of State of Wisconsin and various acts amendatory and supplementary thereto and to other laws, ordinances and legal requirements applicable to the Work.
- H. Presence and observation of the Work by Architect / Engineer or Public Works Project Manager shall not relieve Contractor of any obligations.

14. WEATHER CONDITIONS

- A. In event of temporary suspension of work, or during inclement weather, or whenever Architect / Engineer shall direct, Contractor shall, and shall cause subcontractors to protect carefully all work and materials against damage or injury from weather. If, in opinion of Architect / Engineer or Department, any work or materials that have been damaged or injured due to failure on part of Contractor or any subcontractors so to protect the Work, such materials shall be removed and replaced at expense of Contractor.

15. PROTECTION OF WORK AND PROPERTY

- A. Contractor shall at all times safely guard County's property from injury or loss in connection with this Contract. Contractor shall at all times safely guard and protect the Work, and adjacent property, from damage. Contractor shall replace or make good any such damage, loss or injury unless such is caused directly by errors contained in Contract, or by County, or County's duly authorized representative.
- B. Contractor may act diligently, without previous instructions from Architect / Engineer and / or Department, in emergency that threatens loss or injury of property, or safety of life. Contractor shall notify Architect / Engineer and / or Department immediately thereafter. Promptly submit any claim for compensation by Contractor due to such extra work to Architect / Engineer and / or Department for approval as provided for in Article 18 herein.

16. INSPECTION AND TESTING OF MATERIALS

- A. Authorized representatives and agents of County government shall have access at all times to the Work wherever it is in preparation or progress and Contractor shall provide facilities for such access and for inspection.
- B. Should it be considered necessary or advisable at any time before final acceptance of the Work to make examination of work already completed, by removing or tearing out same, Contractor shall upon request, promptly furnish all necessary facilities, labor and materials. If such work is found to be defective in any aspect, due to fault of Contractor or subcontractors thereof, Contractor shall assume all expenses of such examination and of satisfactory reconstruction. Contractor will be reimbursed for such examination and replacement in accordance with Article 18 - A.3., of these General Conditions of Contract if such work is found to meet requirements of Contract.
- C. If Specifications, Architect / Engineer's, or Public Works Project Manager's instructions require any work to be specially tested or approved, Contractor shall give Architect /

Engineer and Public Works Project Manager timely notice of its readiness for testing or inspection. Test all materials and equipment requiring testing in accordance with accepted or specified standards, as applicable. Architect / Engineer shall recommend laboratory or inspection agency and Department will select and pay for all initial laboratory inspection services. Should retesting be required, due to failure of initial testing, cost of such retesting shall be borne by Contractor.

- D. Cost of any testing performed by manufacturers or Contractor for substantiating acceptability of proposed substitution of materials and equipment, or necessary conformance testing in conjunction with manufacturing processes or factory assemblage, shall be borne by Contractor or manufacturer responsible.

17. REPORTS, RECORDS AND DATA

- A. Contractor shall submit to Architect / Engineer and Public Works Project Manager such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, invoices, records and other data as either may request concerning work performed or to be performed under this Contract.

18. CHANGES IN THE WORK

- A. Make no changes, except in cases of emergency, in the Work covered by approved Construction Documents without having prior written approval of Department. Charges or credits for the Work covered by approved change shall be determined by one of these methods:
 - 1. Unit bid prices previously approved.
 - 2. Agreed lump sum based on actual cost of:
 - a) Labor, including foremen, and all fringe benefits that are associated with their wages.
 - b) Materials entering permanently into the Work.
 - c) Ownership or rental cost of construction tools and equipment during time of use on extra work.
 - d) Power and consumable supplies for operation of power equipment.
 - e) Workmen's Compensation Insurance, Contractor's Public Liability and Property Damage Insurance, and Comprehensive Automobile Liability Insurance.
 - f) Social Security and old age and unemployment contributions.
 - g) Add to cost under (2), fixed fee to be agreed upon, but not to exceed fifteen percent (15%) of actual cost of work performed with their own labor force. Fee shall be compensation to cover cost of supervision, overhead, bond, profit and any other general expense.
 - h) On that portion of the Work under (2) done under subcontract, Contractor may include not over seven and one-half percent (7½%) for supervision, overhead, bond, profit and any other general expense.
 - i) Department may require correct amount of costs with supporting vouchers; Contractor shall keep and present in such form as directed.
 - 3. Cost-plus work, with not-to-exceed dollar limit, based on actual cost of:
 - a) Labor, including foremen, and all fringe benefits that are associated with their wages.
 - b) Materials entering permanently into the Work.

- c) Ownership or rental cost of construction tools and equipment during time of use on extra work. Rental cost cannot exceed fifty percent (50%) replacement value of rented equipment.
 - d) Power and consumable supplies for operation of power equipment.
 - e) Workmen's Compensation Insurance, Contractor's Public Liability and Property Damage Insurance, and Comprehensive Automobile Liability Insurance.
 - f) Social Security and old age and unemployment contributions.
 - g) To cost under (3), there shall be added fixed fee to be agreed upon but not to exceed fifteen percent (15%) of actual cost of work performed with their own labor force. Fee shall be compensation to cover cost of supervision, overhead, bond, profit, and any other general expense.
 - h) On that portion of the Work under (3) done under subcontract, Contractor may include not over seven and one-half percent (7½%) for supervision, overhead, bond, profit, and any other general expense.
 - i) Contractor shall keep and present, in such form as directed, correct amount of cost together with such supporting vouchers as may be required by Department.
- B. If Contractor claims that by any instructions given by Architect / Engineer, Department, by drawings or otherwise, regarding performance of the Work or furnishing of material under Contract, involves extra cost, Contractor shall give Department written notice of cost thereof within two (2) weeks after receipt of such instructions and in any event before proceeding to execute work, unless delay in executing work would endanger life or property.
- C. No claim for extra work or cost shall be allowed unless it was done in pursuance of written Change Order from Architect / Engineer and approved by Department, as previously mentioned, and claim presented with payment request submitted after changed or extra work is completed.
- D. Negotiation of cost for change in the Work shall not be cause for Contractor to delay prosecution of the Work if Contractor has been authorized in writing by Public Works Project Manager to proceed.

19. EXTRAS

- A. Without invalidating Contract, Department may order extra work or make changes by altering, adding to or deducting from the Work, contract sum being adjusted in accordance with Article 18 herein.

20. TIME FOR COMPLETION

- A. Contractor agrees that the Work shall be prosecuted regularly and diligently and complete the Work as stated in Construction Documents.

21. CORRECTION OF WORK

- A. All work, all materials whether incorporated in the Work or not, and all processes of manufacture shall at all times and places be subject to inspection of Architect / Engineer and Public Works Project Manager who shall be judge of quality and suitability of the Work, materials, and processes of manufacture for purposes for which they are used. Should they fail to meet Architect / Engineer's and Public Works Project Manager's approval they shall

be reconstructed, made good, replaced or corrected, by Contractor at Contractor's expense. Immediately remove all rejected material from site.

- B. If Contractor defaults or neglects to carry out the Work in accordance with Construction Documents or fails to perform any provision of Contract, Department may, after ten (10) business days' written notice to Contractor and without prejudice to any other remedy County may have, make good such deficiencies. In such case, appropriate Change Order shall be issued deducting from Contractor's payments then or thereafter, cost of correcting such deficiencies, including cost of Architect / Engineer's additional services made necessary by such default, neglect or failure.

22. SUBSURFACE CONDITIONS FOUND DIFFERENT

- A. If Contractor encounters subsurface or latent conditions at site materially differing from those shown on Drawings or indicated in Specifications, Contractor shall immediately give notice to Architect / Engineer and Public Works Project Manager of such conditions before they are disturbed. Architect / Engineer will thereupon promptly investigate conditions, and if Architect / Engineer finds that they materially differ from those shown on Drawings or indicated in Specifications, Architect / Engineer will at once make such changes as necessary, any increase or decrease of cost resulting from such changes to be adjusted in manner provided in above Article 18 entitled "Changes in the Work".

23. RIGHT OF DEPARTMENT TO TERMINATE CONTRACT

- A. In event that any provisions of this Contract are violated by Contractor or by any subcontractors, County may serve written notice upon Contractor and Surety of its intention to terminate Contract, such notice to contain reasons for such intention to terminate Contract, and unless within ten (10) business days after serving of such notice upon Contractor, such violation or delay shall cease and satisfactory arrangement or correction be made, Contract shall, upon expiration of said ten (10) business days, cease and terminate.
- B. In event of any such termination, County shall immediately serve notice thereof upon Surety and Contractor, and Surety shall have right to take over and perform Contract subject to County's approval; provided, however, that if Surety does not commence performance thereof within ten (10) business days from date of mailing to such Surety of notice of termination, County may take over the Work and prosecute same to completion by contract, or by force account, at expense of Contractor; Contractor and Surety shall be liable to County for any excess cost occasioned County thereby, and in such event County may take possession of and utilize in completing the Work, such materials and equipment as may be on the Work site and therefore necessary.

24. CONSTRUCTION SCHEDULE AND PERIODIC ESTIMATES

- A. Contractor shall be responsible for Construction Schedule and coordination. Immediately after execution and delivery of Contract and before making first payment, Contractor shall notify all subcontractors to furnish all required information to develop Construction Schedule. Contractor and all subcontractors associated with the Work shall furnish following information from each Division of Specifications:
 - 1. List of construction activities;
 - 2. Start, finish and time required for completion of each activity;
 - 3. Sequential relationships between activities;

4. Identify all long lead-time items, key events, meetings or activities such as required submittals, fabrication and delivery, procurement of materials, installation and testing;
 5. Weekly definition of extent of work and areas of activity for each trade or Subcontract; and
 6. Other information as determined by Public Works Project Manager.
- B. In addition to above requested items, Contractor shall request delivery dates for all County-furnished equipment, materials or labor. This shall include any work handled by Department under separate contracts such as asbestos abatement, air and water balancing, etc. Indicate on Construction Schedule these associated delivery and installation dates.
- C. Progress Reporting:
1. Contractor shall update and publish Construction Schedule on monthly basis. Revisions to Schedule shall be by Contractor and made in same detail as original Schedule and accompanied by explanation of reasons for revision; and shall be subject to approval by Department.
 2. Failure of Contractor to keep Schedule in updated format shall result in County hiring firm specializing in construction schedule development and deducting those costs associated with updating process from payments due Contractor.
 3. Contractor shall submit show actual percentage of each activity completed, estimated future progress, and anticipated completion time.
- D. Responsibility for timely completion requires:
1. Contractor and subcontractors understand that performance of each is interdependent upon performance of others.
 2. Whenever it becomes apparent from current schedule, that phasing or progress completion dates will not be met, Contractor must take some or all following actions at no additional cost to County:
 - a) Increase construction labor in such quantities and crafts as will eliminate backlog of work.
 - b) Increase number of working hours per shift, shifts per working day, working days per week, amount of construction equipment, or any combination of foregoing to eliminate backlog of work.
 - c) Reschedule work (yet remain in conformance with Drawings and Specifications).
 3. Prior to proceeding with any of above actions, Contractor shall notify Public Works Project Manager.
- E. Maintain current Construction Schedule at all times. Revise Construction Schedule in same detail as original and accompany with explanation of reasons for revision. Schedule shall be subject to approval by Architect / Engineer and Public Works Project Manager.

25. PAYMENTS TO CONTRACTOR

- A. Contractor shall provide:
1. Detailed estimate giving complete breakdown of contract price by Specification Division; and
 2. Periodic itemized estimates of work done for purpose of making partial payments thereon.
- B. Submit these estimates for approval first to Architect / Engineer, then to Public Works Project Manager. Costs employed in making up any of these schedules are for determining

basis of partial payments and not considered as fixing basis for additions to or deductions from Contract price.

- C. County will make partial payments to Contractor for value, proportionate to amount of Contract, of all labor and material incorporated in the Work during preceding calendar month upon receipt of Application and Certificate for Payment form from Architect / Engineer and approval of Department.
- D. Contractor shall submit for approval first to Architect / Engineer, and then to Public Works Project Manager all Application and Certificate for Payment forms. If requested, Application and Certificate for Payment shall be supported by such additional evidence as may be required, showing Contractor's right to payment claimed.
- E. Application and Certificate for Payment for preparatory work and materials delivered and suitably stored at site to be incorporated into the Work at some future period, will be given due consideration. Requesting payment for materials stored off site, may be rejected, however, if deemed essential for reasons of job progress, protection, or other sufficient cause, requests will be considered, conditional upon submission by Contractor of bills of sale, photographs and such other procedures as will adequately protect County's interest such as storage in bonded warehouse with adequate coverage. If there is any error in payment, Contractor is obligated to notify Department immediately, but no longer than ten (10) business days from receipt of payment.
- F. Payments by County will be due within forty-five (45) business days after receipt by Department of Application and Certificate for Payment.
- G. County will retain five percent (5%) of each Application and Certificate for Payment until final completion and acceptance of all the Work covered by Contract. However, anytime after fifty percent (50%) of the Work has been furnished and installed at site, County will make remaining payments in full if Architect / Engineer and Public Works Project Manager find that progress of the Work corresponds with Construction Schedule. If Architect / Engineer and Public Works Project Manager find that progress of the Work does not correspond with Construction Schedule, County may retain up to ten percent (10%) of each Application and Certificate for Payment for the Work completed.
- H. All material and work covered by partial payments made shall become sole property of County, but this provision shall not be construed as relieving Contractor from sole responsibility for care and protection of materials and work upon which payments have been made, or restoration of any damaged work, or as waiver of right of County to require fulfillment of all of terms of Contract.
- I. County will make final payment within sixty (60) calendar days after final completion of the Work, and will constitute acceptance thereof. Submit Equal Benefits Compliance Payment Certification with final pay request. Payment may be denied if Certification is not included.
- J. County may make payment in full, including retained percentages and less authorized deductions, upon completion and acceptance of each Division where price is stated separately in Contract.
- K. Every contractor engaged in performance of any contract for Department of Public Works, Highway & Transportation shall submit to this Department, as requested and with final application for payment for work under said contract, affidavit(s) as required to prove that all

debts and claims against this Work are paid in full or otherwise satisfied, and give final evidence of release of all liens against the Work and County. Use “Dane County, Wisconsin Contractor Wage Affidavit” form included in Supplementary Conditions.

26. WITHHOLDING OF PAYMENTS

- A. County, after having served written notice on said Contractor, may either pay directly any unpaid bills of which Department has written notice, or withhold from Contractor’s unpaid compensation sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged; whereupon, payment to Contractor shall be resumed in accordance with terms of this Contract, but in no event shall these provisions be construed to impose any obligations upon County to either Contractor or Contractor’s Surety.
- B. In paying any unpaid bills of Contractor, County shall be deemed agent of Contractor, and any payment so made by County, shall be considered as payment made under Contract by County to Contractor and County shall not be liable to Contractor for any such payment made in good faith.
- C. Contractor shall indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from all claims growing out of lawful demands of subcontractors, laborers, workers, mechanics, material men, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in performance of this Contract.
- D. At Department’s request, Contractor shall furnish satisfactory evidence that all obligations of nature designated above have been paid, discharged or waived.

27. ACCEPTANCE OF FINAL PAYMENT AS RELEASE

- A. Making of final payment shall constitute waiver of all claims by County except those arising from:
 - 1. Unsettled lien;
 - 2. Faulty or defective work appearing after substantial completion;
 - 3. Failure of the Work to comply with requirements of Construction Documents; or
 - 4. Terms of any special guarantees required by Construction Documents.
- B. Acceptance of final payment shall constitute waiver of all claims by Contractor.

28. PAYMENTS BY CONTRACTOR

- A. Contractor shall pay following not later than fifth (5th) business day following each payment received from County:
 - 1. All transportation and utility services rendered;
 - 2. All materials, tools, and other expendable equipment that have been delivered at site of the Work to extent of ninety percent (90%) of cost thereof, and balance of cost thereof when said balance is paid to Contractor; and
 - 3. Each subcontractor, respective amount allowed Contractor because of work performed by subcontractor to extent of subcontractor’s interest therein.

29. CONTRACT SECURITY

- A. Contractor shall furnish Performance and Payment Bonds in amount at least equal to one hundred percent (100%) of Contract price as security for faithful performance of this Contract and payment of all persons performing labor on project under this Contract and furnishing materials in connection with this Contract.
- B. Sample Performance and Payment Bonds that Contractor will be required to execute is bound into these Construction Documents. Before construction Contract is consummated, completed Performance and Payment Bonds must be approved by Department.

30. ASSIGNMENTS

- A. Contractor shall not assign whole or any part of this Contract or any moneys due or to become due hereunder without written consent of Department. In case Contractor assigns all or any part of any moneys due or to become due under this Contract, instrument of assignment shall contain clause substantially to effect that it is agreed that right of assignee in and to any moneys due or to become due to Contractor shall be subject to prior claims of all persons, firms and corporations for services rendered or materials supplied for performance of the Work called for in this Contract.

31. MUTUAL RESPONSIBILITY OF CONTRACTORS

- A. If, through acts of neglect on part of Contractor or any subcontractor shall suffer loss or damage on the Work, Contractor agrees to settle with such subcontractor by agreement or arbitration if such other subcontractor will so settle. If such subcontractor shall assert any claim against County on account of any damage alleged to have been sustained, Department shall notify Contractor, who shall indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives against any such claim.

32. SEPARATE CONTRACTS

- A. Department may award other contracts for the Work and all Contractors shall fully cooperate with each other and carefully adjust their work to that provided under other contracts as may be directed by Department. No Contractor shall commit or permit any act that will interfere with performance of the Work by any other Contractor.
- B. Contractor shall coordinate the Work with those of other Contractors. Cooperation will be required in arrangement for storage of materials and in detailed execution of the Work. Contractor, including subcontractors, shall keep informed of progress and detail work of others and shall notify Architect / Engineer or Department immediately of lack of progress or defective workmanship on part of others. Failure of Contractor to keep informed of the Work progressing on site and failure to give notice of lack of progress or defective workmanship by others shall be construed as acceptance by Contractor of status of the Work as being satisfactory for proper coordination with Contractor's own work.

33. SUBCONTRACTS

- A. Contractor may use services of specialty subcontractors on those parts of the Work that, under normal contracting practices, are performed by specialty subcontractors.
- B. Contractor shall not award any work to any subcontractor without prior approval of Department. Qualifications of subcontractors shall be same as qualifications of Contractor. Request for subcontractor approval shall be submitted to Department fifteen (15) business days before start of subcontractor's work. If subcontractors are changed or added, Contractor shall notify Department in writing.
- C. Contractor shall be as fully responsible to County for acts and omissions of subcontractors, and of persons either directly or indirectly employed by them, as Contractor is for acts and omissions of persons directly employed by Contractor.
- D. Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the Work to bind subcontractors to Contractor by terms of General Conditions of Contract and other Construction Documents insofar as applicable to work of subcontractors and to give Contractor same power as regards terminating any subcontract that Department may exercise over Contractor under any provision of Construction Documents.
- E. Nothing contained in this Contract shall create any contractual relation between any subcontractor and County.
- F. Contractor shall insert in all subcontracts, Articles 26, 33, 43 and 45, respectively entitled: "Withholding of Payments", "Subcontracts", "Affirmative Action Provision and Minority / Women / Disadvantaged Business Enterprises", and "Minimum Wages", and shall further require all subcontractors to incorporate physically these same Articles in all subcontracts.

34. PUBLIC WORKS PROJECT MANAGER'S AUTHORITY

- A. Public Works Project Manager shall:
 - 1. Administer and ensure compliance with Construction Documents;
 - 2. Provide responsible on-site observations of construction and have authority to request work and to stop work whenever necessary to insure proper enforcement of Construction Documents;
 - 3. Convene and chair project meetings and foreman's coordination meetings when necessary to coordinate resolution of conflicts between Contractors, Architects, Engineers, Consultants, and Department; and
 - 4. Check and inspect material, equipment and installation procedures of all trades for proper workmanship and for compliance with Drawings, Specifications and Shop Drawings, permit no material on project site that is not satisfactory and reject work not in compliance with Construction Documents.

35. ARCHITECT / ENGINEER'S AUTHORITY

- A. Architect / Engineer is retained by, and is responsible to Department acting for County.
- B. Architect / Engineer shall determine amount, quality, acceptability, and fitness of several kinds of work and materials that are provided under this Contract and shall decide all questions that may arise in relation to said work and construction thereof.

- C. Architect / Engineer shall decide meaning and intent of any portion of Specifications and of any Drawings where they may be found obscure or be in dispute.
- D. Architect / Engineer shall provide responsible observation of construction. Architect / Engineer has authority to stop the Work whenever such stoppage may be necessary to insure proper execution of Construction Documents.
- E. Architect / Engineer shall be interpreter of conditions of Construction Documents and judge of its performance.
- F. Within reasonable time, Architect / Engineer shall make decisions on all matters relating to progress of the Work or interpretation of Construction Documents.
- G. Architect / Engineer's decisions are subject to review by Public Works Project Manager.

36. STATED ALLOWANCES

- A. Stated allowances enumerated in Instructions to Bidders shall cover net cost of materials or equipment, and all applicable taxes. Contractor's cost of delivery and unloading at site, handling costs on site, labor, installation costs, overhead, profit and any other incidental costs shall be included in Contractor's bid, but not as part of cash allowance.
- B. Department will solicit at least two (2) bids on materials or equipment for which allowance is stated and select on basis of lowest qualified responsible bid. Contractor will then be instructed to purchase "Allowed Materials". If actual price for purchasing "Allowed Materials", including taxes, is more or less than "Cash Allowance", Contract price shall be adjusted accordingly. Adjustment in Contract price shall not contain any cost items excluded from cash allowance.

37. ESTIMATES OF QUANTITIES

- A. Whenever estimated quantities of work to be done and materials to be furnished under this Contract are shown in any of Construction Documents, they are given for use in comparing bids and right is especially reserved to increase or diminish them as they may be deemed reasonably necessary or desirable by Department to complete the Work included in this Contract, and cost for such increase or diminution shall be adjusted in manner provided for in General Conditions of Contract Article 18 entitled "Changes in the Work".

38. LANDS AND RIGHTS-OF-WAY

- A. Prior to start of construction, County shall furnish all land and rights-of-way necessary for carrying out and completion of the Work to be performed under this Contract.

39. GENERAL GUARANTEE

- A. Neither final certificate of payment nor any provision in Construction Documents nor partial or entire occupancy of premises by County shall constitute acceptance of work not done in accordance with Construction Documents or relieve Contractor of liability in respect to any expressed warranties or responsibility for faulty materials or workmanship.
 - 1. In no event shall making of any payment required by Contract constitute or be construed as waiver by County of any breach of covenants of Contract or waiver of any default of Contractor and making of any such payment by County while any such default or breach shall exist shall in no way impair or prejudice right of County with respect to recovery of damages or other remedy as result of such breach or default.
- B. Contractor shall remedy and make good all defective workmanship and materials and pay for any damage to other work resulting there from, which appear within period of one (1) year from date of substantial completion, providing such defects are not clearly due to abuse or misuse by County. Department will give notice of observed defects with reasonable promptness.
- C. Guarantee on work executed after certified date of substantial completion will begin on date when such work is inspected and approved by Architect / Engineer and Public Works Project Manager.
- D. Where guarantees or warranties are required in sections of Specifications for periods in excess of one (1) year, such longer terms shall apply; however, Contractor's Performance and Payment Bonds shall not apply to any guarantee or warranty period in excess of one (1) year.

40. CONFLICTING CONDITIONS

- A. Any provision in any of Construction Documents which may be in conflict or inconsistent with any Articles in these General Conditions of Contract or Supplementary Conditions shall be void to extent of such conflict or inconsistency.
- B. In case of ambiguity or conflict between Drawings and Specifications, Specifications shall govern.
- C. Printed dimensions shall be followed in preference to measurements by scale. Large-scale drawings take precedence over small-scale drawings. Dimensions on Drawings and details are subject to field measurements of adjacent work.

41. NOTICE AND SERVICE THEREOF

- A. Any notice to Contractor from Department relative to any part of this Contract shall be in writing and considered delivered and service thereof completed, when said notice is posted, by certified or registered mail, to Contractor at Contractor's last given address, or delivered in person to said Contractor, or Contractor's authorized representative on the Work.

42. PROTECTION OF LIVES AND HEALTH

- A. In order to protect lives and health of Contractor's employees under Contract, Contractor shall comply with all pertinent provisions of Wisconsin Administrative Code, Rules of Department of Commerce, relating to Safety and Health.
- B. Contractor alone shall be responsible for safety, efficiency and adequacy of Contractor's tools, equipment and methods, and for any damage that may result from their failure or their improper construction, maintenance or operation.

43. AFFIRMATIVE ACTION PROVISION AND MINORITY / WOMEN / DISADVANTAGED BUSINESS ENTERPRISES

- A. Affirmative Action Provisions.
 - 1. During term of their Contract, Contractor agrees not to discriminate on basis of race, religion, color, sex, handicap, age, sexual preference, marital status, physical appearance, or national origin against any person, whether recipient of services (actual or potential), employee, or applicant for employment. Such equal opportunity shall include but not be limited to following: employment, upgrading, demotion, transfer, recruitment, advertising, layoff, termination, training, rates of pay, and any other form of compensation or level of service(s). Contractor agrees to post in conspicuous places, these affirmative action standards so as to be visible to all employees, service recipients and applicants for this paragraph. Listing of prohibited bases for discrimination shall not be construed to amend in any fashion state or federal law setting forth additional bases and exceptions shall be permitted only to extent allowable in state or federal law.
 - 2. Contractor is subject to this Article only if Contractor has ten (10) or more employees and receives \$10,000.00 or more in annual aggregate contracts with County. Contractor shall file and Affirmative Action Plan with Dane County Contract Compliance Officer in accord with Chapter 19 of Dane County Code of Ordinances. Such plan must be filed within fifteen (15) business days of effective date of this Contract and failure to do so by said date shall constitute ground for immediate termination of Contract by County. Contractor shall also, during term of this Contract, provide copies of all announcements of employment opportunities to County's Contract Compliance Office, and shall report annually number of persons, by race, sex and handicap status, who apply for employment, and, similarly classified, number hired and number rejected.
 - 3. Contact Dane County Contract Compliance Officer at Dane County Contract Compliance Office, 210 Martin Luther King, Jr. Blvd., Room 421, Madison, WI 53703, 608/266-4114.
 - 4. In all solicitations for employment placed on Contractor's behalf during term of this Contract, Contractor shall include statement to affect Contractor is "Equal Opportunity Employer". Contractor agrees to furnish all information and reports required by County's Contract Compliance Officer as same relate to affirmative action and nondiscrimination, which may include any books, records, or accounts deemed appropriate to determine compliance with Chapter 19, Dane County Code of Ordinances, and provision of this Contract.
- B. Minority / Women / Disadvantaged / Emerging Small Business Enterprises.
 - 1. Chapter 19.508 of Dane County Code of Ordinances is official policy of Dane County regarding utilization of, to fullest extent of, Minority Business Enterprises (MBEs), Women Business Enterprises (WBEs) Disadvantage Business Enterprises (DBEs) and Emerging Small Business Enterprises (ESBEs).

2. Contractor may utilize MBEs / WBEs / DBEs / ESBEs as subcontractors or suppliers. List of subcontractors will be required of low bidder as stated in this Contract. List shall indicate which are MBEs / WBEs / DBEs / ESBEs and percentage of subcontract awarded, shown as percentage of total dollar amount of bid.

44. COMPLIANCE WITH FAIR LABOR STANDARDS

- A. During term of this Contract, Contractor shall report to County Contract Compliance Officer, within ten (10) business days, any allegations to, or findings by National Labor Relations Board (NLRB) or Wisconsin Employment Relations Commission (WERC) that Contractor has violated statute or regulation regarding labor standards or relations. If investigation by Contract Compliance Officer results in final determination that matter adversely affects Contractor's responsibilities under this Contract, and which recommends termination, suspension or cancellation of this Contract, County may take such action.
- B. Contractor may appeal any adverse finding by Contract Compliance Officer as set forth in Dane County Ordinance 25.015(11)(c) through (e).
- C. Contractor shall post this statement in prominent place visible to employees: "As condition of receiving and maintaining contract with Dane County, this employer shall comply with federal, state and all other applicable laws prohibiting retaliation or union organizing."

45. DOMESTIC PARTNERSHIP BENEFITS

- A. Contractor agrees to provide same economic benefits to all of its employees with domestic partners as it does to employees with spouses, or cash equivalent if such benefit cannot reasonably be provided. Contractor agrees to make available for County inspection Contractor's payroll records relating to employees providing services on or under this Contract or subcontract. If any payroll records of Contractor contain any false, misleading or fraudulent information, or if Contractor fails to comply with provisions of Chapter 25.13, Dane County Ordinances, contract compliance officer may withhold payments on Contract; terminate, cancel or suspend Contract in whole or in part; or, after due process hearing, deny Contractor right to participate in bidding on future County contracts for period of one year after first violation is found and for period of three years after second or subsequent violation is found.

46. USE AND OCCUPANCY PRIOR TO ACCEPTANCE

- A. Contractor agrees to use and occupancy of portion or unit of the Work before formal acceptance by Department, provided Department:
 1. Secures written consent of Contractor; except when in opinion of Public Works Project Manager, Contractor is chargeable with unwarranted delay in final cleanup of punch list items or other Contract requirements.
 2. Secures endorsement from insurance carrier and consent of Surety permitting occupancy of building or use of the Work during remaining period of construction, or, secures consent of Surety.
 3. Assumes all costs and maintenance of heat, electricity and water.
 4. Accepts all work completed within that portion or unit of the Work to be occupied, at time of occupancy.

47. MINIMUM WAGES

- A. Contractor shall post, at appropriate conspicuous point on site of project, schedule showing all determined minimum wage rates for various classes of laborers and mechanics to be engaged in the Work under this Contract and all deductions, if any, required by law to be made from unpaid wages actually earned by laborers and mechanics so engaged.
- B. Supplementary Conditions section in Construction Documents lists wage determinations required by State Law.
- C. If, after award of Contract, it becomes necessary to employ any person in trade or occupation not classified in wage determinations, such person shall be paid at not less than such rate as shall be determined by Wisconsin Department of Workforce Development. Such approved minimum rate shall be retroactive to time of initial employment of such person in such trade or occupation. Contractor shall notify Department of Contractor's intention to employ persons in trades or occupations not so classified in sufficient time for Department to obtain approved rates for such trades or occupations.
- D. Specified wage rates are minimum rates only, and Department will not consider any claims for additional compensation made by Contractor because of payment by Contractor of any wage rate in excess of applicable rate contained in this Contract. Contractor shall adjust any disputes in regard to payment of wages in excess of those specified in this Contract.
- E. Submit required affidavit(s) to Department of Public Works, Highway & Transportation, as requested and with final application for payment for work under said contract. Affidavit(s) shall clearly indicate name, trade or occupation, and paid wages of every laborer, worker or mechanic employed by Contractor and all subcontractors during billing period including accurate record of number of hours worked by each employee and actual wages paid as stipulated in Wisconsin Statute 66.0903. Use "Dane County, Wisconsin Contractor Wage Affidavit" form included in Supplementary Conditions.

48. CLAIMS

- A. No claim may be made until Department's Assistant Public Works Director has reviewed Architect / Engineer's decision as provided for in Article 35 of General Conditions of Contract. If any claim remains unresolved after such review by Department's Assistant Public Works Director the claim may be filed under Wisconsin Statute 893.80. Work shall progress during period of any dispute or claim. Unless specifically agreed between parties, venue will be in Dane County, Wisconsin.

49. ANTITRUST AGREEMENT

- A. Contractor and County recognize that in actual economic practice, overcharges resulting from antitrust violations are in fact usually borne by County. Therefore, Contractor hereby assigns to County any and all claims for such overcharges as to goods and materials purchased in connection with this Contract, except as to overcharges which result from antitrust violations commencing after price is established under this Contract and any change order thereto.

50. INSURANCE

A. Contractor Carried Insurance:

1. Contractor shall not commence work under this Contract until Contractor has obtained all insurance required under this Article and has provided evidence of such insurance to Risk Manager, 425 City-County Building, 210 Martin Luther King Jr. Blvd., Madison, WI 53703. Contractor shall not allow any subcontractor to commence work until insurance required of subcontractor has been so obtained and approved. Company providing insurance must be licensed to do business in Wisconsin.
2. Worker's Compensation Insurance:
 - a) Contractor shall procure and shall maintain during life of this Contract, Worker's Compensation Insurance as required by statute for all of Contractor's employees engaged in work at site of project under this Contract and, in case of any such work sublet, Contractor shall require subcontractor similarly to provide Worker's Compensation Insurance for all of latter's employees to be engaged in such work unless such employees are covered by protection afforded by Contractor's Worker's Compensation Insurance.
 - b) If any claim of employees engaged in hazardous work on project under this Contract is not protected under Worker's Compensation Statute, Contractor shall provide and shall cause each subcontractor to provide adequate Employer's Liability Insurance for protection of such of Contractor's employees as are not otherwise protected.
3. Contractor's Public Liability and Property Damage Insurance:
 - a) Contractor shall procure and maintain during life of this Contract, Contractor's Public Liability Insurance and Contractor's Property Damage Insurance in amount not less than \$1,000,000 bodily injury, including accidental death, to any one person, and subject to same limit for each person, in amount not less than \$1,000,000 on account of one accident, and Contractor's Property Damage Insurance in amount not less than \$1,000,000 or combined single limit of at least \$1,000,000 with excess coverage over and above general liability in amount not less than \$5,000,000. Contractor shall add "Dane County" as additional insured for each project.
 - b) Contractor's Public Liability and Property Damage Insurance shall include Products, Completed Operation, and Contractual Liability under Insurance Contract. "Contractor shall in all instances save, defend, indemnify and hold harmless County and Architect / Engineer against all claims, demands, liabilities, damages or any other costs which may accrue in prosecution of the Work and that Contractor will save, defend, indemnify and hold harmless County and Architect / Engineer from all damages caused by or as result of Contractor's operations" and each shall be listed as additional insured on Contractor's and sub-contractors' insurance policies.
 - c) Obligations of Contractor under Article 50.A.2.b) shall not extend to liability of Architect / Engineer, agents or employees thereof, arising out of:
 - 1) Preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications; or
 - 2) Giving of or failure to give directions or instructions by Architect / Engineer, agents or employees thereof provided such giving or failure to give is primary cause of injury or damage.
 - d) Contractor shall procure and shall maintain during life of this Contract, Comprehensive Automobile Liability Insurance covering owned, non-owned and hired automobiles for limits of not less than \$1,000,000 each accident single limit, bodily injury and property damage combined with excess coverage over and above general liability in amount not less than \$5,000,000.
 - e) Contractor shall either:

- 1) Require each subcontractor to procure and to maintain during life of subcontract, subcontractor's Public Liability Property Damage Insurance, and Comprehensive Automobile Liability Insurance of type and in same amount specified in preceding paragraphs; or
- 2) Insure activities of subcontractors in Contractor's own policy.
4. Scope of Insurance and Special Hazards: Insurance required under Article 50.A.2 & 50.A.3. hereof shall provide adequate protection for Contractor and subcontractors, respectively, against damage claims which may arise from operations under this Contract, whether such operation be by insured or by anyone directly or indirectly employed by insured and also against any of special hazards which may be encountered in performance of this Contract as enumerated in Supplementary Conditions.
5. Proof of Carriage of Insurance: Contractor shall furnish Risk Manager with certificates showing type, amount, class of operations covered, effective dates, dates of expiration of policies and "Dane County" listed as additional insured. Such certificates shall also contain (substantially) following statement: "Insurance covered by this certificate will not be canceled or materially altered, except after ten (10) business days written notice has been received by Risk Manager."

B. Builder's Risk:

1. County shall provide Builder's Risk insurance coverage for its insurable interests in construction or renovation projects with completed value of \$1,000,000 or less. Therefore, if project completed value is more than \$1,000,000, Contractor shall obtain and maintain in force, at its own expense, Builder's Risk Insurance on all risks for amount equal to full completed value of covered structure or replacement value of alterations or additions. Any deductible shall not exceed \$25,000 for each loss. Policy shall include occupancy clause and list Dane County as loss payee.

C. Indemnification / Hold Harmless:

1. Contractor shall indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from and against all claims, damages, losses and expenses including attorneys' fees arising out of or resulting from performance of the Work, provided that any such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including loss of use resulting therefrom, and is caused in whole or in part by any act or omission of Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by part indemnified hereunder.
2. In any and all claims against Dane County, its boards, commissions, agencies, officers, employees and representatives or by any employee of Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, indemnification obligation under this Contract shall not be limited in any way by any limitation on amount or type of damages, compensation or benefits payable by or for Contractor or any subcontractor under worker's compensation acts, disability benefits or other employee benefit acts.
3. Obligations of Contractor under this Contract shall not extend to liability of Architect / Engineer, its agents or employees arising out of:
 - a) Preparation or approval of maps, drawings, opinion, reports, surveys, change orders, designs or specifications; or
 - b) Giving of or failure to give directions or instruction by Architect / Engineer, its agents or employees provided such giving or failure to give is primary cause of injury or damage.

4. Dane County shall not be liable to Contractor for damages or delays resulting from work by third parties or by injunctions or other restraining orders obtained by third parties.


51. WISCONSIN LAW CONTROLLING

- A. It is expressly understood and agreed to by parties hereto that in event of any disagreement or controversy between parties, Wisconsin law shall be controlling.

SUPPLEMENTARY CONDITIONS

1. APPLICATION & CERTIFICATE FOR PAYMENT

- A. Every contractor engaged in performance of any contract for Department of Public Works, Highway & Transportation shall submit partial and final Application & Certificate for Payment for work under said contract. Form shall provide similar information as shown on AIA G702™ and G703™ forms (samples shown below). Forms shall be submitted to project Architect / Engineer for approval.


AIA Document G702™ – 1992

Application and Certificate for Payment

TO OWNER:	PROJECT:	APPLICATION NO:	Distribution to:
FROM CONTRACTOR:	VIA ARCHITECT:	PERIOD TO:	OWNER <input type="checkbox"/>
		CONTRACT FOR:	ARCHITECT <input type="checkbox"/>
		CONTRACT DATE:	CONTRACTOR <input type="checkbox"/>
		PROJECT NOS:	FIELD <input type="checkbox"/>
			OTHER <input type="checkbox"/>

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. AIA Document G703™, Continuation Sheet, is attached.

1. ORIGINAL CONTRACT SUM \$ _____

2. NET CHANGE BY CHANGE ORDERS \$ _____

3. CONTRACT SUM TO DATE (Line 1 + 2) \$ _____

4. TOTAL COMPLETED & STORED TO DATE (Column G on G703) \$ _____

5. RETAINAGE:

a. _____ % of Completed Work
(Columns D + E on G703) \$ _____

b. _____ % of Stored Material
(Column F on G703) \$ _____

Total Retainage (Lines 5a + 5b, or Total in Column I of G703) \$ _____

6. TOTAL EARNED LESS RETAINAGE \$ _____
(Line 4 minus Line 5 Total)

7. LESS PREVIOUS CERTIFICATES FOR PAYMENT \$ _____
(Line 6 from prior Certificate)

8. CURRENT PAYMENT DUE \$ _____

9. BALANCE TO FINISH, INCLUDING RETAINAGE \$ _____
(Line 3 minus Line 6)

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	\$ _____	\$ _____
Total approved this month	\$ _____	\$ _____
TOTAL	\$ _____	\$ _____
NET CHANGES by Change Order	\$ _____	\$ _____

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:
By: _____ Date: _____
State of: _____
County of: _____
Subscribed and sworn to before me this _____ day of _____

Notary Public:
My commission expires: _____

ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED \$ _____
(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT:
By: _____ Date: _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.
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Continuation Sheet

AIA Document G702™-1992, Application and Certificate for Payment, or G732™-2009, Application and Certificate for Payment, Construction Manager as Adviser Edition, containing Contractor's signed certification is attached. In tabulations below, amounts are in US dollars. Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO:
APPLICATION DATE:
PERIOD TO:
ARCHITECT'S PROJECT NO:

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED		F MATERIALS PRESENTLY STORED <i>(Not in D or E)</i>	G TOTAL COMPLETED AND STORED TO DATE <i>(D+E-F)</i>	H BALANCE TO FINISH <i>(C-G)</i>	I RETAINAGE <i>(if variable rate)</i>
			FROM PREVIOUS APPLICATION <i>(D-E)</i>	THIS PERIOD				
GRAND TOTAL								

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

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NOT FOR SUBMITTAL

2. CONTRACTOR WAGE AFFIDAVIT

- A. Every contractor engaged in performance of any contract for Department of Public Works, Highway & Transportation shall submit to this Department, as requested and with final application for payment for work under said contract, affidavit in form as hereinafter set forth in this section. Affidavit affirms that all persons employed by contractor or by any of contractor's subcontractors on such contract have been paid no less than minimum wages established under Dane County Ordinances, Chapter 40, Subchapter II (Minimum Wage Ordinance) and in effect at date of execution of contract, that full payment of wages earned has been made, and that no rebates either directly or indirectly have been made. Form of such affidavit is included in this section.
- B. Form should be included with a copy of the final contract invoice forwarded to your contract representative at Dane County.

DANE COUNTY, WISCONSIN
CONTRACTOR WAGE AFFIDAVIT

COMPANY NAME: _____

ADDRESS: _____

CONTRACT NO.: _____ DIVISION(S) OF WORK: _____

AFFIDAVIT

STATE OF WISCONSIN)
) ss.
 DANE COUNTY)

I, _____, being _____,
name and title of person signing affidavit
 first duly sworn at _____,
city & state of company incorporation
 on oath, depose and say that with respect to the payment of the persons employed by the _____, subcontractors on the _____
contractor company name division(s) of work
 _____, at the _____,
building or site of project

that during the period commencing _____, and ending _____
date date
 all persons employed on said project have been paid the full wages earned, that no rebates have been or will be made either directly or indirectly by said contractor or subcontractor from the full weekly wages earned by any person, and that no deductions have been made either directly or indirectly from the full weekly wages earned by any person, other than authorized legal deductions (including taxes such as Federal Income Withholding and Social Security, State and _____,
state any other legal deductions such as union dues, unemployment insurance, 401k contributions, etc., or fill in "N/A"
 and that there is full compliance with the provisions and intent of the requirements of Dane County Ordinances, Chapter 40, Subchapter II (Minimum Wage Ordinance). This affidavit is made to induce Dane County to approve the application for payment to which this affidavit is attached.

 Contractor Company Name

 Signature _____
 Title

Sworn to before me this _____ day of _____, 20____.

 Notary Public My Commission expires _____
 Date

3. INSURANCE

A. **Contractor Carried Insurance.** In order to protect itself and the County, Contractor shall not commence work under this Contract until obtaining all required insurance and the County has approved such insurance. Contractor shall not allow any subcontractor to commence work on subcontract until insurance required of subcontractor has been so obtained and approved.

1. **Pollution Insurance Policy**

Contractor shall procure and maintain during life of this Contract, Pollution Insurance Policy in amount of at least \$1,000,000 per occurrence, \$5,000,000 aggregate.

SAMPLE ONLY -
NOT FOR
SUBMITTAL

SECTION 01 00 00
BASIC REQUIREMENTS

PART 1 GENERAL

1.1 SECTION SUMMARY

- A. Section Includes:
1. Section Summary
 2. Summary of the Work
 3. Contractor Use of Premises
 4. Applications for Payment
 5. Change Procedures
 6. Alternates
 7. Coordination
 8. Cutting and Patching
 9. Conferences
 10. Progress Meetings
 11. Submittal Procedures
 12. Proposed Products List
 13. Shop Drawings
 14. Product Data
 15. Samples
 16. Manufacturers' Instructions
 17. Manufacturers' Certificates
 18. Quality Assurance / Quality Control of Installation
 19. References
 20. Interior Enclosures
 21. Protection of Installed Work
 22. Parking
 23. Staging Areas
 24. Occupancy During Construction and Conduct of Work
 25. Protection
 26. Progress Cleaning
 27. Products
 28. Transportation, Handling, Storage and Protection
 29. Product Options
 30. Substitutions
 31. Starting Systems
 32. Demonstration and Instructions
 33. Contract Closeout Procedures
 34. Final Cleaning
 35. Adjusting
 36. Operation and Maintenance Data
 37. Spare Parts and Maintenance Materials
 38. As-Built and Record Drawings and Specifications

1.2 SUMMARY OF THE WORK

- A. Project Description: This project will include removal and replacement of asphalt pavement, shoulder work and restoration, at-grade and railroad crossings, replacing existing culvert pipes, and adjusting a utility enclosure.
- B. Work by Owner:
 - 1. Removal and replacement of trail signage.
- C. Permits: Prior to commencement of the Work, Contractor to secure any and all necessary permits for completion of the Work and facility occupancy.
- D. Diggers Hotline:
 - 1. It is General Contractor's responsibility to contact Diggers Hotline to have all utility locations marked prior to excavation and planning an excavation in a timely manner so as not to delay the Work.
 - 2. Diggers Hotline shall also be used to obtain information on safe working clearances from overhead lines.
 - 3. Completely comply with all requirements of each affected utility company.
 - 4. It is General Contractor's responsibility to contact & hire private utility locating services if necessary.

1.3 CONTRACTOR USE OF PREMISES

- A. Limit use of premises to allow work by others and work by Owner.

1.4 APPLICATIONS FOR PAYMENT

- A. Submit one (1) original copies with "wet" signatures of each application on AIA G702™ and G703™ forms or approved contractors invoice form.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Payment Period: Monthly.
- D. Submit Applications for Payment to Public Works Project Manager for approval & processing for payment.

1.5 CHANGE PROCEDURES

- A. Change Order Forms: Dane County Contract Change Order, Form 014-32-20 (latest issue).
- B. Contractor's costs for Products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from contingency allowance.

1.6 ALTERNATES

- A. Alternates quoted on Bid Form shall be reviewed and accepted or rejected at Owner's option.
- B. Coordinate related work and modify surrounding work as required.
- C. Schedule of Alternates: there are no alternates proposed for this project.

1.7 COORDINATION

- A. Coordinate scheduling, submittals, and work of various sections of Specifications to assure efficient and orderly sequence of installation of interdependent construction elements.
- B. Verify utility requirement characteristics of operating equipment are compatible with building utilities.
- C. Coordinate space requirements and installation of mechanical and electrical work that are indicated diagrammatically on Drawings.
- D. Contractor shall provide Public Works Project Engineer with work plan that ensures the Work will be completed within required time of completion.
- E. Public Works Project Manager may choose to photograph or videotape site or workers as the Work progresses.

1.8 CUTTING AND PATCHING

- A. Employ a skilled and experienced installer to perform cutting and patching new work; restore work with new Products.
- B. Submit written request in advance of cutting or altering structural or building enclosure elements.
- C. Fit work tight to adjacent elements. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- D. Refinish surfaces to match adjacent finishes.

1.9 CONFERENCES

- A. There will be pre-bid conference for this project; see Instructions to Bidders.
- B. Owner will schedule a pre-construction conference after Award of Contract for all affected parties.
- C. Contractor shall submit Construction Schedule at pre-construction meeting.

- D. When required in individual Specification section, convene a pre-installation conference at project site prior to commencing work of Section.

1.10 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at minimum of one (1) per week, with Public Works Project Manager.
- B. Preside at meetings, record minutes, and distribute copies within two (2) business days to those affected by decisions made.
- C. Attendance at progress meetings by General Contractor, subcontractors, or their authorized representative, is mandatory.
- D. Contractors shall give verbal reports of progress on the Work, discuss schedule for upcoming period and present all conflicts, discrepancies or other difficulties for resolution.
- E. Day & time of progress meetings to be determined at pre-construction meeting.

1.11 JOB SITE ADMINISTRATION

- A. Contractor shall have project superintendent on site minimum of four (4) hours per day during progress of the Work.

1.12 SUBMITTAL PROCEDURES

- A. Submittal form to identify Project, Contractor, Subcontractor or supplier; and pertinent Construction Documents references.
- B. Apply Contractor's stamp, signed or initialed, certifying that review, verification of Products required, field dimensions, adjacent construction work, and coordination of information is in accordance with requirements of the Work and Construction Documents.
- C. Identify variations from Construction Documents and Product or system limitations that may be detrimental to successful performance of completing the Work.
- D. Revise and resubmit submittals as required; identify all changes made since previous submittal.

1.13 PROPOSED PRODUCTS LIST

- A. Within fifteen (15) business days after date of Award of Contract, submit complete list of major Products proposed for use, with name of manufacturer, trade name, and model number of each Product.

1.14 SHOP DRAWINGS

- A. Submit number of copies that Contractor requires, plus three (3) copies that shall be retained by Public Works Project Manager.

1.15 PRODUCT DATA

- A. Submit number of copies that Contractor requires, plus two (2) copies that shall be retained by Public Works Project Manager.
- B. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturer's standard data to provide information unique to this Project.

1.16 SAMPLES

- A. Submit samples to illustrate functional and aesthetic characteristics of Product.
- B. Submit samples of finishes from full range of manufacturers' standard colors, textures, and patterns for Public Works Project Manager's selection.

1.17 MANUFACTURERS' INSTRUCTIONS

- A. When specified in individual Specification sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.

1.18 MANUFACTURERS' CERTIFICATES

- A. When specified in individual Specification sections, submit manufacturers' certificate to Public Works Project Manager for review, in quantities specified for Product Data.
- B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

1.19 QUALITY ASSURANCE / QUALITY CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply fully with manufacturers' instructions.
- C. Comply with specified standards as minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

1.20 REFERENCES

- A. Conform to reference standard by date of issue current as of date for receiving bids.

- B. Should specified reference standard conflict with Construction Documents, request clarification from Public Works Project Manager before proceeding.

1.21 INTERIOR ENCLOSURES

- A. Not Applicable.

1.22 PROTECTION OF INSTALLED WORK

- A. Protect installed work and provide special protection where specified in individual Specification sections.

1.23 PARKING

- A. Arrange for temporary parking areas to accommodate construction personnel. Parking shall be available at the Work site.
- B. All contractors and their employees shall cooperate with General Contractor and others in parking of vehicles to avoid interference with normal operations and construction activities.
- C. Do not obstruct existing service drives and parking lots with equipment, materials and / or vehicles. Keep accessible for Owner's use at all times.

1.24 STAGING AREAS

- A. Coordinate staging areas with Public Works Project Manager prior to starting the Work.
- B. On-site space for use as staging areas and storage of materials is limited and will be apportioned among various Contractors as their needs dictate with due regard for storage requirements of each Contractor. Each Contractor shall be responsible for safety of equipment and materials that are stored on site.

1.25 OCCUPANCY DURING CONSTRUCTION AND CONDUCT OF WORK

- A. Smoking is prohibited on Dane County property.
- B. Owner reserves right at any time to dismiss from premises any Contractor or construction personnel that do not uphold requirements of this Section.
- C. Owner shall not be held liable for any lost time, wages, or impacts to construction schedule by any Contractor or construction personnel dismissed for failure to uphold requirements of this Section.
- D. Work may be performed between the hours of 7:00 am and 9:00pm.

- E. New work in extension of existing work shall correspond in all respects with that to which it connects or similar existing work unless otherwise indicated or specified.
 - 1. Existing work shall be cut, altered, removed or replaced as necessary for performance of Contract obligations.
 - 2. Work remaining in place, damaged or defaced by reason of work done under this Contract shall be restored equal to its condition at time of Award of Contract.
 - 3. If removal of work exposes discolored or unfinished surfaces or work out of alignment, such surfaces shall be refinished or materials replaced as necessary to make continuous work uniform and harmonious.
- F. Contractor is responsible for providing & maintaining temporary toilet facilities.

1.26 PROTECTION

- A. Contractor shall protect from damage / injury all trees, shrubs, hedges, plantings, grass, mechanical, electrical & plumbing equipment, walks and driveways and pay for any damage to same resulting from insufficient or improper protection.
- B. Contractor shall provide and maintain barricades & signage to prohibit public access to construction site.
- C. Contractor shall be responsible for traffic control and to submit a traffic control plan to the Public Works Project Manager for approval if contractor deems lane closure is necessary.
- D. Contractor shall provide and maintain guard lights at all barricades, railings, obstructions in streets, roads or sidewalks and at all trenches adjacent to public walks or roads.

1.27 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.

1.28 PRODUCTS

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work, but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components specifically identified for reuse.
- B. Do not use materials and equipment removed from existing premises, except as specifically identified or allowed by Construction Documents.

1.29 TRANSPORTATION, HANDLING, STORAGE AND PROTECTION

- A. Transport, handle, store and protect Products in accordance with manufacturer's instructions.

1.30 PRODUCT OPTIONS

- A. Where definite material is specified, it is not intentional to discriminate against "equal" product made by another manufacturer. Intention is to set definite standard of material quality. Should bidder choose to bid materials other than those specified, bidder shall submit said materials specifications to Public Works Project Manager for approval at least seven (7) business days prior to Bid Due Date.
- B. Products and materials that are not specified, but have been approved for use by Public Works Project Manager shall be identified in addenda to all bidding contractors.
- C. Requests for material or product substitutions submitted after Bid Due Date may be considered. Owner reserves right to approve or reject substitutions based on Specification requirements and intended use.

1.31 SUBSTITUTIONS

- A. Public Works Project Manager shall consider requests for Substitutions only within fifteen (15) calendar days after date of Public Works Construction Contract.
- B. Document each request with complete data substantiating compliance of proposed Substitution with Construction Documents.
- C. Submit three (3) copies of requests for Substitution for consideration. Limit each request to one (1) proposed Substitution.
- D. Substitutions shall not change contract price established at Bid Due Date.

1.32 STARTING SYSTEMS

- A. Provide written notification prior to start-up of each equipment item or system.
- B. Ensure that each piece of equipment or system is ready for operation.
- C. Execute start-up under supervision of responsible persons in accordance with manufacturers' instructions.
- D. Submit written report that equipment or system has been properly installed and is functioning correctly.

1.33 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of Products to Owner's personnel prior to date of final inspection.
- B. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed-upon times, at designated location.

- C. Owner may choose to photograph or videotape demonstration session; demonstration and demonstrator shall be to level of satisfaction of Owner.

1.34 CONTRACT CLOSEOUT PROCEDURES

- A. Submit written certification that Construction Documents have been reviewed, the Work has been inspected, and the Work is complete in accordance with Construction Documents and ready for Public Works Project Manager's inspection.
- B. Submit final Application for Payment identifying total adjusted Contract Sum / Price, previous payments, and amount remaining due.

1.35 FINAL CLEANING

- A. Execute final cleaning prior to final inspection.
- B. Clean interior and exterior surfaces exposed to view.
- C. Remove waste and surplus materials, rubbish, and construction facilities from site.

1.36 ADJUSTING

- A. Adjust operating Products and equipment to ensure smooth and unhindered operation.

1.37 OPERATION AND MAINTENANCE MANUAL

- A. Provide two (2) bound, hard-copy operation and maintenance manuals that include all systems, materials, products, equipment, mechanical and electrical equipment and systems supplied and installed in the Work. Provide electronic version of operation and maintenance manual also.

1.38 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide Products, spare parts, maintenance and extra materials in quantities specified in individual Specification Sections.
- B. Deliver to the Work site and place in location as directed.

1.39 AS-BUILT AND RECORD DRAWINGS AND SPECIFICATIONS

- A. Contractor-produced Drawings and Specifications shall remain property of Contractor whether Project for which they are made is executed or not. Contractor shall furnish Public Works Project Manager with original marked up redlines of Construction Documents' drawings and specifications that shall include all Addendums, Change Orders, Construction Bulletins, on-site changes, field corrections, etc. These are project As-Built Drawings & Specifications. Record Drawings & Specifications shall be created from these As-Built by Public Works.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 71 33

RESTORATION

PART 1 - GENERAL

1.1 Section Includes

- A. Restoration of site following construction.
- B. Items to be restored include, but are not limited to, the following:
 - 1. Asphalt, concrete or gravel roadways
 - 2. Spur trails
 - 3. Driveways
 - 4. Sidewalks and curb & gutter
 - 5. Fences and retaining walls
 - 6. Lawns, grassed areas, trees and shrubbery
 - 7. Culverts and ditches
 - 8. Property corners and survey monuments
- C. Specific items of restoration may be noted on the drawings or included elsewhere in the specifications.

1.2 Quality

- A. Restoration, when completed, shall equal or surpass the conditions existing before construction.
- B. When specifications are included for specific items of restoration, the work shall be performed in accordance with the applicable specification.

PART 2 - PRODUCTS

2.01 Materials

- A. Materials shall be in accordance with specifications when the restoration item is covered by a specification. This includes such items as paving and concrete work.
- B. When there is no specification to cover a particular restoration item, materials used shall be the same as the existing or similar if existing material is unavailable.

PART 3 - EXECUTION

3.1 Roadways

- A. Roadways shall be restored in kind unless otherwise specified.
- B. Pavement
 - 1. Unless noted on the drawings or otherwise specified, the Contractor is required to restore only the pavement removed or damaged during construction.
 - 2. The edges of all asphalt and concrete pavements shall be saw-cut to produce a clean, straight, vertical edge for abutting new pavement.
 - 3. Unless otherwise specified, depth of pavement shall equal that existing prior to construction.
- C. Shoulders
 - 1. Unless otherwise noted, the following conditions shall govern shoulders:
 - a. In residential areas where turf is maintained to the edge of the pavement, the shoulders shall be topsoiled and seeded.
 - b. In rural areas or in residential areas where turf is not maintained to the edge of the pavement, gravel shoulders shall be constructed. Unless otherwise noted, gravel shoulders shall have a minimum compacted thickness of 4" and width of 4 feet.

3.2 Driveways

- A. Driveways shall be restored in kind to the width of the existing drive.

- B. Minimum material thickness shall be as follows:
 - 1. Concrete: 6" with 3" compacted gravel.
 - 2. Gravel: 6" compacted thickness.
 - 3. Asphalt:
 - Residential – 2" with 6" compacted gravel.
 - Commercial – 3" with 8" compacted gravel.

3.3 Spur Trails

- A. Spur trails shall be restored in kind to the original width, thickness, and material.

3.4 Sidewalks and Curb & Gutter

- A. Sidewalk
 - 1. Replace to original width.
 - 2. Thickness:
 - a. Standard: 4"
 - b. At drives: 6"
- B. Curb & Gutter
 - 1. Replace to original grade and crosssection.

3.5 Fences and Retaining Walls

- A. Repair any damage and replace at original location.

3.6 Lawns, Grassed Areas, Trees and Shrubbery

- A. Lawns and Grassed Areas
 - 1. Restore in accordance with Section 32 92 19.
- B. Trees
 - 1. Replace trees damaged or destroyed which are located outside of easements or rights-of-ways.
- C. Shrubbery
 - 1. Remove and replant whenever possible.
 - 2. Replace damaged or destroyed shrubbery located outside of easements or right-of-ways.

3.7 Culverts and Ditches

- A. All existing culverts shall be reopened and natural drainage restored. Restore culverts broken or damaged during construction to their original condition, size, and location. The Contractor shall notify Engineer of any previously damaged culverts prior to construction activities or as soon as the damaged condition is known.
- B. Restore all drainage ditches destroyed, damaged or otherwise modified during construction. Ditches so reconstructed shall be built in their original locations and cross section or as otherwise shown on the Drawings.

3.8 Property Corners & Survey Monuments

- A. Restore and/or replace all survey monuments and property corners destroyed, damaged, or disturbed during construction. All work under this section must be completed by a Registered Land Surveyor and must be completed in accordance with applicable state and/or local statutes, codes, and guidelines.

END OF SECTION

SECTION 01 74 19

CONSTRUCTION WASTE MANAGEMENT, DISPOSAL & RECYCLING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Summary
 - 2. Waste Management Goals
 - 3. Construction and / or Demolition Waste Management
 - 4. Waste Management Plan
 - 5. Reuse
 - 6. Recycling
 - 7. Materials Sorting and Storage On Site
 - 8. Lists of Recycling Facilities Processors and Haulers
 - 9. Waste Management Plan Form

- B. Related Sections:
 - 1. Section 01 00 00 - Basic Requirements

1.2 WASTE MANAGEMENT GOALS

- A. Dane County requires that as many waste materials as possible produced as result of this project be salvaged, reused or recycled in order to minimize impact of construction waste on landfills and to minimize expenditure of energy and cost in fabricating new materials. Additional information may be found in Dane County Green Building Policy, Resolution 299, 1999-2000.

1.3 CONSTRUCTION AND / OR DEMOLITION WASTE MANAGEMENT

- A. All construction and demolition waste suitable for recycling may go to Dane County Construction & Demolition Recycling Facility located at 7102 US Hwy 12, Madison, located across from Yahara Hills Golf Course. This facility can receive mixed loads of construction and demolition waste. For complete list of acceptable materials see www.countyofdane.com/pwht/recycle/CD_Recycle.aspx.
- B. Dane County Landfill, also at 7102 US Hwy 12, Madison, must receive all other waste from this project. www.countyofdane.com/pwht/recycle/landfill.aspx.

1.4 WASTE MANAGEMENT PLAN

- A. Contractor shall develop Waste Management Plan (WMP) for this project. Dane County's Special Projects & Materials Manager may be contacted with questions. Outlined in RECYCLING section of this specification are examples of materials that can be recycled or reused as well as recommendations for waste sorting methods.

B. Contractor shall complete WMP and include cost of recycling / reuse in Bid. WMP will be submitted to Public Works Project Manager within fifteen (15) business days of Bid Due date. Copy of blank WMP form is in this Section. Submittal shall include cover letter and WMP form with:

1. Information on:
 - a. Types of waste materials produced as result of work performed on site;
 - b. Estimated quantities of waste produced;
 - c. Identification of materials with potential to be recycled or reused;
 - d. How materials will be recycled or reused;
 - e. On-site storage and separation requirements (on site containers);
 - f. Transportation methods; and
 - g. Destinations.

1.5 REUSE

A. Contractors and subcontractors are encouraged to reuse as many waste materials as possible. Salvage should be investigated for materials not reusable on site.

1.6 RECYCLING

A. These materials may be recycled at Dane County Construction & Demolition Recycling Facility:

1. Wood.
2. Wood Pallets.
3. PVC Plastic (pipe, siding, etc.).
4. Asphalt & Concrete.
5. Bricks & Masonry.
6. Cardboard.
7. Metal.

B. These materials can be recycled elsewhere in Dane County area:

1. Fluorescent Lamps.
2. Barrels & Drums.

C. All materials must be recycled at WDNR permitted waste processing facilities that adhere to all State Statutes.

1.7 MATERIALS SORTING AND STORAGE ON SITE

A. Contractor shall provide separate containers for recyclable materials. Number of containers will be dependent upon project and site conditions.

B. Contractor shall provide on-site locations for subcontractors supplied recycling containers to help facilitate recycling.

C. Mixed loads of recycled materials are allowed only per instructions at www.countyofdane.com/pwht/recycle/CD_Recycle.aspx.

1.8 LISTS OF RECYCLING FACILITIES PROCESSORS AND HAULERS

- A. Refer to www.countyofdane.com/pwht/recycle/CD_Recycle.aspx for information on Dane County Construction & Demolition Recycling Facility.
- B. Web site www.countyofdane.com/pwht/recycle/categories.aspx lists current information for Dane County Recycling Markets. Contractors can also contact Allison Hackner at 608/266-4990, or local city, village, town recycling staff listed at site www.countyofdane.com/pwht/recycle/contacts.aspx. Statewide listings of recycling / reuse markets are available from UW Extension at <https://www.uwgb.edu/shwec/>.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

WASTE MANAGEMENT PLAN FORM



Contractor Name: _____

Address: _____

Phone No.: _____ Recycling Coordinator: _____

MATERIAL	ESTIMATED QUANTITY	DISPOSAL METHOD (CHECK ONE)		RECYCLING / REUSE COMPANY OR DISPOSAL SITE
Salvaged & reused building materials	_____ cu. yds. _____ tons	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Wood	_____ cu. yds. _____ tons	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Wood Pallets	_____ units	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
PVC Plastic	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Asphalt & Concrete	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Bricks & Masonry	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Cardboard	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Metals	_____ cu. yds. _____ tons	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Fluorescent Lamps	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Barrels & Drums	_____ units	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Glass	_____ cu. yds. _____ tons	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Other	_____	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Other	_____	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Other	_____	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Other	_____	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	

SECTION 31 13 00

TREE REMOVAL

PART 1 - GENERAL

1.1 Section Includes

- A. Removal of trees and stumps.

1.2 Related Sections

- A. Section 31 22 00 - Site Preparation and Earthwork.

1.3 Public Utilities

- A. Contact utility companies for location of underground facilities.
- B. Contact utility companies prior to removing trees when overhead lines may be affected by the Work.

PART 2 - PRODUCTS

2.01 Materials

- A. Signs, Barricades, and Fencing: Contractor's option.

PART 3 - EXECUTION

3.1 Tree Removal

- A. Provide signs, barricades, and fencing as necessary to protect pedestrian and vehicular traffic.
- B. Remove trees indicated on the Drawings to be removed or as directed by the Engineer.
- C. Oak removal or pruning requires prior approval by the Owner.

3.2 Stump Removal

- A. Remove stumps by excavation or chipping machine.
- B. Remove stumps to a minimum depth of two feet below subgrade when located below proposed improvements and one foot below finish grade within turf areas.
- C. Backfill in accordance with Section 31 22 00.

3.3 Disposal

- A. Remove all logs, branches, stumps, chips and other debris from the site.

3.4 Measurement

- A. When payment is by the inch diameter, the diameter will be measured 4.5 feet above the ground. The diameter will be 1/3 of the tree circumference.

END OF SECTION

SECTION 31 22 00

SITE PREPARATION AND EARTHWORK

PART 1 - GENERAL

1.1 Section Includes

- A. Clearing site of debris, grass, trees and other plant life in preparation for construction.
- B. Protection of existing structures, trees or vegetation to remain.
- C. Stripping of topsoil from areas to be incorporated into the work.
- D. Excavation, filling and compaction for site grading and paved surface subgrade preparation.

1.2 References

- A. ASTM D 1557 - Standard Test Methods Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m<sup>3- B. ASTM D2487 - Classification of Soils for Engineering Purposes.
- C. ASTM D2922 - Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- D. ASTM D3017 - Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).</sup>

1.3 Submittals

- A. Submit compaction test reports.

PART 2 - PRODUCTS

2.01 Materials

- A. Common Fill: On-site or off-site natural soil free from organic matter, debris, vegetation, stones larger than 6" and frozen material and classified in ASTM D2487 as follows:
 - GW - Well-graded gravels, gravel-sand mixtures, little or no fines.
 - GP - Poorly-graded gravels, gravel-sand mixtures, little or no fines.
 - GM - Silty gravels, gravel-sand-silt mixtures.
 - GC - Clayey gravels, gravel-sand-clay mixtures.
 - SW - Well-graded sands, gravelly sands, little or no fines.
 - SP - Poorly-graded sands, gravelly sands, little or no fines.
 - SM - Silty sands, sand-silt mixture.
 - SC - Clayey sands, sand-clay mixtures.
 - ML - Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
 - CL - Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
- B. Breaker Run: Crushed stone meeting the following gradation:

5-Inch Breaker Run	
Sieve Size	% Passing by Weight
5 inch	90 - 100
1-1/2 inch	20 - 50
No. 10	0 - 10

3-Inch Breaker Run	
Sieve Size	% Passing by Weight
3 inch	90 - 100
1-1/2 inch	60 - 85
3/4 inch	40 - 65
No. 4	15 - 40
No. 10	10 - 30
No. 40	5 - 20
No. 200	2 - 12

- C. Geotextile: A geotextile fabric woven from polyester or polypropylene. The geotextile shall be insect, rodent, mildew, rot, and UV resistant. The geotextile shall have the following minimum requirements:

Geotextile Properties		
Property	Test Method	Requirement*
Grab Tensile Strength, lbs.	ASTM D4632	200
Elongation, %	ASTM D4632	15
Puncture, lbs.	ASTM D4833	120
Trapezoidal Tear, lbs.	ASTM D4533	80

*Minimum average roll value

Mirafi 500X, TenCate Geosynthetics; 80EX, Thrace-LINQ, Inc; Soiltex ST205N, Geo-Synthetics, Inc. or equal.

PART 3 - EXECUTION

3.1 Protection

- A. Locate and identify existing utilities that are to remain and protect them from damage.
- B. Protect trees, plants, structures, site improvements and features designated to remain.
- C. Protect bench marks, property corners and other survey monuments from damage or displacement.

3.2 Clearing

- A. Clear area within the clearing limits shown on the Drawings. If no clearing limits are shown, clear five feet outside of the grading limits, but not beyond project property boundaries.
- B. Remove trees, saplings, shrubs, bushes, vines and undergrowth within the clearing limits to the height above ground as follows:
 1. Trees over six inch diameter; six inches.
 2. Trees, shrubs and bushes under six inch diameter; three inches.
 3. Vines and undergrowth; two inches.

3.3 Grubbing

- A. Remove all stumps, main root balls and root systems to the minimum depths indicated:
 1. Beneath footings: 18 inches.
 2. Beneath paved roads, parking areas and walks: 24 inches below sub-grade.
 3. Beneath turf: 12 inches.
 4. In fill areas: 12 inches.

3.4 Topsoil Excavation

- A. Cut heavy growths of grass from areas to be stripped.
- B. Strip topsoil from all areas to be excavated, regraded or landscaped to a depth that prevents the intermingling of the topsoil with the subsoil.
- C. Topsoil is defined as surficial soil containing organic matter that sustains plant life.

- D. Stockpile the stripped topsoil on the site for reuse. If stockpile location is not shown on the Drawings, coordinate the location with the Engineer.
- E. Provide erosion protection for all stockpiled topsoil.

3.5 Pavement Removal

- A. Remove existing pavement and dispose of off-site. Removal of pavement will be considered incidental to the work unless indicated otherwise.
- B. Provide a straight, clean, vertical saw cut joint between pavement being removed and pavement to remain. Use power saw for cutting. Steel disk cutters mounted on power shovel bucket are not acceptable.

3.6 Lines and Grade

- A. Streets
 1. Construct the finish subgrade to the line, grade, and cross section as shown on the Drawings.
 2. The Engineer will provide grade stakes at a minimum distance of 50 feet along the centerline. Provide Engineer with a minimum of 48 hours notice of the need for grade stakes.
 3. Contractor may use slope meters or GPS type controls on machines for grade control. However, the contractor is responsible for verifying the finish grade elevations with a level at a minimum of every 50 feet along the centerline.
- B. Site Grading
 1. Construct the finish subgrade to contours shown on the Drawings.
 2. The Engineer will provide grade stakes as appropriate for the Work.
 3. Contractor may use slope meters or GPS type controls on machines for grade control. However, the contractor is responsible for verifying the finish grade elevations.

3.7 Grading and Subgrade Preparation

- A. Cut and fill to the required grades and cross section and contours.
- B. Scarify surface of cut areas and compact to the degree required for subsequent backfill.
- C. Place fill material in continuous layers not exceeding 8" compacted thickness.
- D. For proposed streets and parking lots, roll the surface with a steel drum roller to provide a relatively impervious surface where additional filling or excavation is necessary or placement of base course will be delayed.
- E. Maintain surface drainage during construction.
- F. Remove excess material from site. If borrow is needed, provide material meeting requirements of 2.01 for common fill.
- G. Grading contractor shall grade roads and other surfaces to be paved to rough subgrade elevation prior to installation of utilities. After utility installation, the grading contractor shall grade to finish subgrade elevation.
- H. Prior to placement of topsoil, areas that have been compacted by construction traffic shall be scarified to a minimum depth of 12 inches using a chisel plow or ripper arms on a dozer. Scarifying shall be performed along the contour.

3.8 Compaction

- A. Adjust moisture content of fill material to accomplish the required degree of compaction.
- B. Use a sheepsfoot roller for cohesive soils and a smooth drum vibratory roller for granular soils.
- C. Compact to the percent of maximum dry density as listed below in accordance with ASTM D1557.

Compaction Requirements		
Area	Cohesive Soils	Granular Soils
Beneath Turf	85%	85%
Beneath Walks & Curbs	90%	95%
Beneath Paving	90%	95%
Building Pad Area	90%	95%
Storm Water/Treatment Pond Berms	90%	95%

3.9 Proof Rolling

- A. Proof roll the finished pavement subgrade in the presence of the Engineer. Provide 24-hour notice to the Engineer as to when the proof-rolling will be performed.
- B. Prior to proof rolling, the entire roadway subgrade shall have a relatively smooth surface, suitable for observing soil reaction during proof rolling.
- C. Provide a loaded tri-axle dump truck with a minimum gross weight of 30 tons.
- D. Proof rolling shall be accomplished in a series of traverses parallel to the centerline of the street or parking area. The truck shall traverse the length of the street or parking area once for each 12 feet of width. Additional passes may be directed by the Engineer.
- E. Soft areas, yielding areas, cracked areas, or areas where rolling or wave action is observed shall be considered indicative of unsatisfactory subgrade. Such areas shall be undercut, replaced with suitable fill material, and recompact.
- F. Once the subgrade has been proof rolled and approved, protect the soils from becoming saturated, frozen, or adversely affected.

3.10 Subgrade Stabilization

- A. If ordered by the Engineer or if indicated in the Contract Documents, subgrade material that cannot be adequately compacted shall be removed and replaced with breaker run material and/or geotextile.
- B. The depth of the undercut, breaker run size, and/or geotextile requirement will be at the discretion of the Engineer.
- C. Unless otherwise indicated within the contract documents, subgrade stabilization with breaker run material will be paid for by the in-place cubic yard including excavation, furnishing and placement of breaker run material, and disposal of undercut material.

3.11 Geotextile Placement

- A. Clear area of sharp objects, stumps, and large stones that would puncture geotextile.
- B. Roll geotextile onto the subgrade by hand in the longitudinal direction. Overlap adjacent strips two feet.
- C. Back-dump aggregate onto the geotextile beginning at a point just before the fabric and on firm soil. No vehicular traffic will be allowed directly on the geotextile. Spread the aggregate with a bulldozer. The first lift shall be as thick as possible to prevent over-stressing of the subgrade.
- D. Take care during aggregate placement to prevent damage to the geotextile. Repair damages or tears by placing a piece of geotextile over the damaged area. Overlap the repair piece onto the undamaged area a minimum of three feet.
- E. Compaction: Perform initial compaction with bulldozers while spreading. Perform final compaction with a vibratory compactor, first without vibration for several passes, followed with vibration. Do not grade down ruts; fill with additional aggregate and compact.

3.12 Tolerances

- A. Top Surface of Road Subgrade:
 - 1. Rough Grade: Plus or minus 0.25 ft.
 - 2. Finish Subgrade: Plus or minus 0.05 ft.
- B. Top Surface of General Grading: Plus or minus 0.1 ft.

3.13 Field Quality Control

- A. Field inspection will be performed by an authorized representative of the Owner.
- B. Contractor is responsible for meeting the compaction requirements. The Contractor shall hire and pay for an independent testing firm to perform compaction tests to confirm the in-place density.
- C. For general grading, perform one test per 9,000 square yards or part thereof of fill placed per lift. In addition, perform one test per building lot where fill is placed. For streets perform one test per 1,000 square yards or part thereof of fill placed per lift. Engineer or Owner's Representative will direct location of tests.
- D. Additional tests may be required if compaction requirements are not being met. The cost of these additional tests are the responsibility of the Contractor.
- E. Determination of moisture content shall be in accordance with ASTM D3017. Determination of density shall be in accordance with ASTM D2922.

3.14 Disposal

- A. Dispose of all plant material off-site at a location meeting state landfill requirements.
- B. Burning at the site will not be permitted.
- C. Dispose of excess soil materials or unsuitable material off-site unless on-site disposal is indicated, or approved by Owner.

END OF SECTION

SECTION 31 23 00

STRUCTURAL EXCAVATION, BACKFILL, AND COMPACTION

PART 1 - GENERAL

1.1 Section Includes

- A. Excavation for structures.
- B. Backfill and compaction for structures.

1.2 References

- A. ASTM D 1557 - Standard Test Methods Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
- B. ASTM D2487 - Classification of Soils for Engineering Purposes.
- C. ASTM D2922 - Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- D. ASTM D3017 - Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.3 Submittals

- A. None.

PART 2 - PRODUCTS

2.01 Materials

- A. Structural Fill: On-site or off-site natural soil free from organic matter, debris, vegetation, stones larger than 6" and frozen material and described in ASTM D2487 as follows:

- GW - Well-graded gravels, gravel-sand mixtures, little or no fines.
 - GP - Poorly-graded gravels, gravel-sand mixtures, little or no fines.
 - GM - Silty gravels, gravel-sand-silt mixtures.
 - GC - Clayey gravels, gravel-sand-clay mixtures.
 - SW - Well-graded sands, gravelly sands, little or no fines.
 - SP - Poorly-graded sands, gravelly sands, little or no fines.
 - SM - Silty sands, sand-silt mixture.
 - SC - Clayey sands, sand-clay mixtures.

- B. Common Fill: Same as structural fill plus soils classified in ASTM D2487 as follows:

- ML - Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
 - CL - Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.

- C. Sand: Clean, granular material meeting the following gradation:

Sieve Size	Percent Passing by Weight
3/8 Inch	100
No. 4	90 - 100
No. 16	45 - 80
No. 50	10 - 30
No. 100	2 - 10
No. 200	0 - 5

PART 3 - EXECUTION

3.1 Preparation

- A. Identify required lines, elevations and grades.
- B. Protect benchmarks, property corners and grade stakes.
- C. Locate and identify utilities that are to remain and protect them from damage.
- D. Protect plant life, turf, fences, structures and other site improvements from damage.

3.2 Excavation

- A. Excavate structure area to line and grade. Do not excavate below indicated depth except to remove unsuitable material.
- B. Dispose of unsuitable material. Stockpile suitable material for reuse as backfill.
- C. Scarify surface of excavated areas and compact to the degree required for subsequent backfill.
- D. Excavation walls more than five feet in depth shall be shored or cut back to a stable slope. Meet requirements of Department of Labor, Occupational Safety and Health Administration (OSHA).
- E. Provide necessary equipment to remove water from excavation.

3.3 Backfilling and Compaction

- A. Place fill in continuous layers not exceeding 8" compacted thickness.
- B. Maintain optimum moisture content of fill material to accomplish the required degree of compaction.
- C. Do not place frozen material and do not place fill on frozen ground.
- D. Backfill interior and exterior of walls simultaneously.
- E. Do not backfill against walls prior to completion of curing period.
- F. Provide fill material as indicated in the schedule.
- G. Compact to the percent of maximum dry density as listed in the schedule in accordance with ASTM D1557.
- H. Schedule

Area	Fill Material	Percent Compaction
Beneath Floor Slabs		
Top 6 Inches	Sand	95
Below 6 Inches	Structural Fill	95
Foundation Walls		
Interior	Structural Fill	92
Exterior	Structural Fill	92
Walks & Pavement	Structural Fill	95
Beyond 10 Ft. from Structure	Common Fill	85

3.4 Tolerances

- A. Under Paved Areas: Plus or minus 0.1 ft.
- B. Under Slabs-On-Grade: Plus or minus 0.1 ft.
- C. Under Turf: Plus or minus 0.2 ft.

3.5 Field Quality Control

- A. Field inspection will be performed by an authorized representative of the Owner.
- B. Contractor is responsible for meeting the compaction requirements. The Contractor shall hire an independent testing firm to perform compaction tests to confirm the in-place density.
- C. Determination of moisture content shall be in accordance with ASTM D3017. Determination of density shall be in accordance with ASTM D2922.

END OF SECTION

SECTION 31 23 19

DEWATERING

PART 1 - GENERAL

1.01 Section Includes

- A. Provide dewatering for trenching.
- B. Provide dewatering for structural excavation.

PART 2 - PRODUCTS

2.01 Equipment and Materials

- A. Provide all dewatering pumps, wells, well points, discharge pipe and pumping equipment necessary for dewatering.
- B. Provide power for equipment.

PART 3 - EXECUTION

3.1 Codes and Permits

- A. Dewatering equipment shall be installed, operated and abandoned in accordance with local and state codes.
- B. If the dewatering quantity is 70 GPM or greater, the Contractor shall obtain a dewatering well permit from the DNR.

Wisconsin Department of Natural Resources
Bureau of Drinking Water and Groundwater
P.O. Box 7921
Madison, WI 53707-7921
608-266-0821
<http://dnr.wi.gov/topic/DrinkingWater/>

3.2 Water Levels

- A. Water levels shall be maintained at a level below the bottom of all trenches and excavation.
- B. Water levels shall be maintained below the level of concrete for the following periods:
 - 1. Until concrete has been in place for 14 days or until test cylinders show a strength of 3000 psi.
 - 2. Until high-early-strength concrete has been in place 6 days or until test cylinders show a strength of 3000 psi.
- C. If water levels rise uniformly on both sides of a wall, the water level will be allowed to rise before the concrete has attained its strength.

3.3 Disposal of Water

- A. Water shall be disposed of in a suitable manner without damage to adjacent property or utilities.
- B. When routing water onto private property, permission shall be obtained from the Owner.

3.4 Flooding of Structure

- A. Pumps, motors, electrical equipment and other equipment shall be kept dry until the work is accepted by the Owner.
- B. If, at any time prior to acceptance, the pumps, motors, electrical equipment and other vulnerable

equipment is submerged, the Contractor shall have them checked out by a manufacturer's representative at the Contractor's cost. All damage shall be repaired or the equipment replaced at the Contractor's cost. A letter from the manufacturer's representative stating the equipment is in "like new" condition shall be sent to the Engineer for all repaired equipment.

END OF SECTION

SECTION 31 23 33

UTILITY EXCAVATION, BACKFILLING AND COMPACTION

PART 1 – GENERAL

1.1 Section Includes

- A. Excavation of trenches for below grade piping and conduit.
- B. Backfilling and compaction.

1.2 References

- A. ASTM C136 - Method for Sieve Analysis of Fine and Coarse Aggregate.
- B. ASTM D1557 - Standard Test Methods Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
- C. ASTM D2487 - Classification of Soils for Engineering Purposes.

1.3 Submittals

- A. Submit 50 lb. sample of off-site backfill materials.
- B. Submit gradation of select granular backfill.

PART 2 – PRODUCTS

2.01 Materials

- A. Crushed Stone: Hard, durable particles of crushed stone or gravel substantially free from shale or lumps of clay or loam meeting the following gradation:

Crushed Stone Gradation	
Sieve Size	% Passing By Weight
2 Inch	100
1-1/2 Inch	90 - 100
1 Inch	35 - 70
3/4 Inch	0 - 15
1/2 Inch	0 - 5

- B. Trench Backfill: Natural soils, free of organic matter, trash, deleterious materials, stones larger than eight inches and frozen material and classified in ASTM D2487 as follows:

GW - Well-graded gravels, gravel-sand mixtures, little or no fines.
GP - Poorly-graded gravels, gravel-sand mixtures, little or no fines.
GM - Silty gravels, gravel-sand-silt mixtures.
GC - Clayey gravels, gravel-sand-clay mixtures.
SW - Well-graded sands, gravelly sands, little or no fines.
SP - Poorly-graded sands, gravelly sands, little or no fines.
SM - Silty sands, sand-silt mixture.
SC - Clayey sands, sand-clay mixtures.
ML - Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
CL - Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.

Soils classified in ASTM D2487 as follows are not acceptable:

OL - Organic silts and organic silty clays of low plasticity.
MH - Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
CH - Inorganic clays of high plasticity, fat clays.

OH - Organic clays of medium to high plasticity, organic silts.
 Pt - Peat and other highly organic soils.

- C. Select Granular Backfill: Durable particles ranging from fine to coarse in a substantially uniform combination. Sufficient fine material shall be present to fill all the voids of the coarse material. Some fine clay or loam particles are desirable, but they shall not be present in the form of lumps. Granular backfill shall conform to the following gradation:

Granular Backfill Gradation	
Sieve Size	% Passing By Weight
3 Inch	100
2 Inch	95 - 100
No. 4	35 - 60
Finer than No. 200	5 - 15

- D. Bedding: See individual specification sections.

PART 3 – EXECUTION

3.1 Examination

- A. Verify fill materials to be used are acceptable.

3.2 Preparation

- A. Identify required lines, levels, contours, and datum.
- B. Maintain and protect existing utilities remaining which pass through work area.
- C. Protect plant life, lawns, and other features remaining as a portion of the final landscaping.
- D. Protect benchmarks and existing features from excavation equipment and vehicular traffic.
- E. Protect above and below grade utilities which are to remain.
- F. Strip topsoil and stockpile on-site for reuse.
- G. When excavating across or within existing pavement, saw cut in neat, straight, vertical lines.

3.3 Minor Trench Water

- A. Do not allow water to accumulate in the trench.
- B. Provide all equipment needed to accomplish the Work. Unless indicated otherwise, no additional compensation will be made for removing trench water.
- C. No additional compensation will be made for crushed stone used for trench drainage.
- D. Dispose of water in a suitable manner, and in accordance with regulations of the Wisconsin Department of Natural Resources, without damage to property.

3.4 Excavation

- A. Excavate subsoil to required depth and grade.
- B. Cut trenches sufficiently wide to enable installation of the utilities and allow inspection. Normal trench width below the top of the pipe shall be the nominal pipe diameter plus 24 inches.
- C. Do not undercut trench walls.
- D. Trench walls more than five feet in depth shall be shored, cut back to stable slope or provided with equivalent means of protection in accordance with the applicable rules of the Department of Labor, Occupational Safety and Health Administration (OSHA). Provide a ladder for trench exit in trenches

over four feet deep.

- E. Excess excavation below the required level shall be backfilled with crushed stone at the Contractor's expense.
- F. If the trench bottom is unstable due to soil material or groundwater conditions, an additional 3 inches shall be excavated and backfilled with crushed stone as specified in Part 2. There will be no extra payment for the additional excavation and stone. If it is necessary to excavate to a greater depth to provide a stable trench, the Contractor will be paid for the additional excavation and stone, if the extra excavation was ordered by the Engineer or approved by the Engineer prior to the work being performed.
- G. Remove ledge rock, boulders or large stones to provide a minimum clearance of 6 inches between the pipe and the rock. See Section on Rock Excavation, if included.
- H. Not more than 100 feet of trench shall be open ahead or behind the pipe laying. Additional trenching will not be allowed if earlier trenches have not been backfilled or if the trench surfaces are unsatisfactory.
- I. Utility contractor is responsible for the disposition of excess material resulting from the utility construction. Stockpile excess excavated material in areas designated on the Drawings. If stockpile areas are not designated on the Drawings, dispose of the material offsite.

3.5 Backfilling

- A. Backfill trenches with excavated material meeting the requirements for backfill specified in Part 2 above. Use select granular backfill only when indicated on the Drawings or elsewhere in the Project Manual.
- B. Backfill trenches to the rough subgrade elevation, plus or minus 0.25 ft.
- C. Place material in continuous layers not exceeding 8 inches compacted thickness. Compact each layer to the percent of maximum dry density as listed below in accordance with ASTM D1557.
- D. Compaction Requirements: Meet the following compaction requirements:

Compaction Requirements		
Area	Cohesive Soil	Granular Soil
Beneath Turf	85%	85%
Beneath Structures	90%	95%
Beneath Paving	90%	95%

- E. Maintain moisture content of backfill materials to attain required compaction density.

3.6 Restoration

- A. Remove excess excavation immediately after completion of backfilling.
- B. If site restoration is required, commence immediately after backfilling is completed.
- C. Maintain roadways in a driveable condition, acceptable to the Engineer, prior to pavement restoration.

3.7 Field Quality Control

- A. Field inspection will be performed by an authorized representative of the Owner.
- B. Contractor is responsible for meeting the compaction requirements. The Contractor shall hire an independent testing firm to perform compaction tests to confirm the in-place density.
- C. Testing Requirements: Four tests at various depths per 400 feet of trench. Engineer or Owner's Representative will direct the location of the tests.
- D. Additional tests may be required if compaction requirements are not being met. The cost of these

additional tests are the responsibility of the Contractor.

- E. Determination of moisture content shall be in accordance with ASTM D3017. Determination of density shall be in accordance with ASTM D2922.

END OF SECTION

SECTION 31 25 00

CONSTRUCTION SITE EROSION CONTROL

PART 1 - GENERAL

1.1 Section Includes

- A. Furnishing, installing, maintaining, and removing erosion and sediment control facilities and measures.
- B. The contractor is responsible for providing all erosion control facilities and measures necessary to control erosion and sedimentation at the work site. These facilities and measures may or may not be shown on the Drawings and their absence on the Drawings does not alleviate the contractor from providing them. Any measures and facilities shown on the Drawings are the minimum actions required.

1.2 General

- A. Use surface water and erosion control facilities and measures throughout the duration of the construction activity to control the movement of surface water and to reduce the potential for erosion. Maintain the facilities and measures until permanent vegetation is established.
- B. Eroded soil material shall not be allowed to leave the construction site or to enter a waterway, lake, or wetland.
- C. The Contractor shall be responsible for furnishing, installing, and maintaining the erosion control facilities, and in general, shall use construction practices that minimize erosion.
- D. Eroded material that has left the construction site shall be collected and returned to the site by the Contractor.
- E. Prevent construction site tracking with graveled roads, access drives, and parking areas of sufficient width and length to prevent sediment from being tracked onto public and private roadways. Any sediment reaching a public or private road shall be removed by street cleaning (not flushing) before the end of each workday.

1.3 Sequencing and Scheduling

- A. Construct and stabilize erosion control measures prior to any grading or disturbance of the construction site.
- B. Turf areas that have been completed to finish grade shall be stabilized with permanent seeding within seven days. Turf areas where activity has ceased and that will remain exposed for more than 20 days before activity resumes and soil stockpiles shall be stabilized with temporary seeding or soil stabilizer.
- C. Other erosion control measures shall be in place prior to disturbance of the construction site, as applicable.

PART 2 - PRODUCTS

2.1 Temporary Seed

- A. Areas needing protection during periods when permanent seeding is not applied shall be seeded with annual species for temporary protection. Provide species as follows:

Species	% Purity
Oats	98
Cereal Rye	97
Winter Wheat	95
Annual Ryegrass	97

- B. Provide oats for spring and summer. Provide cereal rye, winter wheat, or annual ryegrass for fall seeding.

PART 3 - EXECUTION

3.1 Temporary Seeding

- A. Provide a seedbed of loose soil to a minimum depth of 2 inches.
- B. Apply seed evenly at the rate shown in the following table. Rake or drag to cover the seed to a depth of 1/4 inch.

Species	Lbs./Acre
Oats	131
Cereal Rye	131
Winter Wheat	131
Annual Ryegrass	80

3.2 Maintenance

- A. Inspect all seed and mulch within 24 hours after each rainfall or daily during periods of prolonged rainfall. Additional mulch, shall be applied immediately when necessary to maintain suitable coverage. Make inspections until vegetative cover is established. Water seeding when necessary to promote establishment.
- B. All other soil erosion control measures should be inspected and repaired immediately, if required, within 24 hours after storm event or daily during periods of prolonged rainfall.

3.3 Removal

- A. After final vegetation is established remove erosion control facilities. Restore areas disturbed by the removals.

END OF SECTION

SECTION 31 37 16

RIPRAP

PART I - GENERAL

1.1 Section Includes

- A. Furnishing and placing of stone riprap.
- B. Geotextile.

1.2 References

- A. ASTM D4632 - Test Method for Grab Breaking Load and Elongation of Geotextiles.
- B. ASTM D4751 - Test Method for Determining Apparent Opening Size of a Geotextile.
- C. ASTM D4833 - Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products.
- D. State of Wisconsin Standard Specifications for Highway and Structure Construction, Current Edition (WisDOT).

1.3 Submittals

- A. Submit gradation for each riprap size to be used for the Work.

PART 2 - PRODUCTS

2.01 Materials

- A. Riprap: Durable field stone or quarry stone, sound, hard and free from seams or cracks. Stones shall be generally round or cubiform in shape with a weight of approximately 165 lbs/cf. Slabby or elongated pieces having a width or thickness less than one-third the length shall not exceed ten percent of the total. The riprap shall conform to the following gradations:

Gradation - Diameter in Inches				
Class	D _{Max}	D ₅₀	D _{Min}	WIDOT Equiv. Riprap
1	6	3	2	- - -
2	12	6	3	Light
3	18	9	5	Heavy
4	24	12	7	Extra Heavy

- B. Geotextile: A nonwoven fabric consisting of polypropylene, polyethylene, or polyamide. Fabric shall be resistant to insects, rodents, mildew and rot, and protected from UV degradation. Fabric shall meet the following minimum values:

Geotextile Requirements			
Property	Test Method	Requirements*	
		Riprap Class 1 & 2	Riprap Class 3 & 4
Grab tensile strength, lbs. min.	ASTM D4632	205	300
Elongation, percent min.	ASTM D4632	50	50
Puncture strength, lbs	ASTM D4833	500	800
Max. Apparent opening size, US Sieve	ASTM D 4751	No. 80	No. 100

*Typical or average values

PART 3 - EXECUTION

3.1 Geotextile Placement

- A. Provide geotextile as required for the class of riprap to be installed.
- B. Remove stones or sharp objects from the subgrade that could damage the geotextile.
- C. Unroll geotextile directly on the prepared surface.
- D. Overlap adjacent sides and ends a minimum of two feet.
- E. Toe-in geotextile at top and bottom of slope.

3.2 Riprap Placement

- A. Use riprap class indicated on Drawings.
- B. Place riprap from bottom to top.
- C. Provide a uniform distribution of the various size stones to produce a well-keyed mass.
- D. Place to the depth indicated on the Drawings.
- E. Do not drop stones from a height greater than one foot.

END OF SECTION

SECTION 32 11 23

CRUSHED AGGREGATE BASE COURSE

PART 1 - GENERAL

1.1 Section Includes

- A. Furnishing and placing crushed aggregate base course as a foundation for asphaltic concrete pavement or Portland cement concrete pavement.

1.2 References

- A. ASTM C136 - Sieve Analysis of Fine and Coarse Aggregate.
- B. ASTM D1557 - Standard Test Methods Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
- C. Wisconsin Department of Transportation, Standard Specifications for Highway and Structure Construction, Current Edition (WisDOT).

1.3 Submittals

- A. Submit aggregate gradation; ASTM C136.
- B. Submit truck weight slips. Include as a minimum, truck number, date, time, gross weight, tare weight and net weight.

PART 2 - PRODUCTS

2.1 Crushed Aggregate

- A. Meet material requirements of WisDOT.
- B. Gradation
1. Except for reclaimed asphaltic pavement, conform to the gradations listed in the following table:

Sieve Size	Percentage Passing By Weight		
	3-Inch Base	1 1/4-Inch Base	3/4-Inch Base
3-Inch	90 - 100	---	---
1 1/2-Inch	60 - 85	---	---
1 1/4-Inch	---	95 - 100	---
1-Inch	---	---	100
3/4-Inch	40 - 65	70 - 93	95 - 100
3/8-Inch	---	42 - 80	50 - 90
No. 4	15 - 40	25 - 63	35 - 70
No. 10	10 - 30	16 - 48	15 - 55
No. 40	5 - 20	8 - 28	10 - 35
No. 200	2 - 12	2 - 12 ^{a, c}	5 - 15 ^b

- a. Limited to a maximum of 8 percent in base course placed between new and old pavement.
 - b. 8 - 15 percent passing when base is \geq 50% crushed gravel.
 - c. 4 - 10 percent passing when base is \geq 50% crushed gravel.
2. Use 1 1/4-Inch Base in top 4 or more inches of base. Use 3-Inch Base or 1 1/4-Inch Base in the lower base layers.
 3. Use 3/4-Inch Base in the top 3 inches of unpaved portion of the shoulder. Also, if using 3-Inch Base in the lower base layers, use 3/4-Inch Base in the top 3 inches of the shoulder foreslopes. Use 3/4-Inch Base or 1 1/4-Inch Base elsewhere in shoulders.

2.2 Reclaimed Asphaltic Pavement

- A. If Contract Documents allow reclaimed asphaltic pavement, the material shall conform to the following:
 - 100 percent passing a 1 1/4-inch sieve.
 - 75 percent or less passing a No. 4 sieve.
 - Asphalt content between 3 and 6.5 percent.

PART 3 - EXECUTION

3.1 Preparation

- A. Check subgrade for conformity with grade and cross section.
- B. Remove depressions and ruts that may have been caused after subgrade completion.
- C. Proof-roll subgrade prior to placing aggregate with a loaded tandem-axle dump truck under the observance of the Engineer. Subgrade shall not rut or displace significantly under the weight of the loaded truck. Soft or unstable areas that cannot be improved by additional compaction shall be undercut, replaced with suitable fill material, and recompacted.

3.2 Lines and Grade

- A. Construct the base course to the line, grade and cross section as shown on the Drawings or as directed by the Engineer.
- B. For streets without curb and gutter, the Engineer will provide grade stakes at a minimum distance of 50 feet along the centerline. For streets with curb and gutter, the Engineer will stake the curb and gutter and will provide centerline cuts and fills from the curb stakes. Provide Engineer with a minimum of 48 hours notice of the need for grade stakes.
- C. Contractor may use slope meters or GPS type controls on machines for grade control. However, the contractor is responsible for verifying the finish grade elevations with a level at a minimum of every 50 feet along the centerline.

3.3 Equipment

- A. The weight, type, capacity and method of operation of all hauling and spreading equipment shall be appropriate for the work and shall not damage the subgrade or previously laid base course. Spreading equipment shall be designed and operated to spread the material in uniform layers without significant segregation.
- B. Motor graders used for mixing and shaping shall have weight, rigidity and design suitable for the work.
- C. Compaction equipment shall be of the rolling type, vibratory type or combination thereof. Tamping rollers shall exert a weight of not less than 150 pounds per square inch of tamping surface on each tamping foot in a transverse row. Pneumatic-tire rollers or other equipment shall have a weight of not less than 150 pounds per linear inch of overall rolling width.

3.4 Placing Base Course

- A. Place material in a manner to minimize segregation and to facilitate spreading in a uniform layer.
- B. Place material in maximum 6-inch thick compacted layers. If material is placed in more than one layer, each layer shall be approximately the same thickness.
- C. Compact each layer to 95 percent of the maximum dry density in accordance with ASTM D1557. If material is deficient in moisture content for readily attaining the required density, moisten the material as necessary.
- D. All material placed on the subgrade or previous layer shall be spread, shaped and compacted on the same day.

3.5 Tolerances

- A. Smoothness: Maximum variation of 3/8 inch when measured with a 10-foot straight edge.
- B. Compacted Thickness: Plus or minus 1/4 inch.

3.6 Proof Rolling

- A. Proof roll the completed base course with a loaded tri-axle dump truck with a minimum gross weight of 30 tons. The surface shall not rut, displace, or roll under the weight of the loaded truck. Soft or unstable areas that cannot be improved by additional compaction shall be replaced and recompacted. Proof rolling shall be done in the presence of the Engineer.

3.7 Field Quality Control

- A. Contractor is responsible for meeting the compaction requirements. The Engineer or authorized representative of the owner has the option to require the Contractor to hire an independent testing firm, at the Contractor's expense, to perform compaction tests to confirm the in-place density.
- B. Field inspection will be performed by the Engineer or an authorized representative of the Owner.
- C. Determination of moisture content shall be in accordance with ASTM D3017. Determination of density shall be in accordance with ASTM D2922.
- D. If tests indicate the work does not meet the specified requirements, remove and replace the work.

END OF SECTION

SECTION 32 11 26.20
MILLING ASPHALTIC PAVEMENT

PART 1 - GENERAL

1.1 Section Includes

- A. Removal of asphaltic pavement by milling.

1.2 References

- A. State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, Current Edition (WisDOT).

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.1 General

- A. Milling Machine: A self-propelled machine designed and constructed for milling pavements.
- B. Mill to the extent that 97 percent or more will pass the 2-inch sieve.

3.2 Full-Depth Milling

- A. Remove existing asphaltic pavement full-depth without incorporating or damaging the underlying materials.
- B. The Engineer may suspend the work if excessive quantities of underlying material are included in the removal.

3.3 Partial-Depth Milling

- A. Mill existing asphaltic surface to the depth indicated on the Drawings.
- B. Provide a uniform milled surface that is reasonably plane, free of excessively large scarification marks, and has the grade and transverse slope indicated on the Drawings. Do not damage the underlying pavement.
- C. The milling machine shall include depth, grade, and slope controls. The drum shall be shrouded to prevent discharging material into adjacent work areas or live traffic lanes. Provide a dust control system.
- D. Maintain one lane of traffic at all times during working hours.
- E. Unless using a continuous removal and pick-up operation, do not windrow or store material on the roadway. Clear the roadway of all equipment and materials during non-working hours.
- F. Grade shoulders adjacent to milled areas by the end of each day to provide positive drainage of the pavement.
- G. Do not have abrupt longitudinal differences of two inches or more between lanes during non-working hours.
- H. The Engineer may waive one or more of these requirements if the roadway is closed to traffic or if the operation does not endanger traffic.

3.4 Stockpiling

- A. Stockpile the material at the location shown on the drawings or as indicated by the Owner.
- B. Stockpile the salvaged asphaltic material to minimize compaction, segregation, and contamination.

END OF SECTION

SECTION 32 11 26.22

PULVERIZED AND RE-LAID PAVEMENT

PART 1 - GENERAL

1.1 Section Includes

- A. In-place pulverizing of asphaltic pavement along with the underlying base and relaying the pulverized material to construct a new base.

1.2 References

- A. State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, Current Edition (WisDOT).

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.1 General

- A. Milling Machine: A self-propelled machine designed and constructed for milling pavements.
- B. Perform each day's mill and relay operations to avoid leaving abrupt longitudinal differences between adjacent lanes.
- C. Repair surface damage caused by intervening construction or public traffic, immediately before paving.

3.2 Construction

- A. Pulverize the full depth of the existing asphaltic pavement until 97 percent or more will pass the 2-inch sieve. Also pulverize the existing base and mix with the pulverized asphaltic pavement.
- B. Windrow material as construction operations dictate.
- C. Immediately after milling, relay the material with a paver, or grader.
- D. Match the lines, grades, and cross slopes shown on the drawings. Eliminate localized bumps, depressions, and ruts.
- E. Immediately after relaying, compact the material first with a rubber tired roller or a vibratory padfoot roller and second with a vibratory steel roller. Add water as required during the compacting operation. Compact each layer to the extent required for standard compaction in accordance with WIDOT 301.3.
- F. Compaction Equipment:
 - 1. Compacted lift 6 inches or less: Use equipment specified in WIDOT 301.3.1.
 - 2. Compacted lift from 6 inches to 8 inches: Use 12.5 ton or heavier vibratory padfoot roller and an 8 ton or heavier vibratory steel roller.
 - 3. Compacted lift greater than 8 inches, split into lifts less than 8 inches and use equipment as specified above.

END OF SECTION

SECTION 32 12 16

ASPHALTIC CONCRETE PAVEMENT

PART 1 GENERAL

1.01 APPLICABLE PROVISIONS

- A. Applicable provisions of Division 01 shall govern the work of this section.

1.02 APPLICABLE PUBLICATIONS

- A. The following publications of the issues listed below, but referred to thereafter by basic designation only, form a part of this specification to the extent indicated by the reference thereto.
 - 1. State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, Current Edition at time of bid opening.

1.03 DESCRIPTION OF WORK

- A. The work under this section includes all materials, equipment, supervision, and labor necessary to construct a plant-mixed asphaltic concrete pavement on the prepared foundation of base course or existing surface, as indicated on the contract drawings and specified herein.
- B. All work shall conform to the requirements specified in the State of Wisconsin, Department of Transportation, Standard Specifications for the particular class, type and grade of material specified.

1.04 RELATED WORK ELSEWHERE

- A. Procurement and Contracting Requirements - Division 00 (All Sections)
- B. Submittals - Division 01
- C. Subgrade Preparation - Division 31
- D. Aggregate Base Course - Division 32
- E. Asphaltic Tack Coat - Division 32

1.05 SUBMITTALS

- A. Contractor shall submit such product literature and catalog cuts of materials to be supplied to relate these materials to the specifications. Information shall be in conformance with requirements of Submittals - Division 01 of these specifications.
- B. Job Mix Formula. Contractor shall submit a Wisconsin Department of Transportation approved Job Mix Formula for the asphaltic mixture to be used to the Engineer prior to paving. If requested, the Contractor shall submit a history of recent testing results.

1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS(NONE)

PART 2 PRODUCTS AND MATERIALS

2.01 GENERAL

- A. All materials shall conform to the requirements of the State of Wisconsin, Department of Transportation, Standard Specifications, unless specified otherwise herein or in Special Procedures - Division 01.
- B. Asphaltic concrete pavement shall be Asphaltic Concrete Pavement, Classification LT, unless indicated otherwise in the Bid Schedule or Special Procedures - Division 01.
- C. Asphaltic concrete pavement shall meet the requirements in ASP-6, effective December 2016, for asphalt pavement void reduction per Sec 460.2.1 General. Asphalt pavement shall also meet the densities in ASP-6, Sec 460.3.3.1 Minimum Required Density.

2.02 ASPHALTIC MATERIAL

- A. Asphaltic Concrete Pavement shall be of WisDOT Classification 4 LT 58-28 S with ASP-6 Void Reduction per Sec. 460.2.1 of WisDOT Standard Specifications effective December 2016. The Contractor shall place a compacted 3-inch thick layer of asphaltic surface course throughout the corridor as specified in the contract documents. The asphalt shall be placed in accordance with Asphaltic Concrete Pavement – Division 32.
- B. Items from the State of Wisconsin, Department of Transportation, Standard Specifications excluded from this specification section include:
 - 1. Ride Quality Requirements and Testing (Section 440).
 - 2. PG Asphalt Binder and Tack Coat Sampling and Testing (Sections 455.2.2 and 455.2.3).
 - 3. Safety Edge (Section 450.3.2.11)

PART 3 CONSTRUCTION METHODS

3.01 GENERAL

- A. All work shall conform to the requirements specified in the State of Wisconsin, Department of Transportation, Standard Specifications for the particular class, type and grade of material specified, unless specified otherwise herein or in Special Procedures - Division 01.

3.02 SAWCUTTING

- A. All existing asphaltic concrete pavement removals, including driveway removals, shall be saw cut to the limits designated as pavement removal on the contract drawings or to the limits staked by the Engineer in the field. Typically, all pavement sawcuts shall be parallel or perpendicular to the centerline of the roadway.
- B. The Contractor shall provide a one-time sawcut to the existing pavement at joint locations. The sawcut shall be square to the existing pavement and straight.
- C. If the pavement beyond the sawcut is damaged by the Contractor or construction equipment during the project and prior to paving, the additional area shall be sawcut by the contractor as incidental to the original sawcut.

- D. The Contractor shall remove all the asphaltic material necessary to provide a straight line cut in the existing pavement and the removal shall be incidental to the pavement sawcutting cost.

3.03 CONSTRUCTION LAYOUT

- A. The Contractor shall layout the pavement edges based on the existing base course to provide a 10-foot wide trail and the dimensions shown on the parking lot. The Owner will review the layout prior to pavement. The layout may be done with spray paint, flagging, or other means as desired by the Contractor that can be viewed in the field by the Owner. The Contractor shall provide a 48-hour notice to the Owner as to when the layout is planned so that the Owner can review the layout and paving can commence as planned by the Contractor.
- B. If the base area is determined to not be wide enough to meet the desired plan widths, the Contractor shall notify the Owner immediately so that the area can be reviewed and a plan set forth moving forward determining any additional work.

3.04 PREPARATION

- A. Weeds shall be removed on all streets to be resurfaced prior to the application of the tack coat or construction of asphaltic concrete pavement. Prior to the application of the tack coat or construction of asphaltic concrete, the surface of the prepared foundation shall be cleaned by brooming all dust, dirt, debris or other foreign or loose material.
- B. Apply tack coat as specified in Asphaltic Tack Coat - Division 32 to existing pavement and each layer of a plant-mixed asphaltic base or pavement that will be overlaid with asphaltic mixture.
- C. The Contractor shall perform all final shaping and grading of aggregate bases necessary to produce the required roadway cross sectional contour. All valve boxes, manhole frames, and other utility appurtenances shall be adjusted to the final grade prior to the placement of the upper layer of asphalt.

3.05 PLACEMENT

- A. Asphaltic concrete pavements shall be placed in reasonable conformity with the thickness shown on the contract drawings, Bid Schedule, or specified in Special Procedures - Division 01.
- B. The following thickness limits shall apply unless specified otherwise:

ASPHALT MIX GRADATION (Nmas)	NOMINAL AGGREGATE SIZE (inches)	MINIMUM LAYER THICKNESS (inches)	MAXIMUM LOWER LAYER (inches)	MAXIMUM UPPER LAYER (inches)
1	1.5	3.5	5	4.5
2	1.0	3.25	5	4
3	3/4	2.25	4	3
4	1/2	1.75	3	2.5
5	3/8	1.5	3	2

3.06 COMPACTION

- A. Compaction methods and requirements shall conform to Sections 450.3.2.6 and 460.3.3 of the State of Wisconsin, Department of Transportation, Standard Specifications.
- B. The Contractor shall perform field pavement density tests on projects requiring over 1000 tons of asphaltic mixture. Tests shall be performed to determine the necessary compaction methods to achieve the required minimum density. The Contractor shall not operate below the specified minimum density on a continuing basis.
- C. Additional tests shall be performed as directed by the Engineer for varying paving conditions, such as different weather conditions, base conditions, job mix, layer thickness, and construction methods.
- D. Documentation of all testing shall be provided to the Engineer.

3.07 QUALITY CONTROL

- A. The Contractor shall provide and maintain a quality control program.
- B. If requested by the Owner or Engineer, submit samples and sampling data of all proposed materials for test and analysis.

PART 4 MEASUREMENT AND PAYMENT

4.01 GENERAL

- A. Asphaltic concrete pavement shall be paid for at the bid price in accordance with one of the following methods, unless indicated otherwise in the Bid Schedule.
- B. All work specified herein shall be considered in each of the measurement and payment method(s) stipulated, unless indicated otherwise in the Bid Schedule.

4.02 ASPHALTIC CONCRETE PAVEMENT, 3-INCH

- A. Asphaltic Concrete Pavement, 3-Inch Ton. Measurement shall be per ton of asphaltic binder course and surface course compacted in place. The Contractor shall supply the Engineer with load tickets to verify the amount of material used. Payment shall be made at the contract unit price bid per ton for asphaltic concrete pavement installed.

4.03 SAWCUTTING

- A. Sawcutting, LF. Measurement shall be per lineal foot of sawcut. Payment shall be made at the contract unit price bid per lineal foot of sawcut.

4.04 CONSTRUCTION LAYOUT

- A. Construction Layout, LS. Measurement shall be per lump sum of construction layout. Payment shall be made at the contract unit price per lump sum for all material to provide the layout of the widths and dimensions in the plans over the prepared base course.

END OF SECTION

SECTION 32 92 19

SOIL PREPARATION AND SEEDING

PART 1 - GENERAL

1.1 Section Includes

- A. Preparation of subsoil.
- B. Placing topsoil.
- C. Fertilizer.
- D. Seeding.
- E. Mulching.

1.2 Quality Assurance

- A. Comply with requirements of state regulations regarding grass seed.
- B. Seed
 - 1. Provide seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging and location of packaging. Containers or packages shall be new and unopened.
 - 2. Seed shall not be used later than one year later than the test date appearing on the label.
 - 3. Sampling and testing of seed for purity, germination and weed seed content shall be in accordance with "Rules for Testing Seed" published by the Association of Official Seed Analysts.

1.3 Submittals

- A. Submit composition of seed mixture.
- B. Submit, upon request, manufacturer's certification that materials meet specification requirements.
- C. Submit, upon request, results of seed purity and germination tests.
- D. Submit topsoil test results for all topsoil borrow.

PART 2 - PRODUCTS

2.1 Topsoil

- A. Provide reclaimed topsoil from the site unless the contract documents require topsoil borrow.
- B. Reclaimed Topsoil: Topsoil stripped from the site consisting of loam, sandy loam, silt loam, or silty-clay loam, or clay loam, humus-bearing soil, adapted to sustaining plant life. The soil shall be free of subsoil, foreign matter, plant material, objects larger than one inch in any dimension, and toxic or other substances harmful to plant growth.
- C. Topsoil Borrow: Topsoil from offsite consisting of natural loam, sandy loam, silt loam, or silty-clay loam, or clay loam, humus-bearing soil, adapted to sustaining plant life. The soil shall be free of subsoil, foreign matter, plant material, objects larger than one inch in any dimension, and toxic or other substances harmful to plant growth. The soil shall have a pH range of 5.5 to 8.0 and a maximum soluble salt level of 500 PPM. Topsoil originating from agricultural fields shall be free of

residual herbicide and other contaminants.

2.2 Seed

- A. Seed mixtures shall be Madison Parks , or approved equal.

2.3 Mulch Materials

- A. Hay: Straw or hay in air-dry condition substantially free from noxious weed seeds or objectionable foreign matter.
- B. Paper Fiber: Mulch consisting of recycled newsprint fibers, wetting agent, deforming agent and green dye with a dry moisture content of 9 to 15 percent.
- C. Wood Cellulose: Wood cellulose fibers manufactured from virgin wood fibers that form a blotter-like ground cover that readily absorbs water and allows infiltration to the underlying soil. Moisture content shall not exceed 15 percent at the time of delivery. The mulch shall be dyed green and shall have the property of becoming dispersed and suspended when agitated in water.
- D. Erosion Control Revegetative Mat: A light duty, organic, non-netted mat with a minimum thickness of 3/8 inch and biodegradable yarn or glue on 12 inch maximum centers in the longitudinal direction. The mat shall be capable of withstanding moderate foot traffic without tearing or puncturing. Acceptable products are those listed in the Wisconsin Department of Transportation, Erosion Control Product Acceptability Lists for Class I, Type Urban mats. Anchoring devices shall be biodegradable, non-splintering and shall last for at least two months and shall substantially degrade in four months.

2.4 Tackifiers

- A. Latex-Base: A latex emulsion polymer with a composition by weight of 48 percent styrene, 50 percent butadiene and 2 percent additive; 42 to 46 percent solids; and a pH of 8.5 to 10.
- B. Guar Gum: Guar gum tackifiers consisting of a minimum of 95 percent Guar gum by weight with the remaining consisting of dispersing and cross-linking additives.
- C. Other: Water soluble natural vegetable gums or guar gums blended with gelling and hardening agents or a water soluble blend of hydrophilic polymers, viscosifiers, sticking aids and other gums.

PART 3 - EXECUTION

3.1 Inspection

- A. Examine area to receive soil preparation to ensure subsoil is ready for finish grading.
- B. Do not proceed with soil preparation until unsatisfactory conditions are corrected.

3.2 Preparation of Subsoil

- A. Eliminate uneven areas or low spots. Make changes in gradual and blend slopes into level areas.
- B. Do not prepare or place frozen soils or soils with excessive moisture.
- C. Remove weeds, roots, trash, debris, concrete, asphalt, crushed aggregate, and any stones larger than two inches in any dimension.
- D. Scarify subsoil to a depth of three inches.

3.3 Placing of Topsoil

- A. Spread topsoil evenly to a compacted depth of four inches.
- B. Place during dry weather.
- C. Grade to eliminate rough or low areas and to ensure positive drainage. Grading shall be approved by the Engineer.
- D. Remove stones and other objects larger than one inch in any dimension.

3.4 Seeding

- A. Do not sow seed on frozen soil or when wind exceeds 5 MPH.
- B. Do not use wet seed or seed that is moldy or otherwise damaged in transit or storage.
- C. Seeding Dates:
 - 1. Spring/Summer: April 1 to August 14.
 - 2. Fall: August 15 to October 1.

- D. Application Rate:

Application Rate	
Mixture	Lbs/1000 Sq. Ft.
Madison Parks	4

- E. Broadcasting
 - 1. Sow seed evenly with a spreader or seeding machine.
 - 2. Do not broadcast or drop seed when wind velocity exceeds 5 MPH.
 - 3. Broadcast one half of seed.
 - 4. Broadcast remaining half of seed at right angles to first seed pattern.
 - 5. Cover seed to a depth of 1/4" by raking, dragging or cultipacting.
 - 6. Roll seeded area with roller weighing a maximum of 150 pounds per foot of roller width.
 - 7. Water seeded area with fine spray, if required, to promote growth.
- F. Drilling
 - 1. Drill seed following elevation contours.
 - 2. Seed to uniform depth.
 - 3. Roll seeded area with roller weighing a maximum of 150 pounds per foot of roller width.
 - 4. Water seeded area with fine spray, if required, to promote growth.

3.5 Mulching

- A. Place mulch on same day that the area is seeded.
- B. Do not place straw or hay mulch or sprayed-on mulches during periods of high wind.
- C. Mulch type and method is the Contractor's option unless a specific type or method is indicated on the Drawings or in the Contract Documents.
- D. Hay/Straw Mulch
 - 1. Method 1 - Spread straw or hay treated with a tackifier over the area using a blowing machine. Spread the material uniformly to a depth of 1/2 to 1 inch using 1 1/2 to 3 tons of material per acre. The amount of tackifier used shall be in accordance with the manufacturer's recommendations.
 - 2. Method 2 - Spread hay or straw over the area by hand or using a blowing machine. Spread the material uniformly to a depth of 1/2 to 1 1/2 inch using 1 1/2 to 3 tons of material per acre. Immediately after spreading, anchor the mulch into the soil using a mulch tiller.
- E. Paper Fiber: Apply with hydraulic spray equipment in a water slurry at the rate necessary to provide a 1/4 inch layer. Use the color of the material as a metering agent. Take care not to spray material on adjacent surfaces.
- F. Wood Cellulose: Apply with hydraulic spray equipment in a water slurry at the rate of 1500 pounds per acre. Use the color of the material as a metering agent. Take care not to spray material on adjacent surfaces.
- G. Mat: Remove all clods, stones or other materials that could damage the mat. Place mat over seeded area without overlapping. Anchor mat in accordance with the manufacturer's recommendations.

3.6 Establishment

- A. Establishment Period:
 - 1. For areas seeded during the spring or summer planting season the establishment period shall be 90 days.
 - 2. For areas seeded during the fall planting season the establishment period shall be through June 1 of the following year.
- B. Acceptable Establishment: At the end of the establishment period the grass shall be healthy, uniform in density and color, and substantially free of weeds with uniform coverage of at least 70 percent of a representative one square yard plot and bare spots not exceeding 6 inches by 6 inches.
- C. Re-seed areas that fail to grow an acceptable stand of grass.

3.7 Protection

- A. Protect all seeded areas, as necessary, to prevent trampling and/or damage by erecting temporary fences, barriers, signs, etc.

END OF SECTION

SECTION 33 41 13
STORM SEWER CONSTRUCTION

PART 1 - GENERAL

1.1 Section Includes

- A. Construction of storm sewer.
- B. Construction of storm manholes and inlets.

1.2 Related Sections

- A. Section 31 23 33 - Utility Excavation, Backfill and Compaction.
- B. Section 33 39 13 - Sewer Manholes.

1.3 References

- A. ASTM A48 - Standard Specification for Gray Iron Castings.
- B. ASTM A615 - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
- C. ASTM A760 - Standard Specification for Corrugated Steel Pipe, Metallic-Coated for Sewers and Drains.
- D. ASTM C76 - Standard Specification for Reinforced Concrete Culvert, Storm Drain and Sewer Pipe.
- E. ASTM C94 - Standard Specification for Ready-Mixed Concrete.
- F. ASTM C270 - Standard Specification for Mortar for Unit Masonry.
- G. ASTM C443 - Standard Specification for Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets.
- H. ASTM C478 - Standard Specification for Precast Reinforced Concrete Manhole Sections.
- I. ASTM C506 - Reinforced Concrete Arch Culvert, Storm Drain and Sewer Pipe.
- J. ASTM C507 - Reinforced Concrete Elliptical Culvert, Storm Drain and Sewer Pipe.
- K. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)).
- L. ASTM A929 - Specification for Steel Sheet, Metallic-Coated by the Hot-Dip Process for Corrugated Steel Pipe.
- M. ASTM D3212 - Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals.
- N. ASTM F477 - Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
- O. ASTM F2736 - Standard Specification for 6 to 30 in. (152 to 762 mm) Polypropylene (PP) Corrugated Single Wall Pipe and Double Wall Pipe.
- P. ACI 304 - Recommended Practice for Measuring, Transporting, and Placing Concrete.
- Q. ACI 347 - Recommended Practice for Concrete Formwork.

1.4 Submittals

- A. Submit product data for pipe and accessories.

- B. Submit bedding gradation if requested.
- C. Submit as-built measurements.

1.5 Quality Assurance

- A. All pipes and fittings shall be new and unused.
- B. Provide at least one person thoroughly trained and experienced in the skills required, who shall be completely familiar with the work described in this section, who shall be present at all times during progress of the work of this section, and who shall direct all work performed under this section.

PART 2 - PRODUCTS

2.1 Pipe

- A. Reinforced Concrete (RCP)
 - 1. Pipe: ASTM C76, ASTM C506, or ASTM C507. Provide Class III unless otherwise indicated on the Drawings or in the Specifications.
 - 2. Joints
 - a. Circular Pipe: Tongue and groove with rubber gaskets, ASTM C443.
 - b. Elliptical and Arch Pipe: Tongue and groove with cold plastic sewer joint compound or tongue and groove with external sealing collar, MacWrap or equal.
- B. Corrugated Steel (Use only when indicated on Drawings)
 - 1. Galvanized Pipe:
 - a. Material: Galvanized steel coil, ASTM A929.
 - b. Pipe: Manufactured in accordance with ASTM A760, Type I or II.
 - 2. Aluminized Pipe:
 - a. Material: Aluminized Type 2 steel coil, ASTM A929.
 - b. Pipe: Manufactured in accordance with ASTM A760, Type I or II.
 - 3. Joints: Matching bond connectors.
 - 4. Minimum Pipe Gauge:

Minimum Pipe Gauge			
Pipe Diameter	2-2/3" x 1/2" Corrugations	Pipe Diameter	3" x 1" Corrugations
6"	18	60" - 90"	16
8" - 24"	16	96" - 102"	14
30" - 36"	14	108" - 114"	12
42" - 54"	12	120"	10
60" - 72"	10		
78" - 98"	8		

- C. Corrugated Polyethylene (Use only when indicated on Drawings.)
 - 1. Smooth interior, with annular exterior corrugations meeting requirements of ASTM F2736.
 - 2. Joints: Gasketed integral bell and spigot meeting requirements of ASTM F2736. Joints shall be watertight in accordance with ASTM D3212. Gaskets shall meet the requirements of ASTM F477.
 - 3. Fittings: Polyethylene fittings meeting requirements of ASTM F2736.
 - 4. Acceptable Manufacturers: ADS N-12 HP or equal.

2.2 End Sections

- A. Manufacturer's standard product.
- B. Provide concrete for concrete pipe and corrugated metal for steel pipe or polyethylene pipe.

2.3 Pipe Bedding and Cover

- A. Bedding and Cover:
 - 1. Class IA - Clean angular crushed stone, crushed rock, or crushed gravel conforming to the following gradation:

Sieve Size	% Passing By Weight
1"	100
3/4"	90 - 100
3/8"	20 - 55
No. 4	0 - 10
No. 8	0 - 5

2. Class IB - Clean angular crushed stone, crushed rock, or crushed gravel conforming to the following gradation:

Sieve Size	% Passing By Weight
1/2"	100
3/8"	85 - 100
No. 4	10 - 30
No. 200	0 - 5

3. Class II - Coarse-grained soils free from organic matter, trash, debris, and frozen material with 100% passing the 1-1/2" sieve and less than 5% passing the No. 200 sieve. Generally including sands, gravels, and sand-gravel mixtures with little or no fines. ASTM D2487 Soil Types GW, GP, SW and SP are included in this class. Excavated material may be used if it meets the above material requirements.
4. Class III - Coarse-grained soils with fines free from organic matter, trash, debris, and frozen material with 100% passing the 1-1/2" sieve and 12% - 50% passing the No. 200 sieve. Generally includes silty or clayey sands, gravels, or sand-gravel mixtures. ASTM D2487 Soils Types GM, GC, SM and SC, are included in this class. Excavated material may be used if it meets the above material requirements.

2.4 Manholes and Inlets

A. General

1. Precast concrete manholes and inlets (and castings) shall meet requirements of Section 33 39 13 with the exceptions noted.
2. Exterior/interior manhole seals are not required.
3. Pipe connection may be mortar.
4. Concealed pickhole covers are not required.

B. Cast-In-Place Concrete

1. Ready-mixed concrete meeting requirements of ASTM C94; 3000 psi 28-day strength, 3 to 4-inch slump, maximum aggregate size of 1-1/2 inch and air entrainment of 7 percent.
2. Reinforcing steel: ASTM A615, Grade 60.

- C. Crushed Stone: Hard durable particles of crushed stone or gravel substantially free from shale or lumps of clay or loam meeting the following gradation:

Sieve Size	% Passing By Weight
2"	100
1-1/2"	90 - 100
1"	20 - 55
3/4"	0 - 15
1/2"	0 - 5

PART 3 - EXECUTION

3.1 Handling of Material

- A. All materials shall be handled with care to avoid damage. No material shall be dropped.
- B. All defective material shall be removed from the job site.
- C. Contractor is responsible for arranging suitable sites for material storage.

3.2 Lines and Grade

- A. All pipe shall be laid to the lines and grades shown on the drawings or given by the Engineer.
- B. The use of a laser beam for maintaining line and grade is required unless other methods are approved by the Engineer.
- C. A person qualified to operate the equipment shall be present when the laser is in use.

3.3 Laying Pipe

- A. Lay pipe uniformly to line and grade so that the finished sewer presents a uniform bore. Noticeable variations from true alignment and grade will be sufficient cause for rejection of the work.
- B. Commence at the lowest point and proceed to the upper end. Lay pipe with bell-end pointing up-grade.
- C. For reinforced concrete pipe provide a minimum of six inches between the pipe wall and the trench wall. For polyethylene and corrugated steel pipe, provide a minimum distance between the pipe wall and the trench wall of 2.5 times the pipe diameter for poor or expansive soils and a minimum of 12 inches for all other soils.
- D. Rest each pipe on the full length of its barrel.
- E. Do not lay the next pipe until the previous pipe is backfilled sufficiently to prevent movement during joining.
- F. For flexible pipe do not disturb the installed pipe and its embedment when using movable trench boxes. If the box extends below the cover material, use methods to assure that the integrity of the embedment is maintained when the box is moved.
- G. Keep water out of the pipe. Do not let water rise into or around the pipe until the trench is filled at least one foot above the pipe.
- H. When work is stopped for any reason, securely plug the end of the pipe.
- I. Jointing: Assemble joints in accordance with the pipe manufacturer's instructions.
- J. Do not drive over flexible pipe unless there is a minimum of 24 inches of cover material over the pipe.

3.4 Pipe Bedding - Polyethylene

- A. Pipe bedding and cover shall be Class IA or Class IB. If pipe is in groundwater, use Class IB.
- B. Place bedding material below and around pipe to the spring line to provide side support and to prevent lateral and vertical movement of the pipe. Place Class IA and Class IB material in 6-inch maximum layers. Work the material in and around the pipe by hand to provide uniform support.
- C. Place cover material to a level 12 inches above the top of the pipe. Place Class IA and Class IB material in maximum 6-inch layers. Class IA material shall be worked by hand. Class IB material shall be compacted using hand tampers or vibratory compactors. Each stage shall be compacted by hand or mechanical tamping to the percent of the maximum dry density in accordance with

ASTM D698 indicated below:

Material	Density
Class IA	None
Class IB	85%

- D. Do not use a hydrohammer with less than 4 feet of cover over the pipe.

3.5 Backfilling

- A. Backfill in accordance with the Section 31 23 33.

3.6 Manhole and Inlet Construction

- A. Cast-In-Place: Cast-in-place manholes and inlets shall be constructed as shown on the Drawings. If cast-in-place manholes are not shown and the Contractor desires to provide them in lieu of precast concrete, Shop Drawings prepared by a qualified Engineer must be submitted for approval.
- B. Construction
1. Provide two to four inches of precast adjusting rings unless otherwise indicated.
 2. Manholes that are constructed when temperature is below 35°F shall be protected from freezing.
 3. Limit the manhole excavation to the size required to install the manhole. Provide bracing and sheathing as necessary.
 4. Provide six inches of crushed stone under the manhole base.
 5. Inverts shall be the same size as the diameter of the largest adjoining pipe. Shape inverts in accordance with the Standard Drawings. Provide a smooth finish.
 6. Provide tongue and groove joints sealed with butyl rubber rope for reinforced concrete barrel sections.
 7. Construct cast-in-place structures in accordance with ACI 304 and ACI 347.
 8. Frames and Covers: Provide frames and covers in the size and type indicated on the Drawings. Set rims of manholes and inlets at finish grade elevation. In paved areas set the rims one-half inch below the pavement surface. Set the rim to match the slope of adjacent paving. Perform final rim adjustment after base course has been placed.
 9. Frame/Adjusting Ring Joints: Provide a mortar joint for manholes and field inlets. Dry stack adjusting rings on curb inlets and mortar casting to top ring at time of curb construction.
 10. Provide steps for manholes and circular inlets that are 4-feet or more in depth and 4-feet in diameter and larger. Place steps in vertical alignment, equally spaced at 16" on-center with top step not more than 24 inches from top of casting.

3.7 End Sections

- A. Provide flared end sections on all inlet and outlet ends of storm sewer that do not terminate within a manhole or inlet. Provide riprap at discharge end as indicated on the drawings.

3.8 Separation from Water Main

- A. Storm sewer mains shall be placed at least 8 feet horizontally (center to center) from any existing or proposed water main. If, due to ledge rock conditions or physical barriers, the Engineer determines that the 8-foot horizontal separation cannot be maintained. The horizontal separation may be reduced to a minimum of 3 feet if the bottom of the water main is at least 18" above the top of the sewer.
- B. The vertical separation for storm sewer mains crossing under water mains shall be such that the elevation from the top of the sewer to the bottom of the water main is at least 6". The vertical separation for storm sewer mains crossing over water mains shall be such that the elevation from the bottom of the sewer to the top of the water main is at least 18".
- C. If an existing water main is encountered while laying the storm sewer and it is impossible to obtain the proper vertical separation, immediately inform the Engineer. Reconstruct the water main for a minimum distance of 8 feet on either side of the storm sewer to permit centering one full length of water main over the storm sewer.

3.9 As-Built Measurements

- A. Provide as-built measurements clearly marked on a clean copy of the Contract Drawings. Tie location of bends and all connections not terminating with a manhole or inlet to ground features to clearly locate the buried construction. As-built measurements are incidental to the Work.

END OF SECTION

CITY OF MADISON STANDARD SPECIFICATIONS

PART II - EARTHWORK

ARTICLE 205 - ADJUSTMENT OF CASTINGS

205.1 General.

The Contractor shall adjust all existing access structure frames, catchbasin frames, water and gas main valve boxes, water and gas service shutoff valve boxes, and lamp holes to the finished grade of the pavement, curb and gutter, terraces, sidewalks, and drive approaches. The Contractor shall notify the private and public utilities (water, gas, electric, telephone, cable television, Traffic Engineering, etc.) prior to commencing work on the project in order to allow the various utilities to locate and mark their facilities. The various utilities may bring main valve boxes and service shutoff valve boxes to grade, and they may adjust their access structure castings to grade, at the request of the Contractor. The Contractor shall make those adjustments not made by the various utilities. The Contractor shall furnish and maintain the necessary protection for the access structure frames, catchbasin frames, water and gas main valve boxes, water and gas service shutoff valve boxes and lamp holes to prevent damage either to the castings or to persons or property or others allowed to pass through the construction area. Upon completion of the work on the project, the various utilities will be notified to inspect, adjust and repair their facilities as required. The Contractor will be responsible for any damage to access structure frames, catchbasin frames, water and gas main valve boxes, water and gas service shutoff valve boxes, and lamp holes, and any costs of repair will be deducted from any payments made to the Contractor.

205.2 Construction Methods.

Adjusting sewer access structures and catch basin frames includes removing the existing casting; removing the existing adjusting blocks, bricking or rings to a sound brick, block, concrete barrel section or concrete roof base; installing new adjusting blocks, bricking, or rings to the required elevation; and reinstalling the existing casting to the rim elevation as indicated on the plan set or as directed in the field. The existing adjustments shall be disposed of off-site by the Contractor at a site to be determined by the Contractor. New adjusting blocks, bricking or rings shall be of solid concrete and shall be in accordance with the requirements of Standard Plate 5.7.15. Any "pin" type castings shall be removed and disposed of by the Contractor. If a new City of Madison Standard casting is required, one shall be salvaged from another structure on the job site designated for removal or if no acceptable castings are available on site, City Engineering shall provide one.

The finished top elevation of castings in the paved area of streets shall be set with a string line at least forty (40) feet long set over the casting parallel to the street direction at the proposed finished grade of the street.

All salvaged castings shall be the property of the City. The Contractor shall haul such replaced castings to the Engineering Service Building storage area at 1600 Emil Street and deposit the castings as directed by the person in charge of the storage area.

Unless otherwise specified, the City shall furnish the new castings. The City shall issue replacement castings upon receipt of the Contractor's written request and the Inspector's certification. Replacement castings for storm and sanitary sewers shall be issued from the casting storage at the Engineering Service Building, 1600 Emil Street; the Contractor shall notify the Engineering Service

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Building at telephone number 266-4430 at least one day in advance when new castings are required. Replacement castings for Water Utility access structures shall be issued from the casting storage at the Water Utility Operations Center, 110 South Paterson Street; the Contractor shall notify the Water Utility Operations Center at telephone number 266-4661 at least one day in advance when new castings are required. Replacement castings for Traffic Engineering electrical utility access structures shall be issued from the casting storage at the Traffic Engineering Shop, 1120 Sayle Street; the Contractor shall notify the Traffic Engineering Shop at telephone number 266-4767 at least one day in advance when new castings are required. The Contractor shall furnish all labor and equipment to load, transport and unload the castings from the site of the casting storage to the job site.

All castings shall be set to final grade prior to placement of the asphaltic lower layer.

205.3 Measurement and Payment.

The adjustment and protection of water and gas main valve boxes and water and gas service shutoff valve boxes shall be considered incidental to the work, and no compensation will be made for their adjustment and protection, unless otherwise specified.

Payment for the adjustment of sewer access structure shall be made at the contract lump sum price.

END OF SECTION

Part III - Concrete and Concrete Structures

ARTICLE 301 - CONCRETE AND CONCRETE MATERIALS

301.1 General.

All concrete used on City of Madison Public Works projects shall comply with the following Subsections of Article 501, "Concrete" of the latest edition of the Standard Specifications for Highway and Structure Construction of the State of Wisconsin, Department of Transportation, Division of Highways, except as modified herein or in the Special Provisions of the contract:

501.2	Materials
501.3	Construction

All concrete used on City of Madison Public Works projects shall also comply with the following requirements, except as modified in the Special Provisions of the contract. Where the following requirements conflict with the above latest edition of the Standard Specifications for Highway and Structure Construction of the State of Wisconsin, Department of Transportation, then these following requirements apply:

1. The minimum compressive strength at twenty-eight (28) days shall be three thousand (3,000) pounds per square inch.
2. The minimum cement content shall be 565 pounds, except for concrete mixes with fly ash.
3. From the master limits of the job mix, adjusted as necessary for the specific gravities of the aggregate furnished, the Contractor shall determine and submit to the City Engineer a job mix, using the lowest quantity or percentage of fine aggregate within the range shown therefor which, without exceeding the maximum quantity of water permitted, will yield a mix possessing the necessary workability. The Contractor may use concrete from a pre-approved Supplier without submitting a mix design .

Contractor shall submit a mix design for concrete annually, when a change of aggregate sources or mix design is made or as directed by the Engineer.

4. All concrete shall be Air-Entrained, and shall contain seven (7) percent air by volume, plus or minus one and one-half (1.5) percent.
5. All concrete for curb and gutter, sidewalks, floors, roof slabs, and other horizontal pours shall have a slump of not less than two (2) inches and not more than four (4) inches. All concrete for walls, columns, and other vertical pours shall have a slump of not less than three (3) inches and not more than six (6) inches.
6. No water shall be added when placing concrete unless approved by the Engineer. If water is added without consent of the Engineer, this shall be considered sufficient grounds for rejecting the concrete.
7. The maximum limit of light chert (specific gravity of 2.40 or less) allowed in coarse aggregate shall be two (2) percent by weight.
8. Admixtures other than required for air entrainment shall not be used unless approved by the Engineer for a specific project.

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9. Aggregate shall be from a Wisconsin Department of Transportation approved source as specified under 106.3.4.2.
10. The percent wear shall not exceed 40, the weighted soundness loss shall not exceed 9 percent, and the weighted freeze-thaw average loss shall not exceed 12 percent.
11. Use clean, hard, durable, crushed gravel or crushed limestone free of an excess of thin or elongated pieces, frozen lumps, vegetation, deleterious substances, or adherent coatings considered injurious.

Use virgin aggregates only.

301.2 Concrete Tests.

Tests shall be made as directed by the Engineer to assure compliance with these Specifications. Tests shall be made in accordance with the requirements of Article 106 - Control of Materials, of these Specifications, and as specified below.

1. Slump tests shall be made following the "Methods of Test for Slump of Portland Cement Concrete" (ASTM C-143). Slump tests shall always be made from the same batch of concrete from which strength tests are made, and may be made when strength tests are not made.

Air content tests shall be made in accordance with the "Method of Test for Air Content of Freshly Mixed Concrete by the Pressure Method" (ASTM C-231).

If the measured slump or air content falls outside the specified limits, a check test shall be made immediately on another portion of the same sample. In the event of a second failure, the concrete shall be considered to have failed to meet the Specifications and shall not be used in the work. Any concrete from the same batch from which the tests were made which has been placed shall be removed and disposed of by the Contractor at the Contractor's expense.

2. Strength tests shall be made for each of the following conditions: each day's pour; each class of concrete; each change of source of supply; or when ordered by the Engineer. A strength test shall consist of a minimum of two (2) standard six (6) inch concrete cylinders for each one hundred fifty (150) cubic yards of concrete or fraction thereof placed on any day.

The City representative shall make the cylinders following the "Method of Making and Curing Concrete Compression and Flexure Test Specimens in the Field" (ASTM C-31). The cylinders will be tested by the City at its own expense at seven (7) days or at twenty-eight (28) days, unless otherwise specified, in accordance with the "Method of Test for Compressive Strength of Molded Concrete Cylinders" (ASTM C-39). The Contractor shall furnish all materials, labor, and equipment necessary for fabricating, preparing, protecting, and transporting all required samples, including concrete, cylinder molds, and wooden boxes suitable for the protection and transportation of the samples.

In the event test cylinders show the compressive strength of the concrete to be below the specified compressive strength of concrete, the following procedure shall be followed:

Part III - Concrete and Concrete Structures

- a. Three (3) cores shall be taken for each cylinder test below the specified compressive strength of concrete. Cores shall be taken in accordance with the "Standard Methods of Securing, Preparing and Testing Specimens from Hardened Concrete for Compressive and Flexural Strengths" (ASTM C-42), from the area of the pour represented by the defective cylinders. These cores shall be tested as prescribed in Section 4 of the "Method of Test for Compressive Strength of Molded Concrete Cylinders" (ASTM C-39) in order to verify the cylinder tests.
 - b. Where the cores show the compressive strength of the concrete to equal or exceed the specified compressive strength of concrete, the pour in question shall be accepted, and the costs of obtaining and testing cores shall be borne by the City.
 - c. Where the average of the cores tested show the compressive strength of the concrete to be below the specified compressive strength of concrete and equal to or greater than eighty-five (85) percent of the specified compressive strength of concrete and if no single core is less than seventy-five (75) percent of the specified compressive strength of concrete, the City shall deduct from any monies due or to become due the Contractor an amount equal to ten (10) percent of the contract price of the structure or portion thereof, in which the defective concrete is incorporated. The Contractor shall also bear the costs of obtaining and testing the cores.
 - d. Where the average of the cores tested show the compressive strength of the concrete to be below eighty-five (85) percent of the specified compressive strength of concrete, or if a single core is less than seventy-five (75) percent of the specified compressive strength of concrete, the structure or portion thereof, in which the defective concrete is incorporated shall be removed and disposed of by the Contractor at the Contractor's expense. The Contractor shall also bear the costs of obtaining and testing the cores.
3. Tests of the concrete proposed for use on the project shall be made at the direction of the Engineer in accordance with the "Methods of Test for Compressive Strength of Molded Concrete Cylinders" (ASTM C-39) and the "Method of Making and Curing Concrete Compression and Flexure Test Specimens in the Laboratory" (ASTM C-192). Six (6) standard six (6) inch cylinders, three (3) to be tested at seven (7) days and three (3) to be tested at twenty-eight (28) days, shall be made with the proportioning and materials proposed to be used in the major part of the project.

The slump should not be less than the greatest slump expected to be used in the structure. The tests made on the aggregate required herein may be made a part of these tests if suitably referenced on the reports which shall be issued at seven (7) days and at twenty-eight (28) days. These tests shall be repeated as necessary due to changes in materials or unsatisfactory results.

301.3 Reinforcing Steel.

All reinforcing bars shall be deformed, and the type used in the work under these Specifications shall be subject to the approval of the Engineer.

1. Where directed by the Engineer the Contractor shall install reinforcing steel in concrete sidewalks, driveways, sidewalk ramps, curb and gutter, special waterways, footings, walls,

Part III - Concrete and Concrete Structures

and other structures. Such reinforcing steel will be measured by length in linear feet of the sizes ordered and installed.

2. Epoxy/Water Proofing

Where epoxy coated reinforcing steel is specified by the contract, the Contractor shall have the option of using a concrete additive in place of the epoxy coating.

Specifically, the Contractor shall provide and incorporate to the concrete mix – XYPEX ADMIX C-1000 to all concrete being used where epoxy coated steel was required by contract.

The Contractor shall be aware that this is not a mix and match option for a given structure. Once a decision is made to switch from epoxy coating to an ADMIX for a given structure, the ADMIX shall be used for all pours and in all concrete for that structure.

The ADMIX shall be used at rates in the concrete mix in accord with the manufacturers recommendations.

301.4 Expansion Filler.

The filler shall be nonextruding and have the same shape and dimensions as the section in which it is installed. Furnish expansion joint filler conforming to AASHTO M 153 or ASSHTO M 213. Where dowel bars are required, use filler with holes factory-punched at the dowel bar locations and with a diameter not greater than 1/8 inch larger than the nominal dowel bar diameter.

All materials for expansion joints shall be furnished and installed by the Contractor and the costs shall be included in the unit prices bid for the various items of work.

301.5 Placing and Finishing.

Retempering of mortar or concrete which has partially hardened, that is mixing with additional materials or water, shall not be permitted.

No concrete shall be deposited in water or mud. During the pouring of bottom slabs and walls, the Contractor shall furnish sufficient pumping equipment to keep the water below the bottom of the floor of the structure. After concrete has been poured the Contractor shall keep the pumping equipment in continuous operation for thirty-six (36) hours.

Concrete shall not be deposited on frozen subbase material, on or against ice or frost, or on reinforcing steel having a temperature at pouring time of less than 36°F.

Do not resume concreting operations until an ascending air temperature in the shade and away from artificial heat reaches 32°F.

Concrete when deposited shall have a temperature of not less than 55°F. and not more than 100°F.

Concrete shall be handled from the mixer to placement as rapidly as practicable and in a manner that will prevent segregation of the ingredients until the unit of operation, approved by the Engineer, is completed. It shall be deposited in the forms as nearly as practicable in its final position to avoid

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rehandling. Concrete as it is deposited shall be puddled with suitable tools or equipment until forms are completely filled and reinforcement and embedded fixtures thoroughly incorporated in the mass.

Concrete adjacent to the forms, joints, or structures shall be deposited and spaded or vibrated in a manner to prevent the formation of voids or rock pockets. All cavities produced by the removal of form ties and any voids or rock pockets of more than casual occurrence found after the forms are removed, shall be filled immediately with a well mixed grout, composed of one (1) part of Portland cement and three (3) parts of fine aggregate (masonry sand) and finished to the true surface of the face of structure by the following method: Defective areas shall be chipped away to a depth of not less than one (1) inch measured at right angles to the surface. The area shall be thoroughly wetted, brushed with grout, and patched with grout. The patch shall be cured as specified for concrete structures. Defects appearing on the patch shall be repaired at the Contractor's expense.

An accumulation of water on the surface of freshly deposited concrete shall immediately be removed in a manner satisfactory to the Engineer.

Concrete shall be so deposited as to maintain, until the completion of the unit, a plastic surface, approximately horizontal. Forms for walls or other thin sections a height in excess of eight (8) feet shall be provided with openings, or other devices, that will permit the concrete to be placed in a manner that will avoid accumulation of hardened concrete on the forms or metal reinforcement. Under no circumstances shall concrete that has partially hardened be deposited in the work.

When concrete is conveyed by chuting, the mixer shall be of such size and design as to insure a practically continuous flow in the chute. The angle of the chute with the horizontal shall be such as to allow the concrete to flow without separation of the ingredients. An angle of twenty-seven (27) degrees, or one (1) vertical to two (2) horizontal, is the minimum slope which is considered permissible. Chuting through a vertical pipe is satisfactory when the lower end of the pipe is maintained four (4) feet or less above the surface of the deposit. The delivery end of the chute shall be within four (4) feet of the point of deposit. When the operation is intermittent, the spout shall discharge into a hopper. The chute shall be thoroughly flushed with water before and after each run; the water used for this purpose shall be discharged outside the forms but not into paved streets, walks, gutters or inlets.

All reinforced concrete shall be vibrated in place to the satisfaction of the Engineer with mechanical vibrators. Vibrators shall also be required for non-reinforced concrete structures when other methods of compaction or "puddling" do not give the desired results in the opinion of the Engineer.

Before depositing new concrete on or against concrete which has been set, the forms shall be retightened, the surface of the set concrete shall be roughened as required by the Engineer, thoroughly cleaned of foreign material and saturated with water.

Joints not indicated on the plans shall be so designed and located as to least impair the strength and appearance of the structure. All joints shall provide sufficient resistance to shear to which they may be subjected. Horizontal joints required to be watertight shall be constructed by forming continuous keyways in the lower portion of the concrete before the concrete has hardened. Before placing the superimposed concrete, the joint shall be thoroughly cleaned of foreign material and saturated with water. Vertical joints required to be watertight, and expansion joints shall be provided with suitable keyways subject to the approval of the Engineer.

Part III - Concrete and Concrete Structures

Top surfaces of roof slabs, unless otherwise specified, shall be smoothed with a wood float. Care shall be taken to avoid an excess of water in the concrete, and to drain or otherwise promptly remove any water that comes to the surface. Dry cement or a dry mixture of cement and sand, shall not be sprinkled directly on the surface.

Top surfaces of concrete floor slabs, unless otherwise specified, shall be wood floated and then troweled with a steel hand trowel or a mechanically operated steel trowel to a smooth, dense finish. Steel troweling shall be done after the water has disappeared from the surface.

Unless otherwise specified, all edges of concrete along joints and forms shall be finished with a steel edging tool of one-fourth (1/4) inch radius.

301.6 Forms.

Forms shall conform to the shape, lines and dimensions of the structure as called for on the plans.

For exposed concrete surfaces, forms shall be three-fourths (3/4) inch structural plywood or acceptable prefabricated commercial wood or steel form panels. Forms used for exposed surfaces are subject to the approval of the Engineer.

Joints in forms shall be horizontal or vertical. For unexposed surface and rough work, undressed lumber may be used. Lumber once used in forms shall have nails drawn, and surfaces to be in contact with concrete shall be thoroughly cleaned before being used again. All form work shall be checked for plumbness, alignment, and position by the Engineer before concrete placement begins.

Forms shall be substantially tight to prevent leakage of mortar; they shall be properly braced or tied together so as to maintain position and shape. If adequate foundation for shores cannot be secured, trussed supports shall be provided.

Unless otherwise specified or directed, suitable moulding or bevels shall be placed in the angles of forms to round or bevel the edges of the concrete.

The inside of forms shall be coated with nonstaining mineral oil or other approved material before each use and thoroughly wetted (except in freezing weather). Oil shall be applied before reinforcement is placed and shall be kept from contact with concrete already placed to which fresh concrete is to be bonded.

Temporary openings shall be provided where necessary to facilitate cleaning and inspection immediately before placing concrete.

Forms shall not be disturbed until the concrete has hardened. Shoring shall not be removed until the member has acquired sufficient strength to safely support its weight and the load upon it. Members subject to additional loads during construction shall be shored adequately to support both the members and the construction loads in such a manner as will protect the member from damage by the loads. This shoring shall not be removed until the member has acquired sufficient strength to safely support its weight and the load upon it, and then only with the approval of the Engineer.

After removal of forms, all metal devices used to tie forms together and hold them to correct alignment and location shall be removed in such a manner that no metal shall remain within less than one (1) inch of the surface of the concrete. The method of removal of such ties shall be such as not to cause injury to the surface of the concrete. The Contractor shall not burn off bolts, rods, or other metal devices. After the removal of such ties, the opening shall be roughened and all concrete containing any oil removed. The cavities produced shall be filled as specified in Section 301.5.

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301.7 Curing.

Exposed surfaces shall be protected from drying for a period of at least seven (7) days as per Section 415.3.12 of the latest edition of the Standard Specifications for Highway and Structure Construction of the State of Wisconsin, Department of Transportation, except as modified herein or in the Special Provisions of the contract.

Curing compound shall be white pigmented.

For curb and gutter, sidewalk and other flatwork provide linseed oil based curing compounds or poly-alpha-methylstyrene (PAM) based liquid curing compounds. For pavement provide poly-alpha-methylstyrene (PAM) based liquid curing compounds.

Furnish linseed oil based and poly-alpha-methylstyrene (PAM) liquid curing compounds conforming to ASTM C309, type 2, class B as modified below.

Furnish linseed oil emulsion curing compound consisting of, by volume exclusive of the pigment, 50 +/- 4 percent linseed oil and 50 +/- 4 percent water. Ensure that the oil phase is, by weight, 80 percent boiled linseed oil and 20 percent high viscosity (Z-8) linseed oil. Modify ASTM C309 to waive the drying time requirement.

Furnish poly-alpha-methylstyrene (PAM) curing compound with a resin consisting of 100 percent poly-alpha-methylstyrene and with, by weight, 42 percent or more total solids. Modify ASTM C309 to ensure the following:

- Loss of water in 24 hours does not exceed 0.15 kg/m².
- Loss of water in 72 hours does not exceed 0.40 kg/m².
- Reflectance in 72 hours is greater than or equal to 65 percent.
- The volatile organic compound (VOC) content does not exceed 350 g/L.

301.8 Protection of the Concrete.

301.8(a) Cold Weather Protection.

All concrete used for sidewalk, curb and gutter, pavement, bridges, culverts, retaining walls, access structures, catchbasins, inlets, or any other structure consisting wholly or in part of concrete, when placed during cold weather shall be mixed, placed, and protected in accordance with the requirements prescribed in Subsection 501.3.9 "Mixing and Protection During Cold Weather" of Standard Specifications for Highway and Structure Construction of the State of Wisconsin, Department of Transportation.

Section 415.3.15.2 of the Standard Specifications for Highway and Structure Construction of the State of Wisconsin, Department of Transportation shall be revised as follows:

Predicted or Actual Air Temperature	Minimum Equivalent Level of Protection
22 to 32 F (-6 to <0 C)	single layer of polyethylene
17 to 22 F (-8 to < -6 C)	double layer of polyethylene
< 17 F (< -8)	6" of loose, dry straw or hay between 2 layers of polyethylene

Regardless of the precautions taken, the Contractor shall be responsible for the protection of the concrete placed, and any concrete damaged by freezing or frost action during the first seven (7) days following its placement shall be removed and replaced by the Contractor at the Contractor's expense.

Under no circumstances shall concrete be ordered or delivered for the project, until such time as the equipment and materials for protecting and heating the concrete, as described above, are on the job site in sufficient quantity to obtain the desired results.

301.8(b) Bridges, Box Culverts and Roof Slabs.

Part III - Concrete and Concrete Structures

In the determination by the Engineer, of the time for the removal of falsework, consideration shall be given to the location and character of the structure, to the weather and other conditions influencing the setting of the concrete and to the materials used in the mix.

The Engineer reserves the right to determine the time when falsework or form supports may be removed either by the use of test cylinders or by the use of the minimum requirements shown below.

Falsework supporting concrete structures shall remain in place in accordance with the following minimum requirements, which shall be exclusive of days in which concrete has been subjected to a temperature of below 40°F.

Span Length - Feet	Air Entrained Concrete	High Early Strength Concrete
12 or less	7 days	3 days
Over 12	14 days	6 days

When operations are controlled by laboratory controlled cylinder tests, the removal of falsework and support forms may be begun, with the approval of the Engineer, when the test of cylinders shown a compressive strength of the concrete of not less than 2,000 lbs./sq. in. for spans twelve (12) feet or less and 2,500 lbs./sq. in. for spans over twelve (12) feet.

Backfilling of walls and over tops of box culverts shall be carried out by the Contractor only with the approval of the Engineer.

301.8(c) Opening Curb and Gutter, Sidewalk, Driveways, and Pavements to Traffic.

Traffic shall be excluded over or on newly constructed curb and gutter, sidewalk, driveways, and pavements for such periods as are hereinafter designated. Where the term "pavement" appears below, it shall be taken to refer to the particular type of construction involved.

The Engineer reserves the right to determine the time when the pavement shall be opened to traffic either on the basis of test cylinders or minimum time periods related to atmospheric temperatures.

Part III - Concrete and Concrete Structures

When opening of the pavement to traffic is controlled by cylinder tests, the pavement may be opened, after expiration of the curing period or cold weather protection period, as the case may be, when the tests of cylinders show a compressive strength of the concrete of not less than 3,000 pounds per square inch.

At least two cylinders shall be tested in determining the attained strength of concrete for the purpose of opening the pavement to traffic. The average of test results for the two cylinders shall be used to determine compliance, except that neither cylinder may be more than ten percent below the required strength. The cylinders shall be cured under conditions similar to those prevailing for the pavement which they represent.

When the opening is not controlled by cylinder tests, traffic shall be excluded from the newly constructed pavement for such minimum periods as hereinafter designated:

For not less than seven (7) days when the atmospheric temperatures are generally 70°F. or higher during the period.

For not less than ten days when the atmospheric temperatures are generally not lower than 60°F. during the period.

For not less than such a length of time up to twenty-one (21) days as the Engineer may require, taking into consideration the temperatures and protective measures, if any, when the atmospheric temperatures are generally lower than 60°F.

When High-Early-Strength Concrete is used in the work, the above specific periods of seven (7), ten (10) and twenty-one (21) days may be reduced to three (3), four (4) and seven (7) days, respectively, under like conditions.

When Grade A-FA Concrete is used in the work, the specific periods of seven (7) and ten (10) days shall be increased to ten (10) and fourteen (14) days respectively, under like conditions.

In all cases the pavement shall be cleaned, and the joints shall be cleaned and sealed as provided, before traffic of any kind is permitted to use the pavement.

301.8(d) Catchbasins, Access Structures, and Headwalls.

Traffic on or over these structures shall be curtailed until the concrete has reached full strength.

Backfilling may proceed after seven (7) days for air entrained concrete or three (3) days for High- Early-Strength concrete. When the Contractor desires to backfill prior to the times specified then the Contractor shall do so at the Contractor's own risk.

301.9 Concrete Slurry.

Type A slurry mix as listed below shall be used as called for on the plans or as specified in the field by the Engineer on storm or sanitary sewer projects. Flowable fill shall be excavatable and have strengths between 200 psi and 300 psi. The above mix shall conform to the following one (1) cubic yard of mix of flowable slurry:

Type A Slurry

3000 lb.	Sand
50 lb.	Portland Cement
200 lb	Class C Fly Ash
50 gal.	Water
20%	Air Entraining Admixture

NOTES:

1. All design aggregate batch weights are saturated surface dry.
2. Aggregate batch weights shall be adjusted for free moisture at time of mixing.
3. Admixture quantity may be varied within manufactures recommended dosage to provide desired results.

301.10 Concrete Waste Management.

General

This work consists of containment, collection, storage and proper disposal of concrete wastes generated by saw cutting or grinding of existing concrete pavements or waste run-off generated during construction of new concrete pavements, particularly exposed aggregate surfaces. Concrete wastes typically are strongly alkaline and may contain other contaminants that can harm plants and are particularly harmful if allowed to enter streams, lakes wetlands or other water bodies through the storm sewer system.

Contractor is alerted that there are local, state and federal regulations governing the handling and disposal of hazardous materials and this Special Provision in no way relieves the Contractor of any responsibility to comply with such regulations. The intent is to provide more specific guidelines for management of concrete wastes on this project and provide a basis of payment for work associated with specific management measures properly implemented.

Materials

Contractor may choose appropriate materials to suit his methods of management of wastes with the following minimum requirements. Pre-fabricated washout containers shall be in sound condition and watertight. Site fabricated containment structures shall be constructed below grade if feasible. If constructed above grade they shall be of sturdy materials and designed to provide a minimum of 6 inches of freeboard based on the volume of liquid wastes to be generated between clean-outs. Structure shall be lined with a waterproof plastic sheeting of minimum 10-mil thickness that has no holes or tears. Above grade structures shall have a double layer lining.

Inlet liners used to convert an existing storm inlet into a containment structure shall be shop fabricated and shall consist of a heavy-duty waterproof lining fitted to the inside of a commercially manufactured geotextile sediment trap. The completed inlet containment structure shall be sound and watertight to prevent any leaching into the storm sewer system, and shall be approved by the Engineer prior to accepting any concrete waste water. NOTE: a geotextile sediment trap by itself is not acceptable as the leachate continues to be highly alkaline and contain dissolved contaminants.

Construction Methods

If conditions are such that debris and slurry from sawcutting and grinding operations will remain on pavements and not run off into gutters, they may be allowed to dry in place and be cleaned from pavement by sweeping or vacuum equipment. Such wastes shall not be allowed to remain on pavements beyond the end of a day's work.

Slurries from cutting or grinding or wash water from exposed aggregate construction may be directed to exposed (unpaved) areas of the grade provided: 1) such areas are below the surface drainage grade and will not run off into watercourses, gutters, inlets or storm sewers; 2) such areas are planned for pavement or other uses, such that residue following evaporation / percolation will not adversely impact vegetation; 3) disposal area is approved by the Engineer prior to use.

If it is not practical to direct slurry to an appropriate unpaved disposal area it may be directed to a street gutter provided sand bags or other devices are used to contain the slurry on the pavement and minimize the distance the slurry travels. Contractor shall remove such slurry or residue from the pavement prior to the end of each work day by vacuum systems or other methods. Slurry may be pumped to an approved

Part III - Concrete and Concrete Structures
containment structure for on-site storage.

On-site containment structures shall be emptied on a periodic basis, such that they do not exceed their design capacity, including required freeboard. Contractor shall remove contaminated liquids from the site, using trucks fitted with water-tight gaskets to prevent leakage, or other similar methods. Wastes shall be properly disposed of off-site, in accordance with applicable laws and regulations.

If it is not practical to construct or direct slurry to an above-grade containment structure, the contractor may utilize a storm inlet for containment under the following conditions:

- There is no significant chance of precipitation, flows from upstream pipe connections or other reasons requiring the inlet to function for storm water drainage during the period it is to be used for containment
- The Construction Engineer provides prior written approval for each inlet proposed
- Contractor fabricates and properly installs a waterproof liner for each inlet used, in accordance with the requirements herein
- Contractor maintains inlet liners in good condition and periodically empties such structures and disposes of wastes as provided for on-site containment structures
- Contractor completely removes liner and all wastes and restores inlet to its prior functioning condition after its use.

Measurement and Payment

Work under this Section will be measured as a single, complete unit of work, for all measures and devices used to contain and dispose of concrete wastes throughout the duration of the project, acceptably installed, maintained and removed.

On this project, this work, measured as provided, shall be included in the unit cost or lump cost of concrete bid items as full compensation for designing, furnishing installing, maintaining and removing any on-site containment structures, cleaning slurry or residue from pavements by vacuum or other methods, removal from site and proper disposal of all wastes, and all incidental labor, equipment, tools.

END OF SECTION

ARTICLE 302 - CONCRETE CURB AND GUTTER

302.1 General.

302.1(a) Description.

This work shall consist of constructing concrete curb and gutter, with or without reinforcement, of the dimensions and design as indicated, and placed in one course on the prepared foundation or base, at the locations and to the required lines and grades; all as shown on the plans and provided by the contract.

The Contractor shall mark the top of the curb where the sanitary sewer and water service cross the curb and gutter. The mark may be made by sawcutting. The depth shall be a minimum of one- sixteenth (1/16") inch deep. The laterals and services will be located by the City. The cost of the location marks shall be considered incidental to the cost of the concrete curb and gutter.

All work done in the vicinity of any tree located in the terrace shall be completed in accordance with section 107.13 Tree Protection Specification.

302.2 Construction Methods.

302.2(a) Preparation of Foundation.

The Contractor shall be responsible for replacement with 1-1/2" crushed stone, mechanically compacted, of any material necessary to bring the subbase to grade, where the Contractor has undercut the subbase without the direction of the Engineer.

302.2(b) Forms.

Curb and gutter forms shall be of steel construction and conform to the design of the type of curb and gutter being installed. Wooden forms may be used only with the Engineer's approval on short radius curves and in special cases where accessibility is limited.

All forms shall be free of hardened concrete, mud, dirt, and debris, and shall be free of bends and twists which would make their use unacceptable on the project.

All forms shall be oiled to the satisfaction of the Engineer before depositing or placing concrete in them.

When concrete curb and gutter is constructed on a curve, flexible forms shall be used for all curves having a radius of two hundred (200) linear feet or less.

302.2(c) Placing and Finishing Concrete.

Wherever directed by the Engineer, driveway gutters shall be built instead of regular curb and gutters.

The curb and gutter over ditches shall be installed in twenty (20) foot lengths centered over the ditch. A dummy joint shall be cut at the center of the twenty (20) foot section.

Part III - Concrete and Concrete Structures

Unless otherwise specified, curb and gutter shall be installed in minimum lengths of six (6) feet and maximum lengths of fifteen (15) feet.

The Contractor shall install a header at the end of each pour. At no time shall the Contractor be allowed to spread excess concrete as a base for the next or any succeeding pour.

Wherever different types of curb and gutter are employed, the Contractor shall take care that transitions from one type of curb and gutter to another type are done smoothly without loss of flow line grade or curb head shape.

The reconnection of existing drains from adjacent properties to the curb and gutter shall be incidental to concrete curb and gutter.

The slope of the curb and gutter shall not exceed 1" in 12" thru handicap accessible ramps.

Hand formed concrete curb and gutter will be paid for at the unit bid price, no distinction will be made for the various types of curb and gutter.

302.2(d) Joints.

Full contraction joints shall be a minimum of three (3) inches in depth, and shall be uniformly spaced not less than six (6) feet nor more than fifteen (15) feet apart unless otherwise directed by the Engineer.

If machine methods are used for forming and finishing curb and gutter the Contractor may saw contraction joints or planes of weakness may be created by the insertion of approved partial depth separator plates having a minimum depth of three (3) inches. The depth of cut and equipment used in sawing shall meet the approval of the Engineer. The sawing shall be done as soon as practicable after the concrete has set sufficiently to preclude raveling during the sawing and before any shrinkage cracking takes place in the concrete. If this method results in random cracking the Contractor shall be required to use the partial depth separator plates.

Transverse expansion joints shall be one-half (1/2) inch in width and shall be placed across the curb and gutter perpendicular to the curb line at all radius points of curves having a radius of two hundred (200) feet or less, and on both sides of all inlets installed in curb and gutter. All expansion joints shall extend through the entire thickness of the curb and gutter and shall be perpendicular to the surface. All expansion joints shall be formed by inserting during construction, and leaving in place, the required thickness of joint filler which shall extend through the entire thickness of both curb and gutter.

Curb and gutter placed adjacent to concrete pavement should only have expansion joints aligning with expansion joints in the concrete pavement.

Where curb and gutter and concrete sidewalk or concrete driveways join, an expansion joint one (1) inch in width must be constructed between walks and curb.

The joint filler in transverse joints shall be flush with the finished surface of the gutter. The concrete adjacent to these joints shall be finished with a wooden float which is divided through the center and which will permit finishing on both sides of the filler at the same time. Before the curb and gutter is opened to traffic, excess joint filler shall be cut off level with the finished surface.

302.2(e) Reinforcement.

Where reinforcement is required it shall conform to and be placed in accordance with the Standard Detail Drawings, details shown on the plans, as specified in the contract, or as directed by the Engineer.

Where directed by the Engineer, the Contractor shall install three (3) one-half (1/2) inch round reinforcing rods fifteen (15) feet long in concrete curbs and gutters which span ditches.

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302.2(f) Protection.

The curb and gutter must be protected from injury by traffic or other causes, and also from the rays of the sun until completely set.

In the event that concrete sidewalk, drives or curb and gutter are placed in cold weather, "Cold Weather Protection" shall be applied in accordance with The City of Madison Standard Specifications, Section 301.8(a) "Cold Weather Protection."

END OF SECTION

ARTICLE 303 - CONCRETE SIDEWALKS, CONCRETE DRIVEWAYS, CONCRETE MOUNTABLE MEDIAN ISLAND NOSE AND STEPS OF CONCRETE MASONRY

303.1 General.

303.1(a) Description.

This work shall consist of constructing sidewalks, sidewalk ramps, driveways, mountable median island nose, and steps of concrete masonry, with or without reinforcement placed on the prepared foundation or base and as shown on the plans and provided by the contract.

Where integral curb and sidewalk is specified, such work shall consist of a sidewalk constructed with a concrete curb built integral with the same, all in accordance with the design and details shown on the plans.

The following specifications pertain equally to concrete sidewalks, concrete sidewalk ramps, concrete driveways, concrete mountable median island nose, and concrete steps, whether the particular item of construction is mentioned or not.

303.2 Construction Methods.

303.2(a) Preparation of Foundation.

The foundation shall be formed by excavating or filling to the required elevation of the bottom of the concrete. The foundation so constructed shall be thoroughly mechanically compacted to insure stability. The Contractor shall undercut a minimum of two (2) inches below subgrade and backfill with two (2) inches of compacted sand, screenings (limestone or sand) or crushed aggregate base course. Three (3) inches of compacted crushed aggregate base course shall be placed under sidewalk when the centerline grade of the street exceeds 5%. Driveway aprons and curb ramps shall have six (6") of compacted crushed aggregate base course. The cost of excavating and compacted select backfill shall be incidental to the item of sidewalk construction.

The Contractor shall be responsible for replacement with approved materials, mechanically compacted, of any material necessary to bring the subbase to grade, where the Contractor has undercut the subbase without the direction of the Engineer.

Where tree roots are found to be in the same location of new sidewalk or sidewalk that is to be removed and replaced, the roots shall be removed in accordance with section 107.13 Tree Protection Specification.

303.2(b) Forms.

Sidewalk forms shall be of steel construction and have a vertical height of at least five (5) or seven (7) inches. Wooden forms may be used only with the Engineer's approval on short radius curves and in special cases where accessibility is limited.

All forms shall be free of hardened concrete, mud, dirt, and debris, and shall be free of bends and twists which would make their use unacceptable on the project.

All forms shall be oiled, to the satisfaction of the Engineer, before depositing or placing concrete in them.

When concrete sidewalk is constructed on a curve, flexible forms shall be used for all curves having a radius of two hundred (200) linear feet or less.

Part III - Concrete and Concrete Structures

303.2(c) Placing and Finishing Concrete.

The foundation and forms, and reinforcement when required, shall be checked and approved by the Engineer before the concrete is placed.

The sidewalk shall then be given a brush or corrugated finish as the Engineer directs. Sidewalk ramps shall be given surface texturing as shown on Standard Plate for Madison Standard Sidewalk Ramps as the Engineer directs.

The Contractor shall install a header at the end of each pour. At no time shall the Contractor be allowed to spread excess concrete as a base for the next or any succeeding pour. Minimum length blocks of four (4) feet six (6) inches may be poured only at the end of a day's pour and then only with permission of the Engineer.

303.2(d) Joints.

Unless otherwise directed by the Engineer, the sidewalk shall be cut into blocks five (5) feet in length.

Transverse joints shall be constructed at right angles to the center line of the sidewalk, and longitudinal joints shall be constructed parallel to the center line of the walk, unless otherwise provided. The joints shall be constructed as laid out in the field by the Engineer. Whenever the entire area between the back of the curb and the right-of-way or lot line is to be covered with concrete sidewalk and when a permanent structure is located within such area or on the right-of-way or lot line, such sidewalk shall be constructed in alternate sections extending from the back of the curb to the permanent structure, and such sections shall not exceed twelve (12) linear feet of sidewalk length. When the alternate sections placed in the first operation have been cured as specified, the intervening sections shall be placed to complete the walk.

When the sidewalk is constructed in partial width slabs, transverse joints in adjacent slabs shall be placed in line with like joints in the previously constructed slabs. In the case of widening existing sidewalks, transverse joints shall be placed in line with like joints in the existing sidewalk.

Insofar as feasible large sidewalk slabs shall be divided into sections not less than five (5) feet nor more than twelve (12) feet in any dimension. The unit areas shall be produced by use of metal slab division forms extending to the full depth of the concrete, or, when so approved by the Engineer, by contraction joints, as defined hereinafter.

Whenever the concrete walk abuts on or is adjacent to buildings, walls, ramps, steps, castings, sidewalks, or other structures, one-half (1/2) inch expansion joint filler shall be placed. Whenever the walk abuts on or is adjacent to the curb, one (1) inch expansion joint filler shall be placed between the curb and the sidewalk. Sidewalk ramps and driveways shall have one-half (1/2) inch expansion joint filler installed between the sidewalk ramp or driveway and the City sidewalk, and one (1) inch expansion joint filler installed between the sidewalk ramp or driveway and the curb. At intervals at approximately fifty (50) feet on continuous sidewalk construction and at the ends of all radii, one-half (1/2) inch expansion joint filler shall be placed. Where the sidewalk extends from buildings to curbs, expansion joints shall be located not more than thirty (30) feet apart.

Joints shall not be sealed, unless otherwise specified.

Where the concrete walk abuts the buildings, walls, other pavement or as directed by the engineer in placing exposed aggregate sidewalk the material shall be left 1/2" below the surface and shall extend to the bottom of the concrete. A removable plastic strip, flush with the surface of the concrete, shall be placed over the foam or sponge rubber material while the concrete is being poured and cured.

The Contractor shall place a troweled joint at standard back edge of sidewalk where sidewalk extends to meet buildings.

Expansion joint material shall be non-staining and compatible with the sealant and of resilient nature such

Part III - Concrete and Concrete Structures

as closed cell resilient foam or sponge rubber. Materials impregnated with oil, bitumen or similar materials shall not be used.

All joints along buildings and exposed aggregate concrete joints as directed by the engineer shall be sealed. The sealants shall be the gun grade Sonolastic NPI urethane as manufactured by Sonneborn, or an approved equal. The color shall match the adjoining work and shall be approved by the Engineer. Primers shall be used only where the manufacturer recommends.

Modifications of a sealant by the addition of liquids or powders to alter the flow properties SHALL NOT be permitted.

A sealant SHALL NOT be used if the date of manufacture indicates that the sealant is more than twelve (12) months old. Where a lesser period is recommended by the manufacturer, the lesser period shall govern.

The Contractor shall submit the following:

1. Sealant manufacturer's instructions, including limitations for application and priming. Indicate on the brochure or by transmittal, which primers will be used or submit printed statements from the sealant manufacturer that no primers are required for maximum adhesion.
2. Sealant manufacturer's standard color range for selection. Color shall be selected by the Engineer.

All joint surfaces shall be dry and thoroughly clean. The Contractor shall remove all loose particles, dirt, paint, foreign matter, or curing compound by means not injurious to the materials to be sealed.

Concrete shall be cured (seven (7) days minimum) and dry before sealant application.

Unless otherwise specified herein, preparation of the surfaces, mixing and application of the sealants shall be in accordance with the written instructions of the sealant manufacturer and /or subsequent supplementary written recommendations of the manufacturer or Engineer.

No sealant shall be applied to a joint at temperatures under 40°F.

All joints shall be finished to assure proper filling of voids, elimination of air pockets and maximum contact at joint interfaces. Immediately upon completion of the joint sealing, a silica sand shall be placed over the joint material. Any sealed joint not completely filled and/or not properly finished shall be reopened and replaced as directed by the Engineer.

At the completion of the caulking work, the surface of materials adjoining such work shall be cleaned of all smears, excess compound or other dirt and left in a neat, satisfactory condition. Rough unsightly work shall not be accepted.

Sealants and expansion joints shall be incidental to installation of concrete sidewalk, driveways and integral sidewalk curb head.

No additional compensation shall be given at these locations.

303.2(e) Reinforcement.

Where reinforcement is required, it shall conform to and be placed in accordance with the details shown on the plans, as specified in the contract, or as directed by the Engineer.

The Contractor shall install three (3), one-half (1/2) inch round reinforcing rods fifteen (15) feet long in concrete sidewalks which span ditches.

303.2(f) Protection.

Part III - Concrete and Concrete Structures

The sidewalk must be protected from injury by traffic or other causes, and also from the rays of the sun until completely set. Sidewalks may be opened to pedestrian traffic after expiration of the curing period.

In the event that concrete sidewalk, drives or curb and gutter are placed in cold weather, "Cold Weather Protection" shall be applied in accordance with The City of Madison Standard Specifications, Section 301.8(a) "Cold Weather Protection."

303.2(g) Replacement of Concrete Sidewalk.

At such places and for such distances as shall be designated by the Engineer or the Sidewalk Inspector of the City, the Contractor shall replace concrete sidewalks by breaking up and removing all old material and preparing the existing foundation for the construction of the concrete sidewalk. Upon the foundation so prepared, the Contractor shall construct a concrete sidewalk in accordance with the foregoing specifications. The cost of removal of all old concrete material shall be included in the amount bid per square foot of sidewalk replacement, unless otherwise specified in the contract.

303.2(h) Contractor's Identification.

The Contractor shall stamp the Contractor's name and the year constructed on the concrete work which the Contractor constructs or reconstructs for the City of Madison. Such identification shall be stamped at the beginning and end of each section of the project. The stamp shall be approximately five (5) inches by seven (7) inches in size, and may be either oval or rectangular in shape.

303.2(i) Concrete Sidewalks.

Concrete sidewalks shall be five (5) inches in thickness, five (5) feet in width, constructed of nonreinforced concrete, with a transverse slope of 1.50%, unless otherwise noted on the plans or in the special provisions of the contract, or unless otherwise directed by the Engineer.

Where directed by the Engineer, all existing sidewalk in the terrace between the curb and public sidewalk that is removed during the construction of new curb and gutter, shall be replaced in the same location and to the same dimensions as was true of original terrace walks.

303.2(j) Concrete Aprons.

All concrete driveways, concrete sidewalk at commercial driveways, curb ramps and where otherwise designed by the Engineer shall be seven (7) inches and constructed of nonreinforced concrete unless otherwise noted on the plans or in the Special Provisions of the contract. Expansion joints shall conform to the requirements of Subsection 303.2(d). Contraction joint shall conform to the requirements of Subsection 303.2(d), except that the Contractor may cut diagonal joints in order to control the cracking of the concrete in the curved areas of commercial drives.

303.2(k) Concrete Mountable Median Island Nose.

Mountable median island nose shall be constructed at the locations and in accordance with the design, dimensions and details shown on the plans.

303.2(l) Steps of Concrete Masonry.

When construction of steps is included in the contract, they shall be built at the locations and in accordance with the design, dimensions and details shown on the plans. The work shall include reinforcement and necessary excavation, backfilling, and disposal of excess material from excavation.

Part III - Concrete and Concrete Structures

303.2(m) Profile Sawcuts.

Where directed by the Engineer, the Contractor shall construct curb cuts in existing curb and gutter, using a "profile curb cut" with the curb head removed by using a machine type concrete saw specifically designed for this type of work.

303.2(n) Curb Ramp Detectable Warning

Field. Description

This special provision describes placing detectable warning fields in curb ramps in accordance with the requirements of the standard specifications and as hereinafter provided.

Materials

Furnish Curb Ramp Detectable Warning Fields, which shall be cast iron set in the concrete, manufactured by East Jordan Ironworks, Neenah Foundry, Pioneer Detectable LLC, Tuftile (or equivalent).

Detectable Warning Field Panels shall be cast iron per ASTM A48 class 35B or better. Detectable Warning Field Panels shall be ADA compliant.

Construction

Place curb ramp detectable warning field as shown and detailed in the standard specifications, detail 3.03 and 3.04.

303.3 Measurement and Payment.

303.3(a) Method of Measurement.

Sidewalks, sidewalk ramps, mountable median island nose, driveways and steps shall be measured by area in square feet. The measured areas of crosswalks shall be included with the measured areas of sidewalks.

Curb Ramp Detectable Warning Field shall be measured in place by the square feet of surface area.

303.3(b) Basis of Payment.

On this project, all work shall be paid as part of the lump sum price and shall be full compensation for furnishing all materials, including concrete masonry, expansion joints and sealant; for excavations and preparation of subgrade including subbase, backfilling, and disposal of surplus material; for forming; for placing, finishing, protecting, jointing, sealing and curing of the concrete; and for all labor, tools, equipment and incidentals necessary to complete the work and restore the site of the work.

Payment for Curb Ramp Detectable Warning Field is full compensation for providing all materials, including detectable warning field panels, finishing, protecting, and curing concrete; and restoring the work site; and for all labor, tools, equipment and incidentals required to complete the work and restore the site. Payment for any concrete sidewalk directly below detectable warning field is paid for separately under the applicable concrete bid item.

END OF SECTION

2018 CAPITAL CITY TRAIL PAVEMENT RESTORATION DANE COUNTY PARKS

CITY OF MADISON & CITY OF FITCHBURG DANE COUNTY, WI

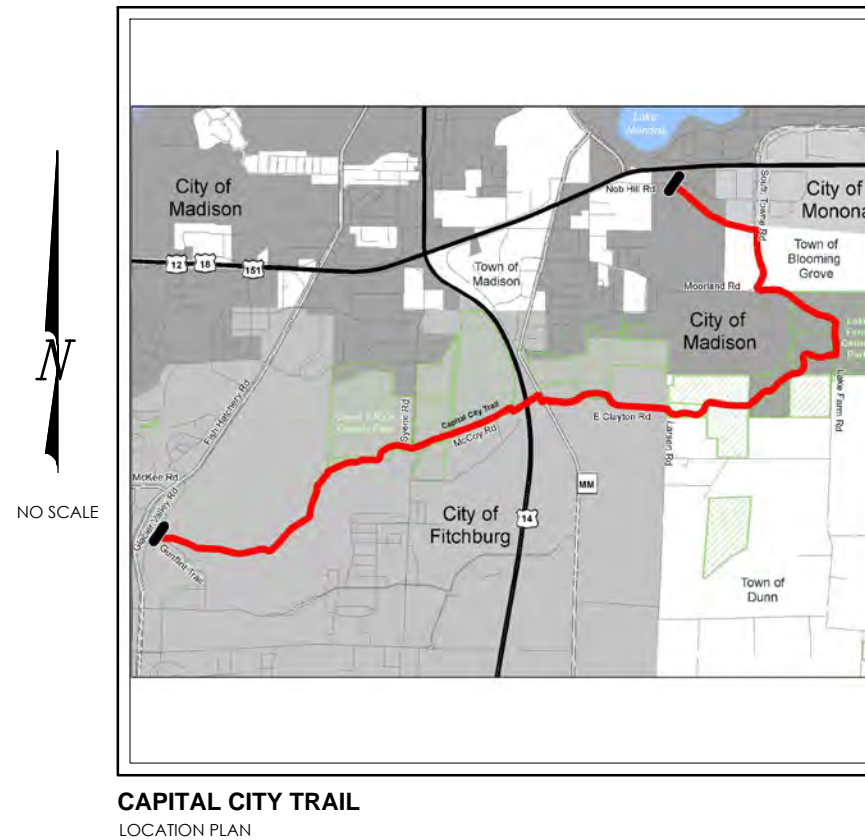
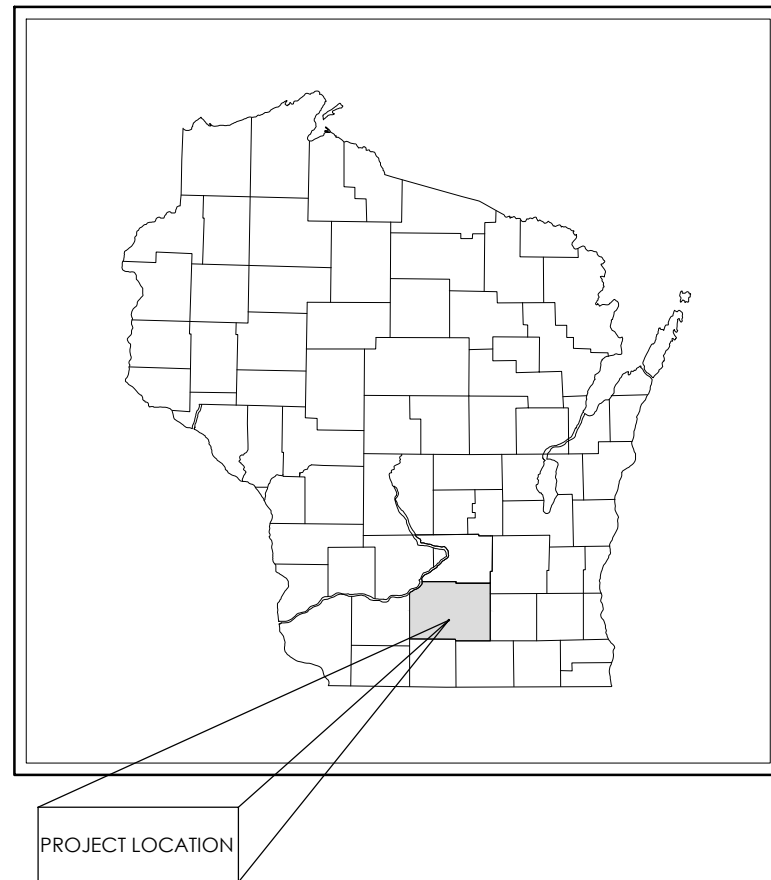


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OWNER: DANE COUNTY PARKS
PROJECT CONTACT: RYAN SHORE, ENGINEERING PROJECT MANAGER (608) 266.4475
ENGINEER: GENERAL ENGINEERING COMPANY, KORY ANDERSON (608) 742.2169

ENGINEER SEAL:

SCALE

DRAWN BY	LAL
REVIEWED BY	KDA
ISSUE DATE	JUNE 2017
GEC FILE NO.	2-0517-275
SHEET NO.	G1.0

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TITLE PAGE
CAPITAL CITY TRAIL PAVEMENT RESTORATION
DANE COUNTY PARKS
CITY OF MADISON & CITY OF FITCHBURG
DANE COUNTY, WI

REVISIONS	NO.	BY	DATE
LOCATION, MAPS, TOC	1	PARKS	2/1/18

CONSTRUCTION NOTES

GENERAL

- ALL EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED, BY CONTRACTOR, PRIOR TO CONSTRUCTION.
- ALL WORK IN ROAD RIGHT-OF-WAYS SHALL BE COORDINATED AND PERMITTED WITH THE LOCAL MUNICIPALITY (MADISON & FITCHBURG).
- ALL ASPHALT REPAIRS/REPLACEMENT SHALL BE SAWCUT TO MATCH EXISTING PAVEMENT AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- PAVING AND GRADING SHALL BE ADJUSTED TO MATCH EXISTING MANHOLE, ADJACENT CONCRETE REST AREAS AND/OR BOARDWALK ELEVATIONS AND PROVIDE A SMOOTH TRANSITION, UNLESS OTHERWISE SPECIFIED ON PLANS.
- EXISTING DRAINAGE PATTERNS SHALL BE MAINTAINED.
- ANY FILL PLACED UNDER PAVED AREAS SHALL BE STRUCTURALLY SOUND.
- ALL SIGNS AND BENCHES ADJACENT TO TRAIL SHALL BE REMOVED/REPLACED BY OWNER.
- CONTRACTOR IS RESPONSIBLE FOR ALL TRAIL AND ROADWAY TRAFFIC CONTROL.
- THE PREFERRED WINDOW FOR CONSTRUCTION EQUIPMENT ALONG TRAIL IS 12 FEET WIDE AND 12 FEET HIGH.
- MINOR TREE TRIMMING WILL BE REQUIRED IN AREAS ALONG THE TRAIL TO ALLOW FOR CONSTRUCTION EQUIPMENT. OWNER APPROVAL IS REQUIRED PRIOR TO ANY OAK PRUNING.
- TRAIL CONSTRUCTION IS FROM NOB HILL ROAD TO GLACIER VALLEY ROAD (APPROX. 6.5 MILES).
- NO WORK SHALL BEGIN PRIOR TO JULY 9TH, 2018 AND ALL WORK SHALL BE COMPLETE BY NOVEMBER 1, 2018.
- TRAIL CLOSURE SHALL NOT EXCEED 6 CONSECUTIVE WEEKS.
- THE CONTRACTOR SHALL COORDINATE PHASING AND SCHEDULE WITH THE OWNER/ENGINEER AND PROVIDE TWO WEEKS NOTICE PRIOR TO ANY CLOSURE.

EXISTING LINETYPES LEGEND

- San — SANITARY SEWER
- ST — STORM SEWER
- WM — WATER MAIN
- FM — FORCE MAIN
- E — ELECTRIC
- OE — OVERHEAD ELECTRIC
- G — GAS
- FO — FIBER OPTIC
- T — TELEPHONE
- TV — TV
- x — x — x — FENCE
- o — o — o — GUARD RAIL
- GL — GL — GL — GRADING LIMITS
- SF — SF — SF — SILT FENCE
- DB — DB — DB — DOUBLE SEDIMENT BARRIER
- ||||| TREELINE

SYMBOLS LEGEND

- EXISTING MANHOLE
- PROPOSED MANHOLE
- EXISTING HYDRANT
- PROPOSED HYDRANT
- ⊗ VALVE
- ⊕ CURB STOP
- ⊠ TRACER WIRE TERMINAL BOX
- △ WELL
- PROPERTY CORNER
- LIGHT POLE
- POWER / TELEPHONE POLE
- GUY WIRE
- UTILITY PEDESTAL
- SIGN
- ⊕ SOIL BORING
- ⊕ MONITORING WELL
- ⊕ MAILBOX
- ⚠ POTENTIAL HAZARD
- ⊕ BENCHMARK
- ⊕ GEC-CP # CONTROL POINT
- DECIDUOUS TREE
- CONIFEROUS TREE
- ♿ HANDICAP SYMBOL

ABBREVIATION LIST

- B-B = BACK TO BACK
- BOC = BACK OF CURB
- BOP = BOTTOM OF PIPE
- BOW = BOTTOM OF WALL
- C-C = CENTER TO CENTER
- CL = CENTERLINE
- CP = CONTROL POINT
- DIA = DIAMETER
- ELEV = ELEVATION
- EOG = EDGE OF GRAVEL
- EOP = EDGE OF PAVEMENT
- EX = EXISTING
- FL = FLOW LINE
- FM = FORCE MAIN
- HC = HORIZONTAL CURVE
- HP = HIGH POINT
- IE = INVERT ELEVATION
- INL = INLET
- INV = INVERT
- IOS = INSIDE OF STRUCTURE
- L = LENGTH
- LN = LINE
- LP = LOW POINT
- MH = MANHOLE
- MIN = MINIMUM
- MP = MIDPOINT
- PC = POINT OF CURVE
- PI = POINT OF INTERSECTION
- PRO = PROPOSED
- PT = POINT OF TANGENT
- PVC = POINT OF VERTICAL CURVE
- PVI = POINT OF VERTICAL INTERSECTION
- PVMT = PAVEMENT
- PVT = POINT OF VERTICAL TANGENT
- R = RADIUS
- ROW = RIGHT OF WAY
- S = SANITARY SEWER SERVICE LATERAL
- SAN = SANITARY SEWER
- SE = SPOT ELEVATION
- ST = STORM SEWER
- STA = STATION
- STD = STANDARD
- TC = TOP OF CURB
- TOP = TOP OF PIPE
- TOW = TOP OF WALL
- TYP = TYPICAL
- UOS = UNLESS OTHERWISE SPECIFIED
- VC = VERTICAL CURVE
- W = WATER MAIN SERVICE LATERAL
- WM = WATER MAIN

DIGGERS HOTLINE NOTE



To Obtain Location of Participants Underground Facilities Before You Dig in Wisconsin

CALL DIGGERS HOTLINE
1-800-242-8511

Wis Statute 182.0175 (1974)
Requires Min. 3 Work Days
Notice Before You Excavate

OWNER

DANE COUNTY PARKS
5201 FEN OAK DR.
MADISON, WI 53718
PHONE: (608)224-3730

PURCHASE # 20171369-00

UTILITIES

- | | |
|--|---|
| <p>1. MADISON GAS & ELECTRIC
133 S. BLAIR ST.
MADISON, WI 53703
PHONE: (608) 252-5618</p> <p>2. TELEPHONE-AT&T-TDS TELECOM
PHONE: (608) 252-2432</p> <p>3. WISCONSIN INDEPENDENT NETWORK (WIN)
JIM BIRKENHEIER: (715) 838-4007
JBIRKENHEIER@WINS.NET</p> <p>4. SEWER - MMSD
1610 Moorland Rd
MADISON, WI 53713
PHONE: (608) 222-1201</p> <p>5. SEWER - CITY OF MADISON
JOHN FAHRNEY: (608) 226-9091
JFAHRNEY@CITYOFMADISON.COM</p> <p>BRYAN MANNING:
BMANNING@CITYOFMADISON.COM</p> | <p>6. CABLE TV - CHARTER COMMUNICATIONS
2701 DANIELS ST.
MADISON, WI 53718
PHONE: (608) 209-3203</p> <p>7. WATER - FITCHBURG WATER & UTILITIES
5520 LACY RD.
FITCHBURG, WI 53711
PHONE: (608) 270-4200</p> <p>8. MUNICIPALITY - CITY OF FITCHBURG
5520 LACY RD.
FITCHBURG, WI 53711
PHONE: (608) 270-4200</p> <p>9. MUNICIPALITY - CITY OF MADISON
210 MARTIN LUTHER KING, JR. BLVD
MADISON, WI 53703
PHONE: (608) 266-4751</p> <p>10. WISCONSIN & SOUTHERN RAILROAD
KEN LUCHT
PHONE: (414) 750-6402</p> |
|--|---|



General Engineering Company

P.O. Box 340 • 916 Silver Lake Dr. • Portage, WI 53901
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LEGEND & NOTES
CAPITAL CITY TRAIL PAVEMENT RESTORATION
DANE COUNTY PARKS

CITY OF MADISON & CITY OF FITCHBURG
DANE COUNTY, WI

REVISIONS	NO.	BY	DATE
Contacts, Construction & EC Notes	1	PARKS	2/1/18

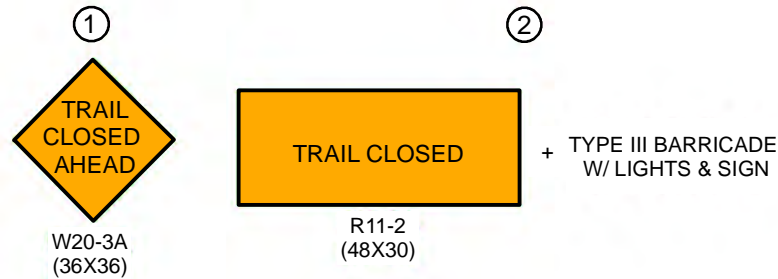
SCALE

DRAWN BY	LAL
REVIEWED BY	KDA
ISSUE DATE	JUNE 2017
GEC FILE NO.	2-0517-275
SHEET NO.	



TRAIL TRAFFIC CONTROL PLAN
CAPITAL CITY TRAIL PAVEMENT RESTORATION
DANE COUNTY PARKS

CITY OF MADISON & CITY OF FITCHBURG
DANE COUNTY, WI



- TRAFFIC CONTROL GENERAL NOTES:**
1. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
 2. SIGN LOCATIONS MAY BE ADJUSTED IN THE FIELD AS APPROVED BY THE ENGINEER, ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS WORK SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.
 3. ALL ADVANCED WARNING SIGNS SHALL USE FLUORESCENT DIAMOND GRADE SHEETING.
 4. CONTRACTOR HAS OPTION OF USING EXISTING POWER POLES, LIGHT POLES, SIGN POSTS, STOP LIGHT POLES, ETC. TO INSTALL TRAFFIC CONTROL SIGNS AS APPROVED BY THE ENGINEER OR THE OWNER.
 5. ROADWAY TRAFFIC CONTROL IS THE RESPONSIBILITY OF THE CONTRACTOR AS APPROVED BY ENGINEER.
 6. ALL TRAFFIC CONTROL SIGNS SHALL COMPLY WITH MUTCD SPECIFICATIONS.
 7. ALL ACCESS, PARKING AND STAGING AREAS SHALL BE APPROVED BY THE OWNER PRIOR TO USE AND RESTORED.



Drawn By ADD
Reviewed by CJ
Issue Date 2/1/18



G2.0



SIGN TYPE ID TYPE III BARRICADE W/ LIGHTS & SIGN SIGN CONSTRUCTION ACCESS CONSTRUCTION STAGING & PARKING AREA

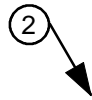


W20-3A (36X36)



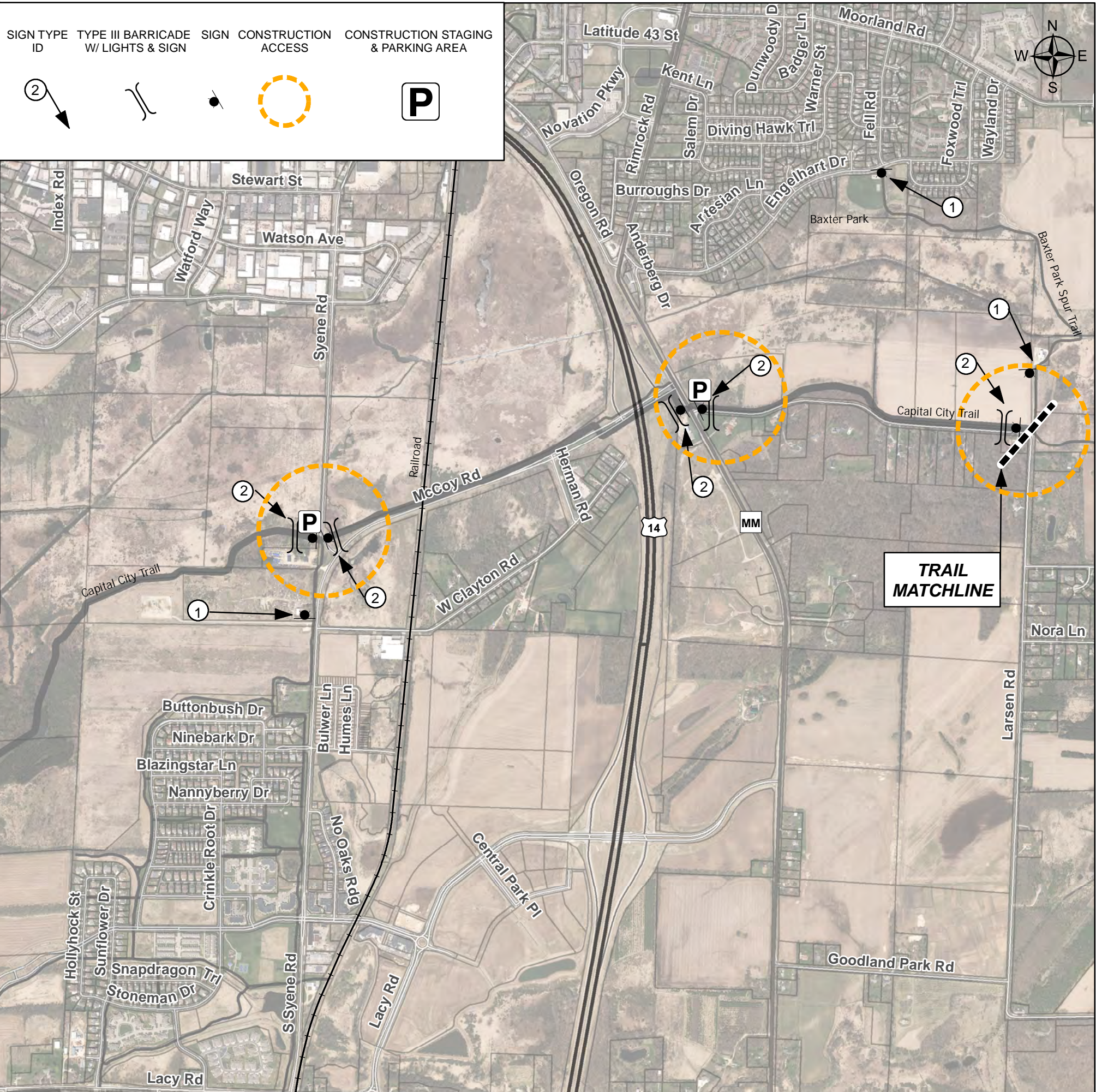
R11-2 (48X30)

+ TYPE III BARRICADE W/ LIGHTS & SIGN



TRAFFIC CONTROL GENERAL NOTES:

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TRAIL TRAFFIC CONTROL PLAN
CAPITAL CITY TRAIL PAVEMENT RESTORATION
DANE COUNTY PARKS

CITY OF MADISON & CITY OF FITCHBURG
 DANE COUNTY, WI

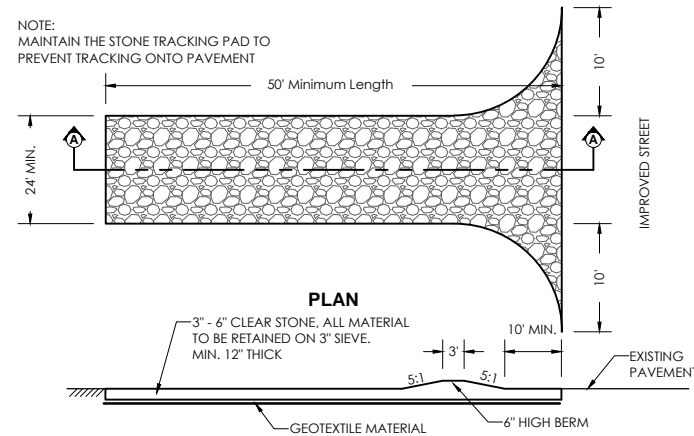
Drawn By ADD
 Reviewed by CJ
 Issue Date 2/1/18



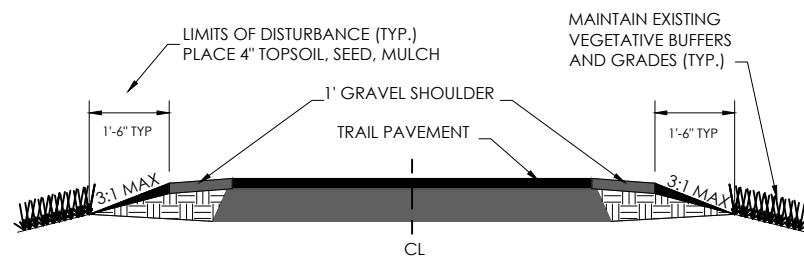
EROSION CONTROL NOTES

1. ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO CONSTRUCTION.
2. ADDITIONAL EROSION CONTROL MEASURES MAY BE ADDED ON AN AS-NEEDED BASIS.
3. ANY DISTURBED AREAS SHALL BE STABILIZED WITH SEED AND MULCH AT THE END OF EACH WORK WEEK AND/OR PRIOR TO ANY FORECASTED RAIN EVENT.
4. ANY AREAS WHERE GRADING IS COMPLETE SHALL BE STABILIZED WITH SEED & MULCH AS SOON AS POSSIBLE USING MADISON PARKS SEED MIX, 4 LBS./1,000 SF & STRAW MULCH, 1.5 TONS/ACRE.
5. ALL BEST MANAGEMENT PRACTICES WILL BE INSTALLED BY THE TIME THE CONSTRUCTION SITE IS CONSIDERED STABILIZED.
6. A COPY OF THIS EROSION CONTROL PLAN AND PERMITS SHALL BE KEPT ON SITE THROUGHOUT THE DURATION OF THE PROJECT.
7. STOCKPILES LEFT INACTIVE FOR 7 DAYS SHALL BE SEEDED AND SURROUNDED BY SILT FENCE.
8. ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING GARBAGE, DEBRIS, CLEANING WASTES, OR OTHER CONSTRUCTION MATERIALS) SHALL BE PROPERLY DISPOSED OF AND NOT ALLOWED TO BE CARRIED BY RUNOFF INTO RECEIVING CHANNEL.
9. WHEN WORKING WITHIN 50' OF THE WETLAND, SPECIAL CARE NEEDS TO BE TAKEN AS TO NOT DISTURB ANY WETLAND FEATURES.
10. STREETS SHALL BE SWEEPED AT THE END OF EACH WORK DAY OR AS DIRECTED BY THE MUNICIPALITY.
11. TRACKING PADS SHALL BE USED AT THE CONSTRUCTION ENTRANCE AND EXITS.
12. CONTRACTOR WILL BE RESPONSIBLE FOR ALL DUST CONTROL.
13. ALL SEDIMENT THAT MOVES OFF-SITE DUE TO CONSTRUCTION ACTIVITY OR STORM EVENTS WILL BE CLEANED UP BEFORE THE END OF THE SAME WORKDAY.
14. ALL INSTALLED EROSION CONTROL PRACTICES WILL BE MAINTAINED UNTIL THE DISTURBED AREAS THEY PROTECT ARE STABILIZED.

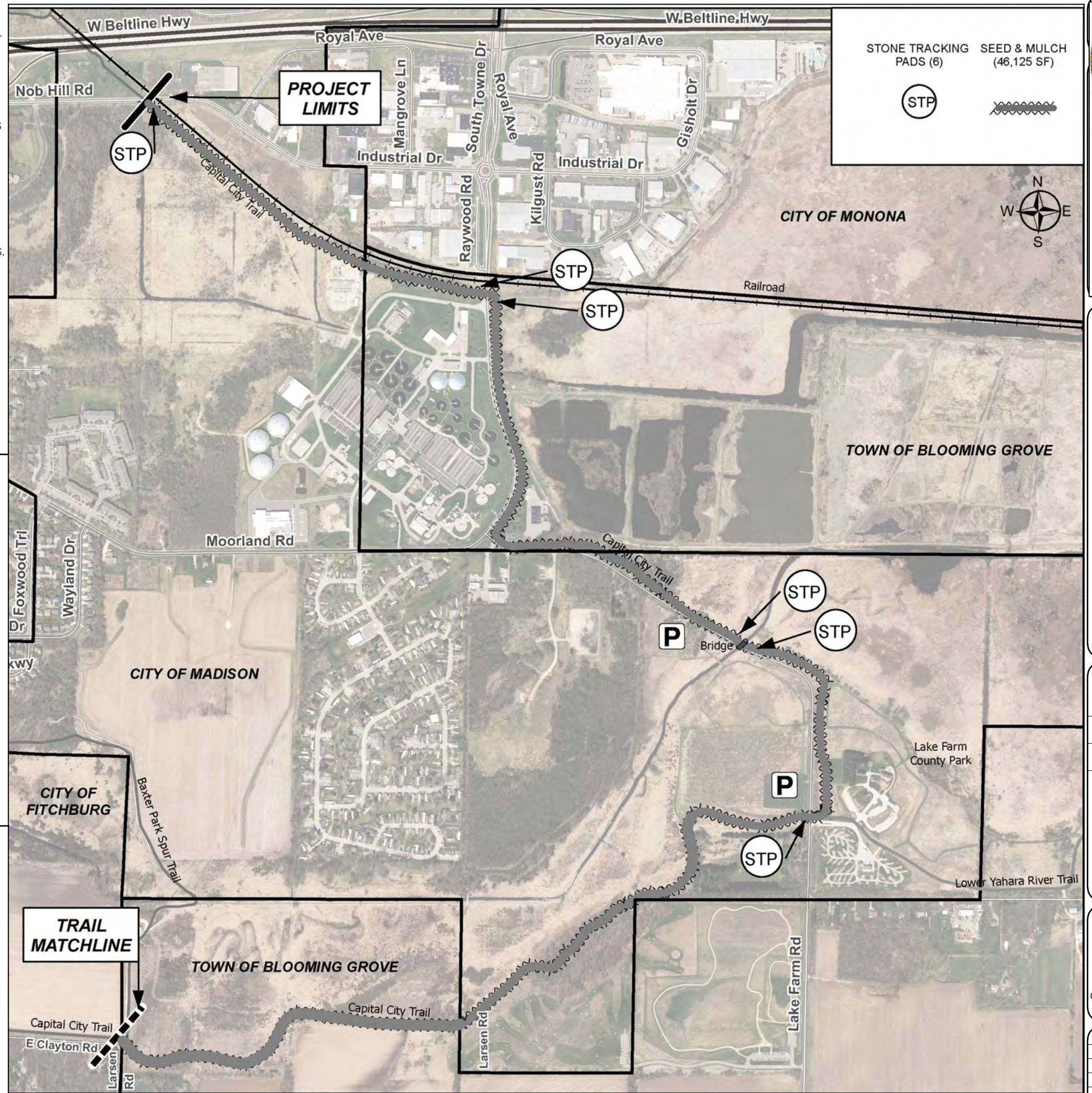
EROSION CONTROL DETAILS



**SECTION A-A
STONE TRACKING PAD**



SEED & MULCH STABILIZATION



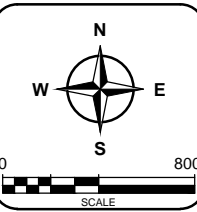
STONE TRACKING PADS (6) SEED & MULCH (46,125 SF)

(STP)



EROSION CONTROL PLAN
CAPITAL CITY TRAIL PAVEMENT RESTORATION
DANE COUNTY PARKS
 CITY OF MADISON & CITY OF FITCHBURG
 DANE COUNTY, WI

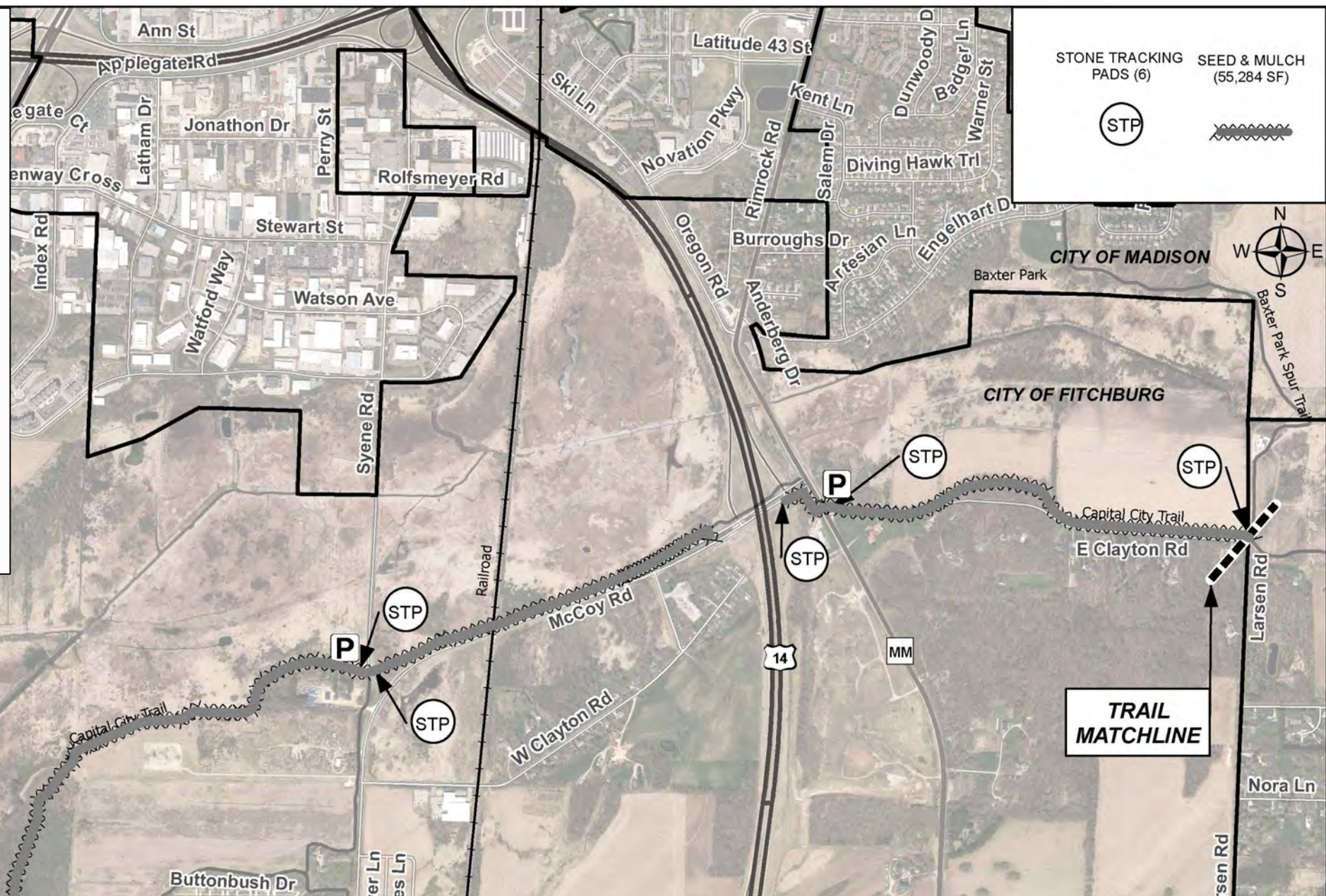
REVISIONS	NO.	BY	DATE
Map Details, Notes	1	PARKS	2/1/18



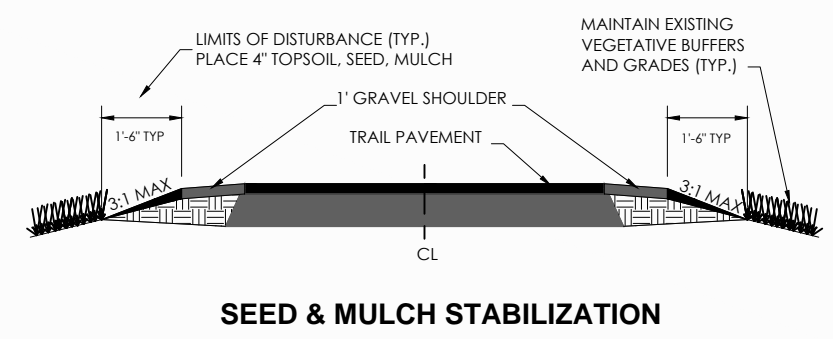
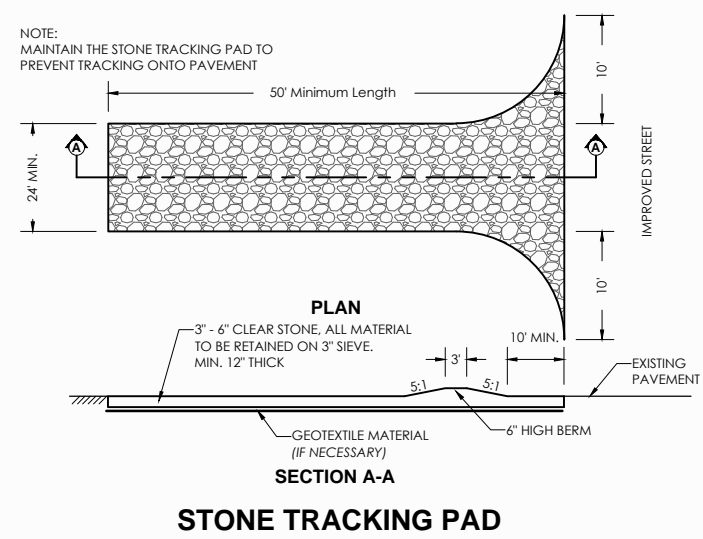
DRAWN BY: ADD
 REVIEWED BY: CJ
 ISSUE DATE: FEB 2018
 GEC FILE NO.: 2-0517-275
 SHEET NO.:

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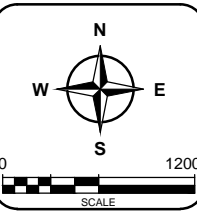


EROSION CONTROL DETAILS



EROSION CONTROL PLAN
CAPITAL CITY TRAIL PAVEMENT RESTORATION
DANE COUNTY PARKS
 CITY OF MADISON & CITY OF FITCHBURG
 DANE COUNTY, WI

NO.	DATE	BY	REVISIONS
1	2/1/18	PARKS	Map, Details, Notes



DRAWN BY: ADD
 REVIEWED BY: CJ
 ISSUE DATE: FEB 2018
 GEC FILE NO.: 2-0517-275
 SHEET NO.:



General Engineering Company
 P.O. Box 340 • 916 Silver Lake Dr. • Portage, WI 53901
 608-742-2169 (Office) • 608-742-2592 (Fax)
 www.generalengineering.net

TRAIL PAVEMENT RESTORATION PLAN
CAPITAL CITY TRAIL PAVEMENT RESTORATION
DANE COUNTY PARKS

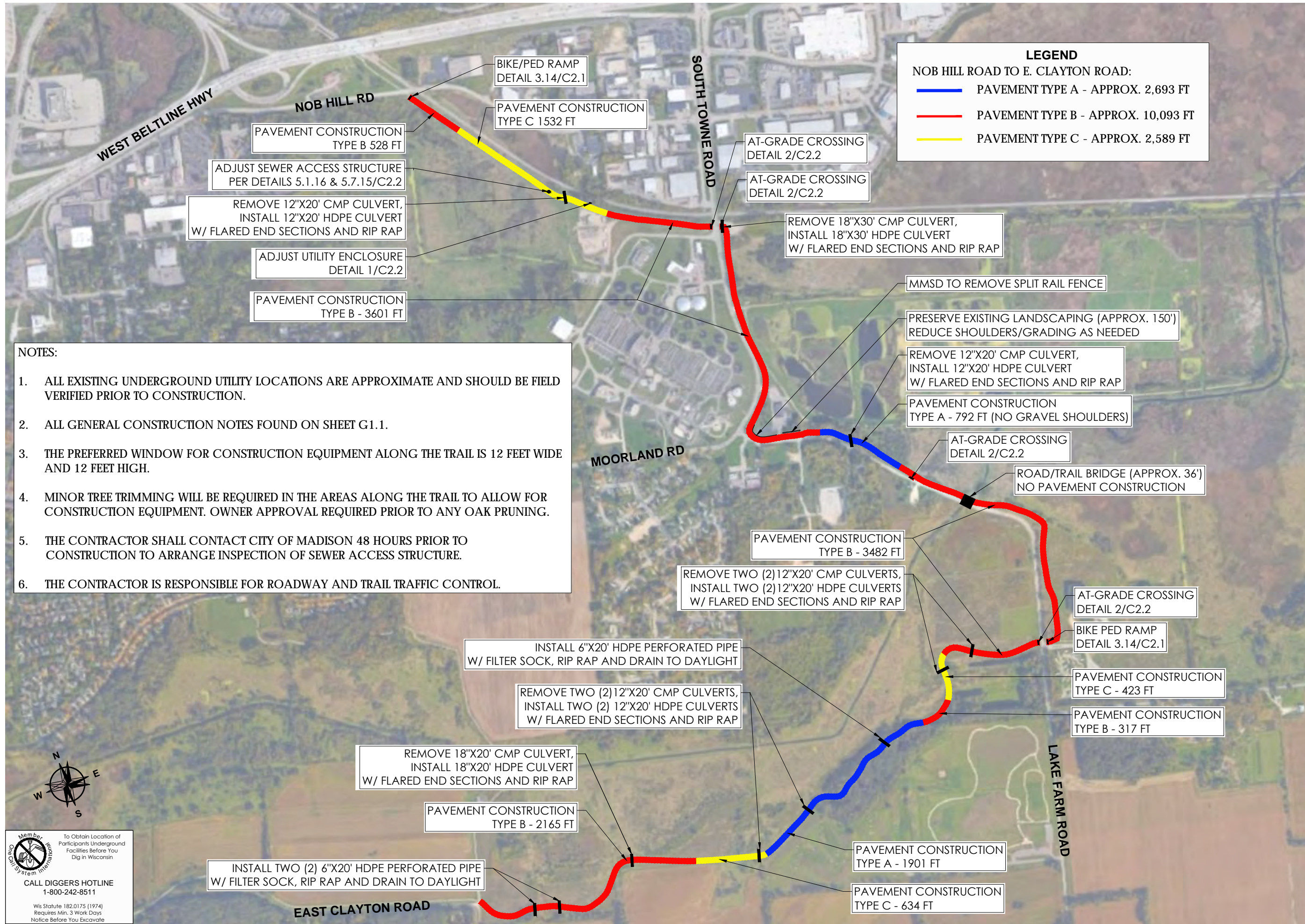
REVISIONS	NO.	BY	DATE
SAS - CULVERTS, CROSSINGS	1	PARKS	2/1/18

0	800
SCALE	
DRAWN BY	LAL
REVIEWED BY	KDA
ISSUE DATE	JUNE 2017
GEC FILE NO.	2-0517-275
SHEET NO.	C1.0

LEGEND

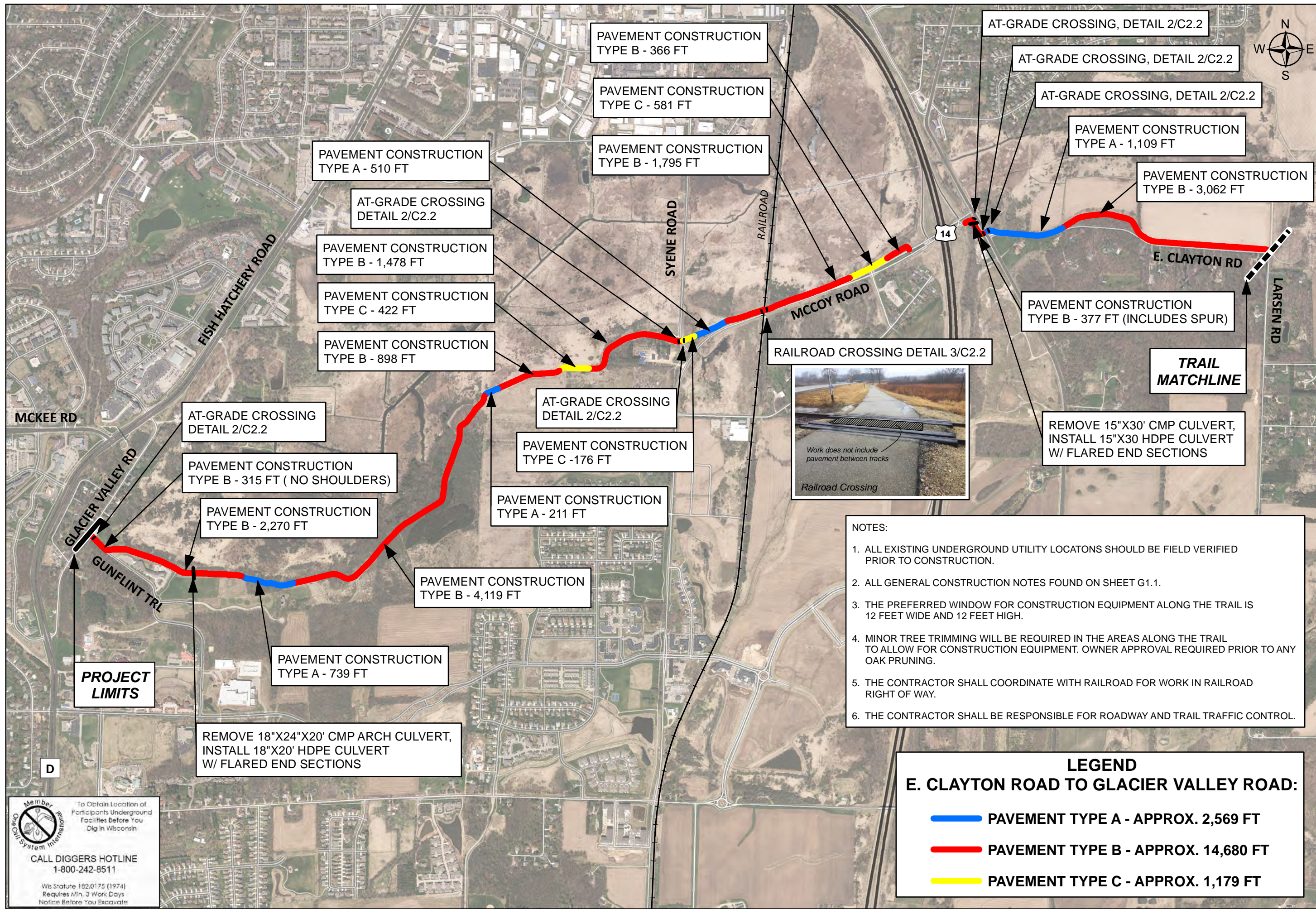
NOB HILL ROAD TO E. CLAYTON ROAD:

- PAVEMENT TYPE A - APPROX. 2,693 FT
- PAVEMENT TYPE B - APPROX. 10,093 FT
- PAVEMENT TYPE C - APPROX. 2,589 FT



- NOTES:**
- ALL EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
 - ALL GENERAL CONSTRUCTION NOTES FOUND ON SHEET G1.1.
 - THE PREFERRED WINDOW FOR CONSTRUCTION EQUIPMENT ALONG THE TRAIL IS 12 FEET WIDE AND 12 FEET HIGH.
 - MINOR TREE TRIMMING WILL BE REQUIRED IN THE AREAS ALONG THE TRAIL TO ALLOW FOR CONSTRUCTION EQUIPMENT. OWNER APPROVAL REQUIRED PRIOR TO ANY OAK PRUNING.
 - THE CONTRACTOR SHALL CONTACT CITY OF MADISON 48 HOURS PRIOR TO CONSTRUCTION TO ARRANGE INSPECTION OF SEWER ACCESS STRUCTURE.
 - THE CONTRACTOR IS RESPONSIBLE FOR ROADWAY AND TRAIL TRAFFIC CONTROL.

Member
 One Call System
 To Obtain Location of Participants Underground Facilities Before You Dig in Wisconsin
 CALL DIGGERS HOTLINE
 1-800-242-8511
 Wis Statute 182.0175 (1974)
 Requires Min. 3 Work Days
 Notice Before You Excavate



TRAIL PAVEMENT RESTORATION PLAN
CAPITAL CITY TRAIL PAVEMENT RESTORATION
DANE COUNTY PARKS
CITY OF MADISON & CITY OF FITCHBURG
DANE COUNTY, WI

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 4. MINOR TREE TRIMMING WILL BE REQUIRED IN THE AREAS ALONG THE TRAIL TO ALLOW FOR CONSTRUCTION EQUIPMENT. OWNER APPROVAL REQUIRED PRIOR TO ANY OAK PRUNING.
 5. THE CONTRACTOR SHALL COORDINATE WITH RAILROAD FOR WORK IN RAILROAD RIGHT OF WAY.
 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ROADWAY AND TRAIL TRAFFIC CONTROL.

LEGEND
E. CLAYTON ROAD TO GLACIER VALLEY ROAD:

- PAVEMENT TYPE A - APPROX. 2,569 FT
- PAVEMENT TYPE B - APPROX. 14,680 FT
- PAVEMENT TYPE C - APPROX. 1,179 FT



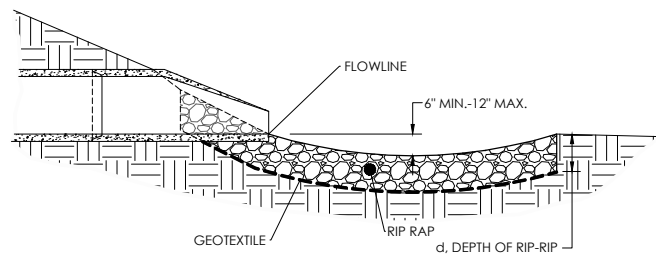
C1.1

Member
Open Call System Interactions

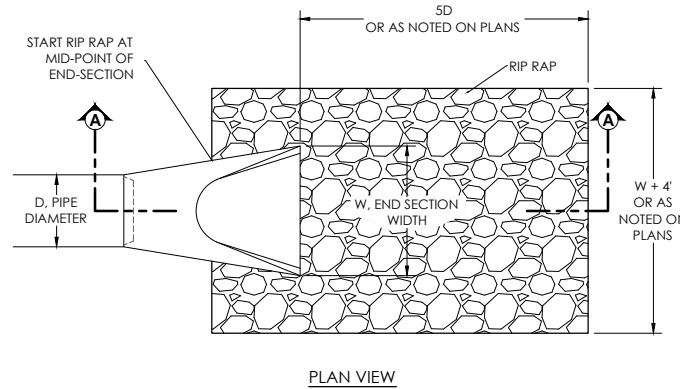
To Obtain Location of Participants Underground Facilities Before You Dig In Wisconsin

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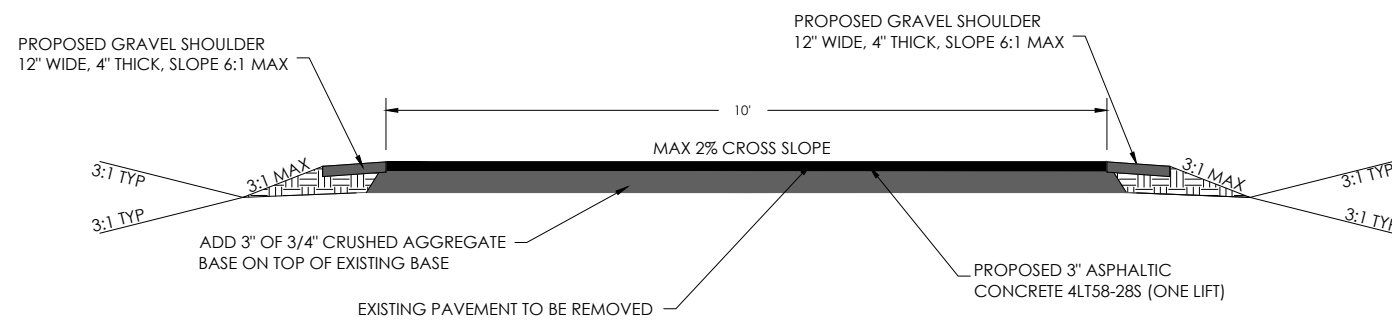


RIP RAP CLASS	WIS DOT RIP RAP EQUIVALENT	d. DEPTH
1	--	9"
2	LIGHT	18"
3	HEAVY	27"
4	EXTRA HEAVY	36"

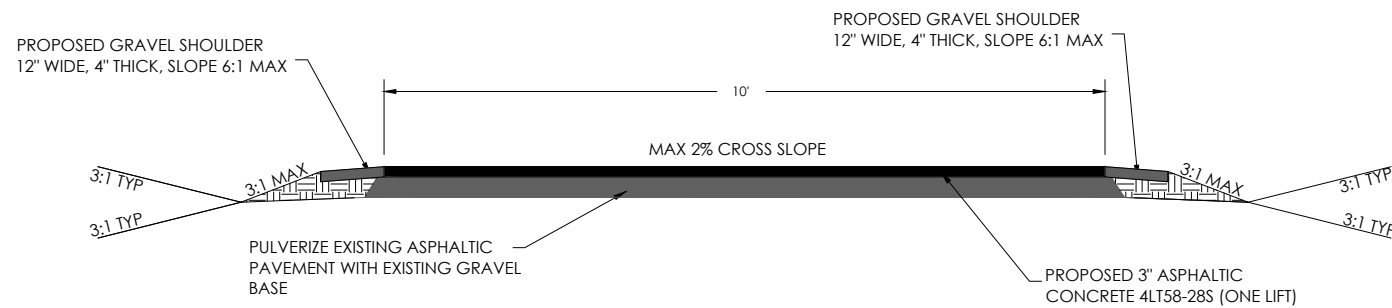


HDPE PIPE

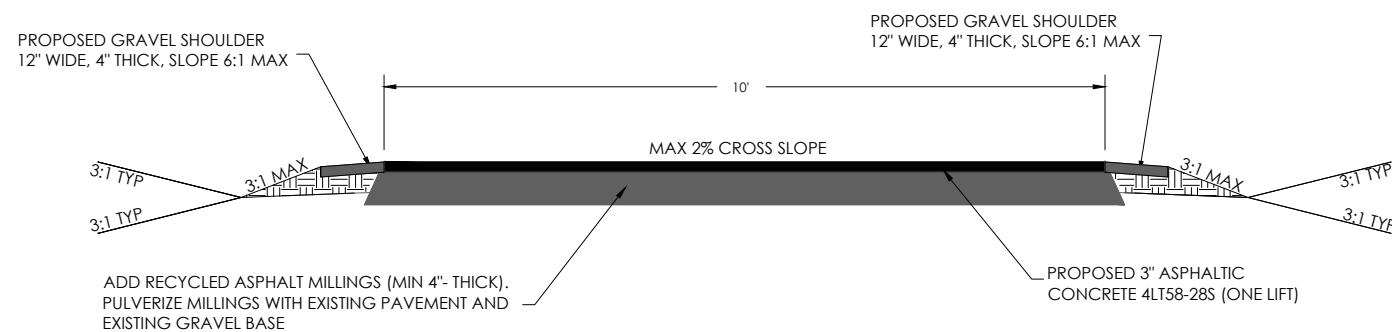
RIP RAP AT PIPE DISCHARGE



TYPICAL TRAIL CROSS SECTION - PAVEMENT TYPE A



TYPICAL TRAIL CROSS SECTION - PAVEMENT TYPE B



TYPICAL TRAIL CROSS SECTION - PAVEMENT TYPE C

NOTES:

FINISHED TRAIL SURFACE SHALL HAVE A 2% MAX CROSS SLOPE.

EXISTING DRAINAGE PATTERNS SHALL BE MAINTAINED.

TYPICAL TRAIL - PAVEMENT TYPE A

1. REMOVE PAVEMENT, ADD TO EXISTING BASE, GRADE, PAVE AND SHOULDER.

2. THIS SHALL BE DONE IN AREAS WHERE TREE ROOTS IMPACT MAY BE SEVERE AND ADJACENT TO STRUCTURES SUCH AS BOX CULVERT CROSSING AND REST AREAS.

TYPICAL TRAIL - PAVEMENT TYPE B

1. PULVERIZE PAVEMENT, GRADE, PAVE AND SHOULDER.

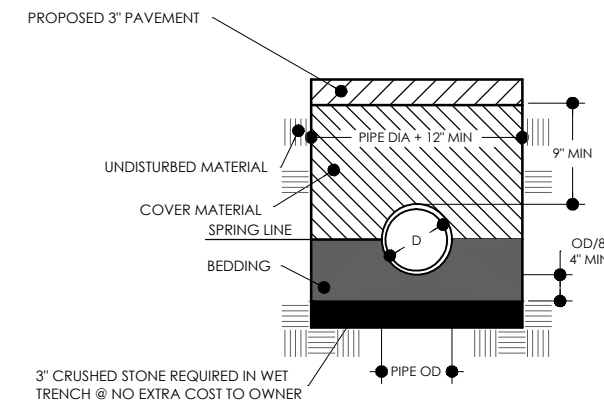
2. THIS SHALL BE DONE IN AREAS WHERE THE EXISTING BASE IS SOUND, BUT THE PAVEMENT IS SHOWING SHRINKAGE OR EDGE CRACKING. THIS OPTION IS PREFERRED OVER TYPE A, BECAUSE IT REQUIRES LESS LOADED TRAFFIC ON THE PATH, WHICH REDUCES THE NEED FOR FULL DEPTH RECONSTRUCTION AND UNDERCUTTING.

TYPICAL TRAIL - PAVEMENT TYPE C

1. ADDITION OF MINIMUM OF 4" OF RECYCLED ASPHALT MILLINGS, PULVERIZE MILLINGS AND PAVEMENT, GRADE, PAVE AND SHOULDER.

2. THIS SHALL BE DONE IN AREAS WHERE THE EXISTING BASE IS QUESTIONABLE AND THE PAVEMENT IS SHOWING DEFORMATION. THIS OPTION IS PREFERRED OVER TYPE B, BECAUSE IT REQUIRES LESS LOADED TRAFFIC ON THE PATH, WHICH REDUCES THE NEED FOR FULL DEPTH RECONSTRUCTION AND UNDERCUTTING. DUE TO THE INCREASED PROFILE ELEVATION, ADJACENT SLOPES AND GRADES SHALL BE CORRECTED TO 3:1 MAX AS APPROVED BY THE ENGINEER.

TRAIL CONSTRUCTION TECHNIQUES NOTES



BEDDING AND COVER MATERIAL:
BEDDING AND COVER MATERIAL SHALL BE INCLUDED IN COST OF THE PIPE AND SHALL MEET THE PIPE MANUFACTURER RECOMMENDATIONS.

INSTALLATION:
CONTRACTOR SHALL SET PIPE AT SAME INVERT ELEVATIONS OF PREVIOUS PIPE AS SURVEYED BY OWNER. CONTRACTOR SHALL VERIFY ELEVATIONS. PLACE BEDDING MATERIAL BENEATH AND AROUND THE PIPE TO PROVIDE UNIFORM SUPPORT PER MANUFACTURER RECOMMENDATIONS. PLACE COVER MATERIAL PER MANUFACTURER RECOMMENDATIONS TO ACHIEVE MINIMUM COVER.



General Engineering Company

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CONSTRUCTION DETAILS
CAPITAL CITY TRAIL PAVEMENT RESTORATION
DANE COUNTY PARKS

CITY OF MADISON & CITY OF FITCHBURG
DANE COUNTY, WI

REVISIONS	NO.	BY	DATE
NOTES, SLOPE, PIPE TYPE/COVER	1	PARKS	2/1/18



DRAWN BY	LAL
REVIEWED BY	KDA
ISSUE DATE	JUNE 2017
GEC FILE NO.	2-0517-275
SHEET NO.	

C2.0

REVISIONS	NO.	BY	DATE
CITY OF MADISON DETAILS	1	PARKS	2/7/18



DRAWN BY	ADD
REVIEWED BY	CJ
ISSUE DATE	JAN 2018
GEC FILE NO.	2-0517-275
SHEET NO.	

GENERAL NOTES

- THESE RAMP TYPES SHALL BE USED IN ALL SITUATIONS UNLESS OTHERWISE NOTED.
- CONCRETE SHALL BE PLACED AND FINISHED TO THE FINISH SURFACE AND SHALL BE CURED PROPERLY.
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CITY OF MADISON
ENGINEERING DIVISION
STANDARD CURB RAMPS
TYPES 1 AND 2
STANDARD DETAIL DRAWING 3.03

GENERAL NOTES

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LEGEND

- CONCRETE
- ASPHALT
- TRUNCATED DOMES DETECTABLE WARNING PATTERN DETAIL

CITY OF MADISON
ENGINEERING DIVISION
CURB RAMPS GENERAL
AND
CURB RAMP TYPE 2-A
STANDARD DETAIL DRAWING 3.04

GENERAL NOTES:

- LATERAL CONTRACTION JOINTS SHALL BE PLACED AT INTERVALS OF NOT MORE THAN 15' NOR LESS THAN 5' IN LENGTH. THE JOINTS SHALL BE A MINIMUM OF 3" IN DEPTH.
- EXPANSION JOINTS SHALL BE PLACED TRANSVERSELY AT RADIUS POINTS ON CURVES OF RADIUS 200' OR LESS, AND AT ANGLE POINTS, OR AS DIRECTED BY THE ENGINEER. THE EXPANSION JOINT SHALL BE A ONE PIECE ASPHALTIC MATERIAL HAVING THE SAME DIMENSIONS AS CURB & GUTTER AT THAT STATION AND BE 1/2" THICK.
- IN ALL CASES, CONCRETE CURB & GUTTER SHALL BE PLACED ON THOROUGHLY COMPACTED CRUSHED STONE.

CITY OF MADISON
ENGINEERING DIVISION
MADISON STANDARD
CONCRETE CURB & GUTTER
STANDARD DETAIL DRAWING 3.06

BIKE PATH RAMP SECTION A-A

BIKE PATH RAMP PLAN

SEE DETAIL 3.06 FOR BIKE/PED. RAMP SECTION TYPE 'A' CURB & GUTTER

NOTES:

- CURB RAMP DETECTABLE WARNING FIELDS REQUIRED WHERE PATH RAMP ENTERS A STREET.
- FOR ANGLES LESS THAN 75° OR GREATER THAN 105° FLARE DIMENSIONS SHALL BE AS SHOWN ON THE PLANS OR SHALL BE REVIEWED BY THE CONSTRUCTION ENGINEER PRIOR TO CONSTRUCTION.
- THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6 INCHES MINIMUM AND 8 INCHES MAXIMUM FROM THE CURB LINE.

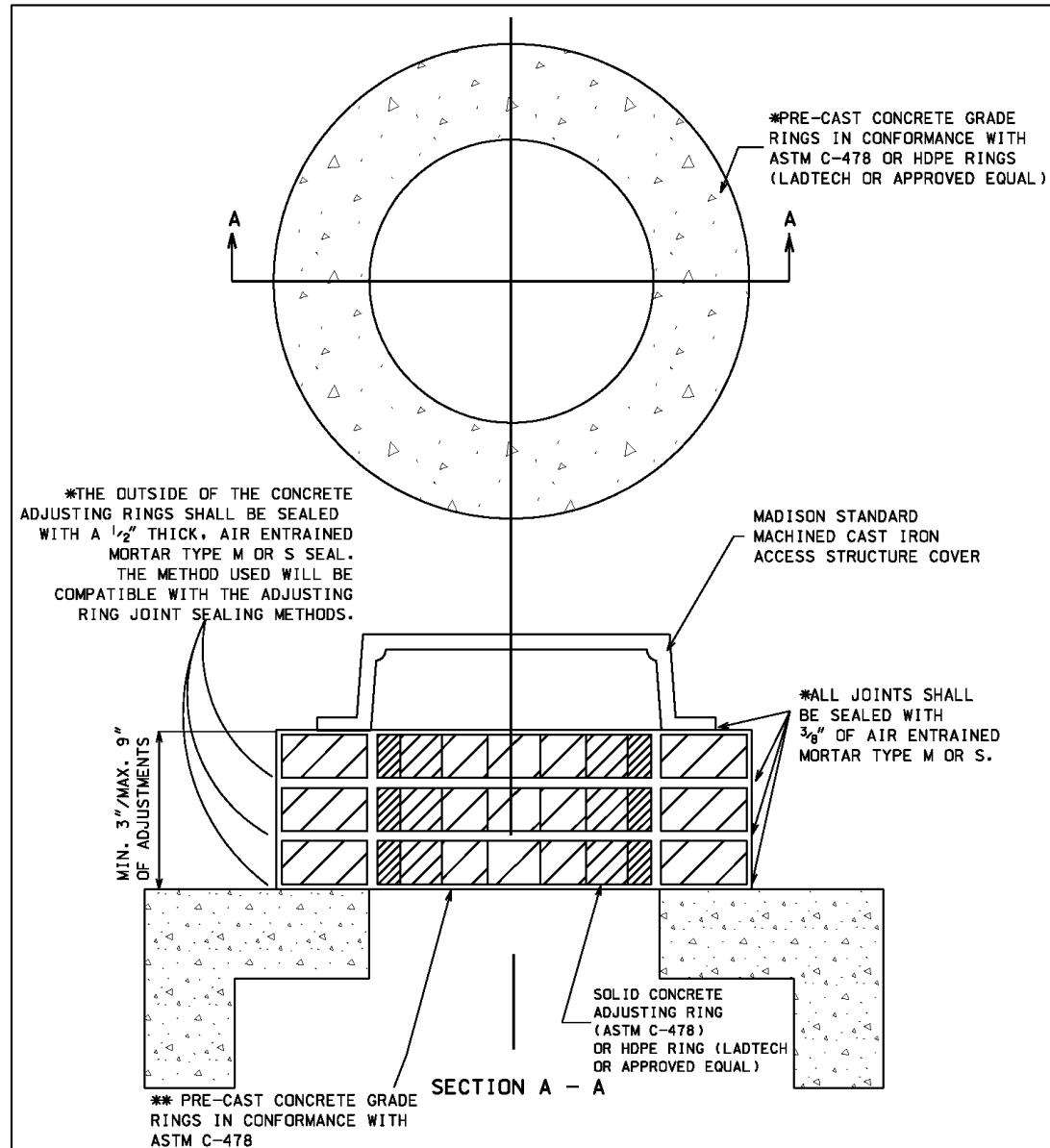
CITY OF MADISON
ENGINEERING DIVISION
BIKE/PED. RAMP
DETAIL
STANDARD DETAIL DRAWING 3.14

1. ADJUST UTILITY ENCLOSURE



NOTES:

1. ADJUST ENCLOSURE HEIGHT TO MATCH FINAL TRAIL ELEVATION.
2. COORDINATE WITH WISCONSIN INDEPENDENT NETWORK (WIN).
3. INSTALL PER MANUFACTURER RECOMMENDATION.
4. APPROXIMATE SIZE 24"x36"

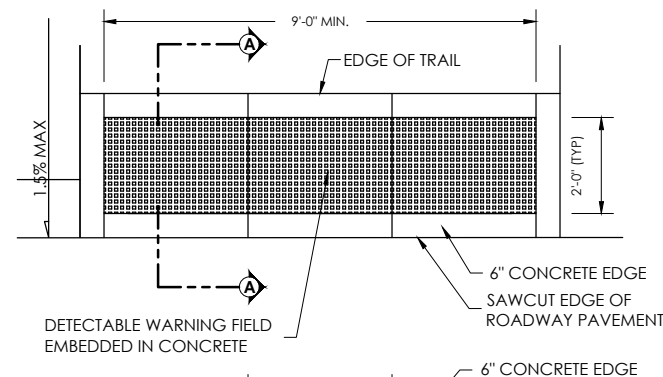


**** NOTE: HDPE ADJUSTMENT RINGS (LADTECH OR APPROVED EQUAL) MEETING AASHTO HS25 SPECS, ASTM D-1248 INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS WILL BE CONSIDERED AN ACCEPTABLE ALTERNATE TO PRECAST RINGS. IF PRO-RINGS ARE INSTALLED FOR THE WHOLE ADJUSTMENT, CONTRACTOR WILL BE PAID FOR AN INTERNAL CHIMNEY SEAL. PRO-RING ADJUSTMENT IS CONSIDERED TO BE EQUIVALENT OF AN INTERNAL CHIMNEY SEAL. PRO-RING SHALL HAVE M-1 ADHESIVE BETWEEN RINGS. CRETEX PRO RING WILL BE CONSIDERED AN ACCEPTED ALTERNATE FOR PRECAST RINGS. RING JOINT SEALANT SHALL BE ASTM C990 AND AASHTO M-198 (TROWABLE EZ-STICK #3 OR EQUAL)**

2017
CITY OF MADISON ENGINEERING DIVISION
SAS CHIMNEY AND CASTING
STANDARD DETAIL DRAWING 5.7.15

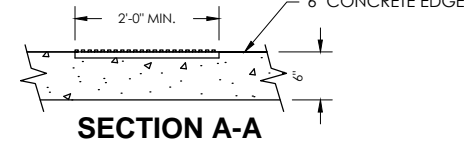
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2. AT-GRADE CROSSING

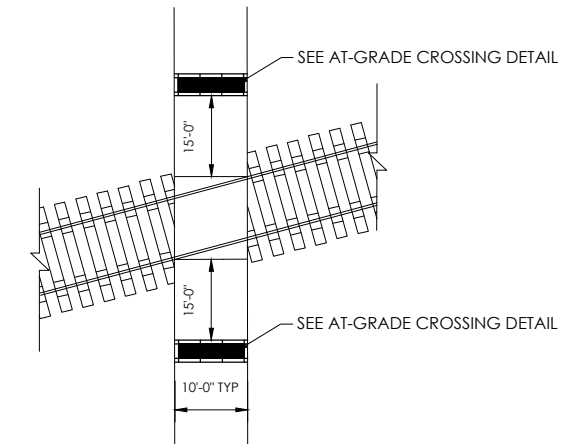


NOTES:

- AT-GRADE CROSSING SHALL BE INSTALLED AT ROADWAY CROSSINGS WHERE NO CONCRETE CURB RAMP IS PRESENT.
- THE ELEVATION OF THE TRAIL AND THE DETECTABLE WARNING FIELD OF AT-GRADE CROSSINGS SHALL MATCH THE ELEVATION OF THE ADJACENT ROADWAY.
- THE TRAIL SURFACE ADJACENT TO THE AT-GRADE CROSSING SHALL PROVIDE A 5' LEVEL LANDING (2% MAXIMUM SLOPE) IN THE DIRECTION OF PEDESTRIAN TRAVEL.

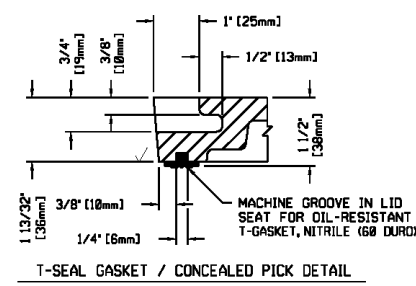
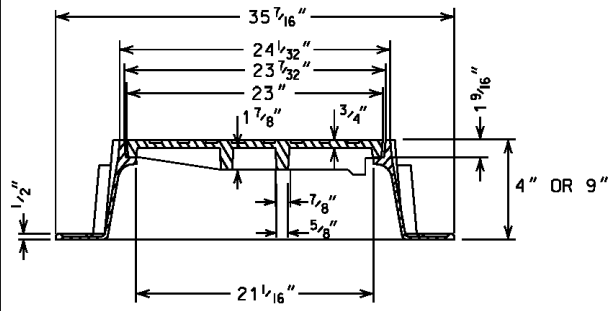
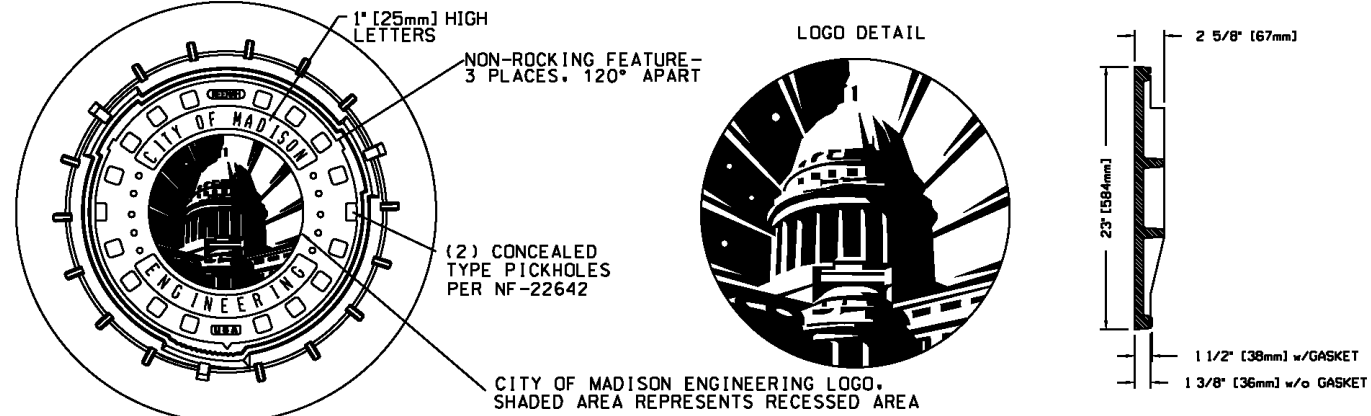


3. RAILROAD CROSSING



NOTES:

- THE RAILROAD CROSSING SHALL UTILIZE THE AT-GRADE CROSSING DETAIL.
- THE ELEVATION OF THE TRAIL AND AT GRADE CROSSING SHALL MATCH THE ELEVATION OF THE RAILS.
- THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL. DETECTABLE WARNING FIELDS SHALL BE PERPENDICULAR TO PEDESTRIAN TRAVEL.



NOTES:

- APPROXIMATE TOTAL WEIGHTS:
R-1550 R-1050 FRAME W/ LOGO LID 1550-0054, 9" FRAME AND LID = 240 LBS.
R-1689 FRAME W/ LOGO LID 1550-0054, 4" FRAME AND LID = 279 LBS.
- IF LOCKABLE LID IS NECESSARY, R-1916 C, 83/4" FRAME AND LID = 300 LBS THERE IS NO CITY OF MADISON LOGO LID AVAILABLE FOR THIS FRAME AND CASTING.
- THE FOLLOWING NEENAH FOUNDRY CASTINGS (OR EQUAL CASTINGS) SHALL BE ACCEPTABLE:
 1. R-1050, 9" NON-ROCKING ACCESS STRUCTURE FRAME.
 2. R-1689, 4" NON-ROCKING ACCESS STRUCTURE FRAME (WHEN REQUESTED BY THE CITY CONSTRUCTION ENGINEER).
 3. R-1916 C LOGO WITH A LOCKING CASTING AS WELL AS A LOCKING FRAME. THIS CASTING SHALL BE USED IN GREENWAYS AND EASEMENTS (SEE SDD 5.7.16a)

1. FRAME AND COVER SHALL BE MACHINED AND FITTED SO THAT ROCKING AND CHATTERING WILL BE ELIMINATED.
 2. ALL LIDS SHALL BE SELF-SEALING EXCEPT FOR STORM SEWER.
 3. ALL LIDS SHALL HAVE CITY OF MADISON LOGO AS SHOWN IN DETAIL (R-1050-0054 OR EQUIV.)
- LID NOTES: ALL DIMENSIONS SHOWN ARE IN ENGLISH AND [METRIC]
MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 40A

2015
CITY OF MADISON ENGINEERING DIVISION
SAS FRAME & COVER
STANDARD DETAIL DRAWING 5.7.16



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CONSTRUCTION DETAILS
CAPITAL CITY TRAIL PAVEMENT RESTORATION
DANE COUNTY PARKS
 CITY OF MADISON & CITY OF FITCHBURG
 DANE COUNTY, WI

REVISIONS	NO.	BY	DATE
SAS CROSSING & ENCL DETAILS	1	PARKS	2/1/18



DRAWN BY	ADD
REVIEWED BY	CJ
ISSUE DATE	JAN 2018
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