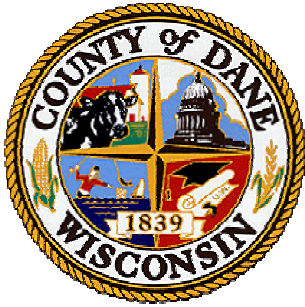


RFB NO. 108060



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. 108060 FENCING & DAM REPAIRS STEWART LAKE DAM 3106 CTY HWY JG MT HOREB, WISCONSIN

Opening Date: **THURSDAY, MAY 8, 2008**

Time: **2:00 P.M.**

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

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

Location: **PUBLIC WORKS OFFICE**

FOR INFORMATION ON THIS REQUEST FOR BIDS, PLEASE CONTACT:

JOHN SCHRAUFNAGEL, PROJECT ENGINEER
TELEPHONE NO.: 608/266-4798
FAX NO.: 608/267-1533
E-MAIL: SCHRAUFNAGEL@CO.DANE.WI.US

DOCUMENT INDEX FOR RFB NO. 108060

PROCUREMENT AND CONTRACTING REQUIREMENTS

Project Manual Cover Page
Documents Index and Dane County Vendor Registration Program
Invitation to Bid (Legal Notice)
Instructions to Bidders
Bid Form
Fair Labor Practices Certification
Best Value Contracting Compliance Form
Sample Public Works Contract
Sample Bid Bond
Sample Performance Bond
Sample Payment Bond
Conditions of Contract
Supplementary Conditions

DIVISION 1 - GENERAL REQUIREMENTS

01000 - Basic Requirements	01508 - Recycling
01090 - Definitions	01510 - Temporary Facilities and Controls
01151 - Unit Prices	

DIVISION 2 - SITE CONSTRUCTION

02075 - Removal of Existing Concrete and Surface Preparation	02820 - Custom Decorative Metal Fence
	02821 - Chain Link Fences

DIVISION 3 - CONCRETE

03110 - Concrete Formwork	03340 - Concrete
03115 - Shoring	03730 - Patching of Structural Concrete
03200 - Concrete Reinforcing	

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

07900 - Crack and Joint Sealants

DRAWINGS

To be printed to correct scale, plot sheets on 24" x 36" (D) paper.

Drawing 1 - Site Plan & Stairs Cross Section
Drawing 2 - Details

DANE COUNTY VENDOR REGISTRATION PROGRAM

All bidders / proposers wishing to submit a bid / proposal should be registered with Dane County Purchasing before bid / proposal opening & must be registered before award of contract. Complete a Vendor Registration Form at www.danepurchasing.com, or obtain one by calling 608/266-4131.

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., THURSDAY, MAY 8, 2008

REQUEST FOR BIDS NO. 108060

FENCING & DAM REPAIRS

STEWART LAKE DAM

MT HOREB, WISCONSIN

Dane County is inviting Bids for construction services. Work includes providing new fencing, new concrete stairs, and repairs to deteriorated dam concrete. Work also includes providing new metal dam stop logs, a 19-foot ladder, and a manhole access hatch..

Request for Bids package may be obtained after **2:00 p.m. on Thursday, April 17, 2008** at Dane County Public Works, Highway & Transportation Dept., 1919 Alliant Energy Center Way, Madison, WI 53713, by calling 608/266-4018, or downloading it from www.countyofdane.com/pwht/bid/logon.aspx. Please call John Schraufnagel, Project Engineer, at 608/266-4798, for any questions or additional information.

All Bidders wishing to submit Bids should be registered vendor with Dane County Purchasing & prequalified as Best Value Contractor before bid opening & must be registered & prequalified before award of contract. Complete Vendor Registration Form at www.danepurchasing.com or obtain one by calling 608/266-4131. Complete Prequalification Application for Contractors at www.co.dane.wi.us/pwht/pwengineer.aspx or obtain one by calling 608/266-4018.

PUBLISH: MONDAY, APRIL 14 & 21, 2008 - WESTERN BUILDER
THURSDAY, APRIL 17 & 24, 2008 - WISCONSIN STATE JOURNAL

INSTRUCTIONS TO BIDDERS

**Fencing & Dam Repairs
Stewart lake Dam
3106 Cty Hwy JG
Mt Horeb, Wisconsin**

1. SECURING DOCUMENTS

- A. Construction Documents may be obtained at:
Dane County Department of Public Works, Highway & Transportation
1919 Alliant Energy Center Way, Madison, Wisconsin 53713
608/266-4018
or at:
www.countyofdane.com/pwht/bid
- B. If Construction Documents are obtained from the Dane County web site, Bidder is responsible to check back regularly at the web site for Addenda.
- C. Deposit for Drawings and Specifications is not required.

2. BID REQUIREMENTS

- A. Bidder shall submit lump sum bid for providing all labor, equipment, tools and materials necessary to perform all Work described in Construction Documents.
- B. Envelope containing Bid shall be clearly marked as for this project (note title at top of page). Bids shall be delivered to:
Dane County Department of Public Works, Highway & Transportation
1919 Alliant Energy Center Way
Madison, Wisconsin 53713
- C. One (1) Bid Form shall be submitted with your Bid. Bid Form is provided with Construction Documents; no other form or letter shall be accepted.
- D. Bidders shall not add any conditions, escalator clauses or qualifying statements to Bid Form.
- E. Erasures or other changes to Bid must be explained or noted, and shall be accompanied by initials of bidder.
- F. Legally authorized official of bidder's organization shall sign Bids.
- G. Bidder's organization shall submit completed Fair Labor Practices Certification form, included in these Construction Documents.
- H. Bidder's organization shall comply with Chapter 40 of the Dane County Ordinances with respect to Best Value Contracting qualification. Qualification with State of Wisconsin's Executive Order 108 or City of Madison's Best Value Contracting Ordinance meets

qualification requirements of County. Bidder's organization shall submit completed Best Value Contracting form, included in these Construction Documents.

- H. Bid Bond shall be made payable to Dane County in amount of five percent (5%) of bid amount. Bid Bond shall be either certified check or bid bond issued by surety licensed to conduct business in the State of Wisconsin. Successful bidder's Bid Bond shall be retained until Contract is signed and required Performance / Payment Bond is submitted. Bids shall be binding on bidder for sixty (60) days after Bid Opening. Bid Bond must be submitted with Bid.
- I. Successful bidder shall furnish and pay for Performance / Payment Bond as called for in Conditions of Contract.

3. INQUIRIES

- A. Written inquiries regarding intent of Construction Documents should be directed to:
John Schraufnagel, Project Engineer
Dane County Department of Public Works, Highway & Transportation
1919 Alliant Energy Center Way, Madison, Wisconsin 53713
Fax: 608/267-1533
Email: schraufnagel@co.dane.wi.us
- B. Bidders shall bring questions, discrepancies, omissions, conflicts or doubt as to meaning of any part of Construction Documents to attention of Department of Public Works, Highway & Transportation at least ten (10) days before due date for Bids. Prompt clarification of intent of Construction Documents shall be made available to bidders in form of Addendum. Bidder shall acknowledge all Addenda on Bid Form.
- C. Failure to request clarification of interpretation of Construction Documents shall not relieve bidders of their responsibilities to perform Work.

4. EXAMINATION OF SITE

- A. Coordinate site access activities with John Schraufnagel, Project Engineer, 608/266-4798.
- B. Bidder shall carefully examine project site. Investigate all site conditions that may affect execution of Work as detailed in Construction Documents.
- C. A bidders facility tour will be held on May 1, 2008 at 9:00 AM at Stewart lake Dam, 3106 Cty Hwy JG, Mt horeb, WI. This tour will take place at the dam, which is located on the north end of the Stewart Lake. This tour will go until approximately 10:00 AM. Bidders are strongly encouraged to attend this tour, however attendance is optional.

5. ALTERNATES

- A. Each bidder shall carefully read requests for alternate bids. Thoroughly examine Drawings and Specifications to determine to what extent various changes and conditions affect Bids. Base Bid shall be considered void if alternate bids are not submitted in space available on Bid Form. Award of Contract shall be based on amount of lowest qualified Base Bid and additive Owner accepted alternates applied in order listed on Bid Form.

- B. Bidders shall state amount to be added or deducted from Base Bid for making changes, including all incidentals, omissions, additions, and adjustments as may be necessary or required by stated alternates.

6. WITHDRAWAL OF BIDS

- A. Any bidder may withdraw their Bid any time prior to Bid Opening. Withdrawn Bids shall be returned unopened.

7. BID OPENING

- A. See Legal Notice (advertisement).

8. COMMENCEMENT AND COMPLETION OF WORK

- A. Work shall commence by June 16, 2008.
- B. Work shall be completed by July 31, 2008.

9. RESERVATION

- A. Dane County reserves the right to reject any or all Bids, to waive any informalities in the Bid, and to accept any Bid which shall be in the best interest of Dane County.

BID FORM

BID NO. 108060

**PROJECT: FENCING & DAM REPAIRS
STEWART LAKE DAM**

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

BASE BID - LUMP SUM:

Work includes providing new chain link fencing, new custom decorative fencing, and new concrete stairs, and repairs to deteriorated dam concrete. Work also includes providing galvanized or stainless steel dam stop logs, 19-foot ladder, and manhole access hatch, as shown on Drawings. Draw down water to facilitate some concrete patching and to expose two underwater drainage tile discharge pipes for Engineer inspection. 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

UNIT PRICE BIDS

Provide unit pricing to add to or deduct from base bid. Unit Price Bids refer to Work as described in Construction Documents. Contractor must provide all materials, labor, equipment and services necessary to complete Work. Engineer will determine areas to be added or deducted.

<u>Item</u>	<u>Type of Work</u>	<u>Unit</u>	<u>Price Bid</u>
1	Removal and replacement of unsound concrete	Sq. Ft.	\$ _____
2	Seal slab cracks and joints	Lin. Ft.	\$ _____

The undersigned further agrees to add the alternate(s) portion of the Work as described, for the following addition(s) to or subtraction(s) from the Base Bid stipulated below. They further agree to honor the alternate(s) bid for 60 days from date of Award of Contract.

ALTERNATE BID 1 - LUMP SUM:

Perform the Work as specified and detailed in Construction Documents package. Install 42" tall, acrylic polyurethane coated, galvanized steel chain link fencing instead of custom fencing in all locations that specify a custom decorative fence. All other Work to remain the same as Base Bid.

_____ and _____ /100 Dollars
Written Price

\$ _____
Numeric Price (circle: Add or Deduct)

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

Addendum No(s). _____ through _____

Dated _____

Dane County Department of Land and Water Resources must have this project completed by July 31, 2008. Assuming this Work can be started by June 15, 2008, what dates can you commence and complete this job?

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

Name of Bidder: _____

Address: _____

Telephone No.: _____ Fax No.: _____

Contact Person: _____

SIGNATURE: _____
(Bid is invalid without signature)

<p>BID CHECK LIST: These items must be included with Bid or completed before bidding</p> <table><tr><td><input type="checkbox"/> Bid Form</td><td><input type="checkbox"/> Bid Bond</td><td><input type="checkbox"/> Fair Labor Practices Certification</td></tr><tr><td><input type="checkbox"/> Best Value Qualified Contractor</td><td></td><td><input type="checkbox"/> Vendor Registration</td></tr></table>	<input type="checkbox"/> Bid Form	<input type="checkbox"/> Bid Bond	<input type="checkbox"/> Fair Labor Practices Certification	<input type="checkbox"/> Best Value Qualified Contractor		<input type="checkbox"/> Vendor Registration
<input type="checkbox"/> Bid Form	<input type="checkbox"/> Bid Bond	<input type="checkbox"/> Fair Labor Practices Certification				
<input type="checkbox"/> Best Value Qualified Contractor		<input type="checkbox"/> Vendor Registration				

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 a submitted a proposal, bid or application for a contract 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 25.11(28)(a) is as follows:

(28) 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 purchasing manager 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.



DANE COUNTY DEPARTMENT of PUBLIC WORKS, HIGHWAY and TRANSPORTATION

County Executive
Kathleen M. Falk

1919 Alliant Energy Center Way ♦ Madison, Wisconsin 53713
Phone: (608) 266-4018 ♦ FAX: (608) 267-1533

Commissioner / Director
Gerald J. Mandli

BEST VALUE CONTRACTING APPLICATION

CONTRACTORS/LICENSURE APPLICANTS

The Dane County Department of Public Works requires all bidders to be prequalified with the County prior to bid opening. In addition, the County reviews potential contractors and sub-contractors who wish to work on County contracts. This document shall be completed, properly executed, along with the necessary attachments regarding information relating to financial ability, equipment, experience in the work prescribed in the public contract, and other matters that the County requires for the protection and welfare of the public in the performance of a County contract.

The Contractor shall notify the County within 15 days of any information regarding any material changes to its business or operations that are relevant to the prequalification application. Failure to do so could result in suspension, revocation of the contractor's prequalification, debarment from County contracts for up to three years or other sanctions available under the law.

Contractors or subcontractors of any tier who attain prequalification status will retain that status for a period of two years from the date of qualification. Subcontractors must become prequalified ten days prior to commencing work under any Dane County Public Works Contract. Potential subcontractors are urged to become prequalified as early as possible.

No contracts will be awarded for construction work performed on Dane County projects unless the contractor is currently approved as a Wisconsin Trade Trainer or has applied for approval as an Apprenticeship Trade Trainer to the Wisconsin Department of Workforce Development and agrees to an acceptable apprenticeship program. If you are not currently approved as a Wisconsin Trade Trainer, or have not applied for approval as an Apprenticeship Trade Trainer, please contact the Department of Workforce Development – Bureau of Apprenticeship Standards at (608)266-3133 or visit their web site at www.wisconsinapprenticeship.org.

EXEMPTIONS

- Contractors or subcontractors of any tier automatically attain prequalification status with Dane County if the contractor has current Executive Order 108 precertification status with the State of Wisconsin or prequalification status with the City of Madison.
- Contractors who employ less than five (5) craft workers are not required to prequalify.
- Contractors performing work that does not apply to an apprenticeable trade, as outlined in Appendix A.
- The contractor/subcontractor provides sufficient documentation to demonstrate one or more of the following:
 - apprentices are not available in a specific geographic area; or
 - the applicable apprenticeship program is unsuitable or unavailable; or
 - there is a documented depression of the local construction market which prevents compliance.

SEC.	PROOF OF RESPONSIBILITY	CHECK IF APPLICABLE
1	Does your firm possess all technical qualifications and resources, including equipment, personnel and financial resources, necessary to perform the work required for the project or obtain the same through the use of responsible, prequalified subcontractors?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
2	Does your firm possess all valid, effective licenses, registrations or certificates required by federal, state, county, or local law, which are necessary for the type of work to be performed including, but not limited to, those for any type of trade work or specialty work?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
3	Does your firm meet all bonding requirements as required by applicable law or contract specifications?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
4	Does your firm meet all insurance requirements as required by applicable law or specifications, including general liability insurance, workers compensation insurance and unemployment insurance requirements?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
5	Does your firm maintain a substance abuse policy for employees hired for public works contracts that comply with Wis. Stats. Sec. 103.503?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
6	Does your firm acknowledge that it must pay all craft employees on public works projects the wage rates and benefits required under Section 66.0903 of the Wisconsin Statutes?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
7	Does your firm fully abide by the equal opportunity and affirmative action requirements of all applicable laws, including County ordinances?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
8	In the past three (3) years, has your firm had control or has another corporation, partnership or other business entity operating in the construction industry controlled it? If so, please attach a statement explaining the nature of the firm relationship?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
9	In the past three (3) years, has your firm had any type of business, contracting or trade license, certification or registration revoked or suspended?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
10	In the past three (3) years, has your firm been debarred by any federal, state or local government agency?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
11	In the past three (3) years, has your firm defaulted or failed to complete any contract?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
12	In the past three (3) years, has your firm committed a willful violation of federal, state or local government safety laws as determined by a final decision of a court or government agency authority.	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
13	In the past three (3) years, has your firm been in violation of any law relating to your contracting business where the penalty for such violation resulted in the imposition of a penalty greater than \$10,000?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
14	Is your firm Executive Order 108 precertified with the State of Wisconsin?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
15	Is your firm prequalified with the City of Madison?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
16	Is your firm an active Wisconsin Trade Trainer as determined by the Wisconsin Bureau of Apprenticeship Standards?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
17	Is your firm exempt from being prequalified with Dane County?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach reason for exemption.
18	Does your firm acknowledge that in doing work under any County Public Works Contract, it will be required to use as subcontractors only those contractors that are also prequalified with the County or become so ten days prior to commencing work?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>

SIGNATURE SECTION

Your firm's Officer, or the individual who would sign a bid and/or contract documents must sign this document.

I do hereby certify that all statements herein contained are true and correct to the best of my knowledge:

Signature

Date

Printed or Typed Name and Title

NAME AND ADDRESS OF CONTRACTOR	
Name of Firm	
Address	
City, State, Zip	
Telephone Number	
Fax Number	
E-mail Address	

REMEMBER!

Return all to forms and attachments, or questions to:

**JOHN SCHRAUFNAGEL
EMAIL: SCHRAUFNAGEL@CO.DANE.WI.US
OFFICE: (608)266-4798, CELL: (608)575-3374, FAX: (608)267-1533**

**ATTN: JOHN SCHRAUFNAGEL
DANE COUNTY DEPARTMENT OF PUBLIC WORKS
1919 ALLIANT ENERGY CENTER WAY
MADISON, WI 53713**

APPENDIX A

APPRENTICEABLE TRADES

Bricklayer

Carpenter

Cement Mason/Concrete Finisher

Cement Mason (Heavy Highway)

Construction Craft Laborer

Data Communications Installer

Electrician

Environmental Systems Technician/HVAC Service Technician/HVAC Install/Service

Glazier

Heavy Equipment Operator/Operating Engineer

Insulation Worker (Heat & Frost)

Iron Worker (Assembler, Metal Buildings)

Painter/Decorator

Plasterer

Plumber

Roofer/Waterproofer

Sheet Metal Worker

Sprinkler Fitter

Steamfitter (Service & Refrigeration)

Taper & Finisher

Telecommunications (Voice, Data & Video) Installer/Technician

Tile Setter

COUNTY OF DANE

PUBLIC WORKS CONTRACT

Contract No. _____ Bid No. 108060

Authority: Res. _____, 2008-09

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 Associate Public Works Director, 1919 Alliant Energy Center Way, Madison, WI 53713, desires to have CONTRACTOR provide FENCING & DAM REPAIRS at Stewart Lake Dam, 3106 Cty Hwy JG ("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, 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 _____ Dane County Department of Public Works, Highway & Transportation (hereinafter referred to as "the Architect / Engineer"), and as enumerated in the Project Manual Document Index, 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 Conditions of Contract, and to make payments on account thereof as provided in Article entitled, "Payments to Contractor" of the 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) 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 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.

7. CONTRACTOR agrees that all persons employed by CONTRACTOR or any subcontractor shall be paid no less than the minimum wage established under Chapter 40, Subchapter II, Dane County Code of Ordinances. CONTRACTOR agrees to abide by and comply with the provisions of Chapter 40, Subchapter II of the Dane County Code of Ordinances, and said Subchapter is fully incorporated herein by reference.

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.

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 Associate Public Works Director.

FOR COUNTY:

Kathleen M. Falk, County Executive Date

Robert Ohlsen, County Clerk Date

THE AMERICAN INSTITUTE OF ARCHITECTS



AIA Document A310

Bid Bond

Bond No.

KNOW ALL MEN BY THESE PRESENTS, that we (Here insert full name and address or legal title of Contractor)

as Principal, hereinafter called the Principal, and (Here insert full name and address or legal title of Surety)

a corporation duly organized under the laws of the State of WI as Surety, hereinafter called the Surety, are held and firmly bound unto (Here insert full name and address or legal title of Owner)

as Obligee, hereinafter called Obligee, in the sum of () Percent of total amount bid Dollars (\$) Percent of attached bid.

For the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for Project No.: (Here insert full name, address, and description of project)

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee 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.

Signed and sealed this day of , 20 .

(Principal) (Seal)
(Witness)
(Title)
(Surety) (Seal)
(Witness)
ATTORNEY-IN-FACT

THE AMERICAN INSTITUTE OF ARCHITECTS



Bond No. _____

AIA Document A312

Performance Bond

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

CONTRACTOR (Name and Address): _____

SURETY (Name and Principal Place of Business): _____

OWNER (Name 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 Page 3

CONTRACTOR AS PRINCIPAL
COMPANY: _____
(Corporate Seal)

SURETY COMPANY: _____
(Corporate Seal)

Signature: _____
Name and Title:

Signature: _____
Name and Title:

Attorney-in-Fact

(Any additional signatures appear on page 3)

FOR INFORMATION ONLY-Name, Address and Telephone
AGENT OR BROKER: _____

OWNER'S REPRESENTATIVE (Architect,
Engineer or other party): _____

1. The Contractor and the 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 to participate in conferences as provided in Subparagraph 3.1.

3. If there is no Owner Default, the Surety's obligation under this Bond shall arise after:

3.1 The Owner has notified the Contractor and the Surety at its address described in Paragraph 10 below that the Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Construction Contract. 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; and

3.2 The Owner has declared a Contractor Default and formally terminated the Contractor's right to complete the contract. Such Contractor Default shall not be declared earlier than twenty days after the Contractor and the Surety have received notice as provided in Subparagraph 3.1; and

3.3 The Owner has agreed to pay the Balance of the Contract Price to the Surety in accordance with the terms of the Construction Contract or to a contractor selected to perform the Construction Contract in accordance with the terms of the contract with the Owner.

4. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

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

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

4.3 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 the 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 Paragraph 6 in excess of the Balance of the Contract Price incurred by the Owner resulting from the Contractor's default; or

4.4 Waive its rights 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, tender payment therefor to the Owner; or

2. Deny liability in whole or in part and notify the Owner citing reasons therefor.

5. If the Surety does not proceed as provided in Paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen 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 Subparagraph 4.4, and the Owner refuses the payment tendered 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.

6. After the Owner has terminated the Contractor's right to complete the Construction Contract, and if the Surety elects to act under Subparagraph 4.1, 4.2, or 4.3 above, 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. To the limit of the amount of this Bond, but subject to commitment by the Owner of the Balance of the Contract Price to mitigation of costs and damages on the Construction Contract, the Surety is obligated without duplication for:

6.1 The responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

6.2 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 Paragraph 4; and

6.3 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.

7. 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, or successors.

8. 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.

9. 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 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.

10. Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page.

11. 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 here from and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

12 DEFINITIONS

12.1 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.

12.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

12.3 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract.

12.4 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

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
Company: (Corporate Seal)

SURETY
Company: (Corporate Seal)

Signature: _____
Name and Title:
Address:

Signature: _____
Name and Title:
Address:

THE AMERICAN INSTITUTE OF ARCHITECTS



Bond No. _____

AIA Document A312

Payment Bond

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

CONTRACTOR (Name and Address):

SURETY (Name and Principal Place of Business):

OWNER (Name 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 Page 6

CONTRACTOR AS PRINCIPAL
COMPANY: (Corporate Seal)

SURETY COMPANY:
(Corporate Seal)

Signature: _____
Name and Title:

Signature: _____
Name and Title:
Attorney-in-Fact

(Any additional signatures appear on page 6)

FOR INFORMATION ONLY-Name, Address and Telephone
AGENT OR BROKER:

OWNER'S REPRESENTATIVE (Architect,
Engineer or other party):

1. The Contractor and the 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.
2. With respect to the Owner, this obligation shall be null and void if the Contractor:
 - 2.1 Promptly makes payment, directly, or indirectly, for all sums due Claimants, and
 - 2.2 Defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity whose claim, demand, lien or suit is for the payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, provided the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety, and provided there is no Owner Default.
3. With respect to Claimants, this obligation shall be null and void if the Contractor promptly makes payment, directly or indirectly, for all sums due.
4. The Surety shall have no obligation to Claimants under this Bond until:
 - 4.1 Claimants who are employed by or have a direct contract with the Contractor have given notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.
 - 4.2 Claimants who do not have a direct contract with the Contractor:
 1. Have furnished written notice to the Contractor and sent a copy, or notice thereof, to the Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and
 2. Have either received a rejection in whole or in part from the Contractor, or not received within 30 days of furnishing the above notice any communication from the Contractor by which the Contractor has indicated the claim will be paid directly or indirectly; and
 3. Not having been paid within the above 30 days, have sent a written notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the Contractor.
5. If a notice required by Paragraph 4 is given by the Owner to the Contractor or to the Surety, that is sufficient compliance.
6. When the Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:
 - 6.1 Send an answer to the Claimant, with a copy to the Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.
 - 6.2 Pay or arrange for payment of any undisputed amounts.
7. The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
8. 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 the Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
9. 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 payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.
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. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the work or part of the work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Subparagraph 4.1 or Clause 4.2.3, 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.
12. Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page. Actual receipt of notice by Surety, the Owner or the Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.
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. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
14. Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor

shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. DEFINITIONS

15.1 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 Contract. 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.

15.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

15.3 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

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
Company: (Corporate Seal)

SURETY
Company: (Corporate Seal)

Signature: _____
Name and Title:
Address:

Signature: _____
Name and Title:
Address:

CONDITIONS OF CONTRACT

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1. BIDS AND QUOTATIONS

- A. **Addressing of Bids.** Bids shall be addressed to the attention of Public Works Engineering Division and received at the Dane County Department of Public Works, Highway & Transportation, 1919 Alliant Energy Center Way, Madison, WI 53713, on or before the local time and date specified herein for the Bid Opening. Seal all bids in envelopes and clearly mark the front with bid number and a reference to the specified contents of the bid. All uses of the term “County” in the Construction Documents shall mean Dane County.
- B. **Only One Copy Required.** Unless otherwise specified, only one copy of a bid or quotation on prescribed Bid Form will be required.
- C. **Additional Data with Bid.** Bidder may submit, on the firm’s letterhead only, additional data and information deemed advantageous to the County. The County shall hold optional the consideration of such data and information.
- D. **More than One Bid.** Bidders desiring to submit more than one bid may do so provided such additional bid or bids are properly submitted on the Dane County Department of Public Works, Highway & Transportation’s Bid Form. Obtain extra sets of Construction Documents from the Dane County Department of Public Works, Highway & Transportation. All uses of the term “Department” in the Construction Documents shall mean the Department of Public Works, Highway & Transportation, which is a unit of Dane County government.
- E. **Withdrawal or Late Bids.** The County will not accept formal bids, amendments thereto, or requests for withdrawal of a bid or any part thereof, after the time of Bid Opening.
- F. **Preparation and Submission.** All written bids, unless otherwise provided for, must be submitted on and in accordance with forms provided by the County properly signed in ink. Bids not signed by hand are not accepted. Bidders must register in advance with the Purchasing Division.
- G. **Products by Name.** Intention of Specifications of products by name is to be descriptive of quality, workmanship, finish, function and approximate characteristics desired; intention is not necessarily restriction. Consideration of products substitution for those named is possible, provided the substitute offered is, in the opinion of the Dane County Public Works

Project Engineer, equal or superior in quality, workmanship, finish, function and approximate characteristics to that specified in the Project Manual Specifications listed herein.

- H. **Visitation of Sites.** Bidder shall visit the site(s) that will receive the intended work or installation, and in so doing, be held responsible for a job deemed satisfactory by the County after completion of the Work or installation. No additional compensation shall be allowed for any condition of which bidder could have been informed.
- I. **Completeness.** Supply all information required by Construction Documents to constitute a regular bid. This shall include:
 - 1. Completed Bid Form.
 - 2. Completed Fair Labor Practices Certification.
 - 3. Completed Best Value Contracting Compliance Form
 - 4. Completed Bid Bond.
- J. **Bids Binding Sixty (60) Days.** Unless otherwise specified all formal bids submitted shall be binding for sixty (60) calendar days following Bid Opening date.
- K. **Conditional Bids.** Qualified bids are subject to complete rejection, or partial rejection.
- L. **All or Part.** Bids or quotations may be considered and award made for all or any part of total quantities as specified in the Construction Documents.
- M. **Errors.** Unit bid price shall govern when extending total prices has errors.. Carelessness in quoting prices or in preparation of bid otherwise, will not relieve the bidder. Explain all erasures in bids and include signature of bidder.
- N. **Regulation by State Statutes.** The bidding and letting of contracts are subject to provisions of Wisconsin Statutes 59.52(29) and 66.0901 and all subsequent sections and amendments thereof.
- O. **Bidders Present.** The Bid Opening is the time fixed for the opening of formal bids. The Bids' contents will be made public for the information of bidders and others properly interested, who may be present either in person or by representative. Bidders are encouraged to attend all openings, and to offer constructive suggestions for improvements to bid format or ways in which County can realize greater savings.
- P. **Taxes.** Contractor shall pay applicable State and local sales taxes.

2. GUARANTEE AND BOND

- A. **Bid Bond / Guarantee.** A Bid Bond shall accompany Bids, which shall be either a flat sum or a percentage figure as shown on the Project Manual Cover. This Bid Bond shall serve as a warrant that the successful bidder will fulfill the terms of the bid within the time limit as indicated in the bid after notice of award by the Dane County. The Bid Bond may be a certified bank check (note: uncertified checks will not be acceptable), a cashier's check or a United State money order payable to the order of the Treasurer of Dane County; or on a Bid Bond with corporate surety authorized to do business in the State of Wisconsin and a warranty of attorney to confess judgment thereon attached thereto. The County will return negotiable Bid Bonds to unsuccessful bidders after awarding of bid. The County shall return

a check held from a Contractor after satisfactory completion of the Contract or after receipt by the County of a Performance Bond from the Contractor, if one is required. Surety Bid Bonds will not be returned unless specifically requested by individual bidders.

- B. **Guarantor Liability.** When guarantee is required, failure of bidder to furnish an acceptable Performance Bond (Article 2.C.) within twenty (20) days after receipt of notice of award shall render the guarantor liable to the County. Bids covered by certified check or bond such security shall become the absolute property of the County and shall be deposited with the County Treasurer for the benefit of the County as liquidated damages. The County shall forthwith proceed to collect on the Bid Bond.
- C. **Performance / Payment Bond.** When required, file a guarantee that the successful bidder will faithfully perform the obligations of the bid as accepted. Such guarantee must be a bond complying with Wisconsin Statute 779.14 with corporate surety authorized to do business in this State, and that the Contractor or subcontractors will be responsible for all claims for injuries to persons or damages to property or premises arising out of or in connection with their operations prior to the acceptance of the finished work or supplies, and that they will promptly make payments to all persons supplying them with labor or materials in the execution of the Work provided for in the Contract; guarantee to indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from all costs, damages and expenses growing out of or by reason of the successful bidder's failure to comply and perform the Work and complete the Contract in accordance with the Construction Documents; attach thereto a warrant of attorney authorizing the confession of judgment thereon for the benefit of the County.

3. SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a subcontractor, sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.
- B. Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.
- C. Samples are physical examples that illustrate materials, equipment or workmanship and establish standards to compare the Work.
- D. Shop Drawings, Product Data, Samples and similar submittals are not Construction Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required the way the Contractor proposes to conform to the information given and the design concept expressed in the Construction Documents.
- E. The Contractor shall review, approve and submit to the Public Works Project Engineer Shop Drawings, Product Data, Samples and similar submittals required by the Construction Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the County or of separate contractors. Submittals made by the Contractor not required by the Construction Documents, may be returned without action.
- F. The Contractor shall perform no portion of the Work requiring submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the Public Works Project Engineer has approved the respective submittal. Such Work shall be in accordance with approved submittals.

- G. By approving and submitting, Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Construction Documents.
- H. The Contractor shall not be relieved of responsibility for deviations from requirements of the Construction Documents by the Public Works Project Engineer's approval of Shop Drawings, Product Data, Samples and similar submittals unless the Contractor has specifically informed the Public Works Project Engineer in writing of such deviation at the time of submittal and the Public Works Project Engineer has given written approval to the specific deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Sample or similar submittals by the Public Works Project Engineer's approval thereof.
- I. The Contractor shall in writing direct specific attention to revised and / or resubmitted Shop Drawings, Product Data, Samples or similar submittals that were not requested by the Architect / Engineer or the Public Works Project Engineer on previous submittals.
- J. Unless specified otherwise, Contractor shall submit three (3) copies of all Shop Drawings, Product Data, Samples or similar submittals 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.

4. AWARDS

- A. **Lowest Responsible Bidder.** Award will be to the lowest responsible bidder conforming to Construction Documents or on the most advantageous bid to the County.
- B. **Other Considerations.** Quantities involved, time of delivery, purpose for which required, competency of bidder, the ability to render satisfactory service and past performance will be considered in determining responsibility.
- C. **Rejection of Bids.** The County reserves the right to reject any or all bids or quotations in whole or in part and to award by items, parts of items, or by any aggregate group of items specified. The County reserves also the right to waive technical defects when in its judgment the best interests of the County thereby will be served.
- D. **Notice of Acceptance.** Sufficient notification of acceptance of bid will be written notice of award to a bidder in the form of a Purchase Order or similar, mailed or delivered to the address shown on the Bid Form.
- E. **Tie Bids.** If two or more bidders submit identical bids, the decision of the County to make award to one or more of such bidders shall be final. Cash discount will be taken into consideration determining an award. Also, see Article 7.A. IDENTICAL BIDDING, Antitrust Laws.
- F. **Qualifying Bidders.** Prior to solicitation and / or awarding of bid, the County may require submission by bidder of complete financial statement and questionnaire describing bidder's financial ability and experience in performance of similar work. Refer to Instructions to Bidders.

- G. **Disqualification.** Awards will not be made to any person, firm or company in default of a Contract with the County, or to any bidder having as its sales agent or representative or as a member of the firm, any individual previously in default or guilty of misrepresentation.
- H. **Bid Results.** Bidders may secure information pertaining to results of bids by visiting the County Purchasing Division Office Monday through Friday, between 7:45 a.m. and 4:30 p.m.

5. CONTRACT PROVISIONS

- A. **Acceptance Constitutes Contract.** Written acceptance by the Public Works Project Engineer of a proposal for services shall constitute a Contract, which shall bind the bidder to perform the Work as detailed in the Construction Documents, for the bid amount and in accordance with all conditions of said accepted bid. A formal Contract containing all provisions of the Contract signed by both parties shall be used when required by the Public Works Project Engineer.
- B. **Local Restrictions and Permits.** All work shall be done according to applicable laws, ordinances and codes. The Contractor shall procure and pay for all required permits for permanent or temporary work.
- C. **Payment of Invoices.** Payment may be made only after inspection and acceptance by the using agency and approval by the Dane County Public Works Project Engineer, and, where required by ordinances, approval by the Dane County Board of Supervisors. If materials or equipment were delivered, constructed, erected, installed or tested on site, payment shall be made based on ninety-five percent (95%) of the value of all Work performed up to fifty percent (50%) of scheduled values less the total of previous payments. Authorized extra work will be included in progress payments. Payment of balances will be made only after approval and final acceptance by the County in consideration and elimination of the possibilities of imperfect work, faulty materials or equipment, liens that have been filed, or if evidence indicates the possible filing of claims.
- D. **Contract Alterations.** No alterations or variables in the terms of a contract shall be valid or binding upon the County unless made in writing and signed by the Purchasing Agent or authorized agent.
- E. **Assignments.** No contract may be assigned, sublet or transferred without written consent of the Public Works Project Engineer.
- F. **Cancellations.** A contract may be canceled or voided by the Public Works Project Engineer upon non-performance or violation of contract provisions, and an award made to the next low bidder or articles specified may be purchased on the open market. In either event, the defaulting contractor (or their surety) shall be liable to Dane County for costs to the County in excess of the defaulting contractor's contract prices.
- G. **Right of the Department to Terminate Contract.**
 - 1. In the event that the Contractor or any subcontractors violate any of the provisions of this Contract, the County may serve written notice upon the Contractor and the Surety of its intention to terminate the Contract. Such notice to contain the reasons for such intention to terminate the Contract, and unless within ten (10) days after the serving of such notice upon the Contractor, such violation or delay shall cease and satisfactory arrangement or correction be made, the Contract shall, upon the expiration of said ten (10) days, cease and terminate.

2. In the event of any such termination, the County shall immediately serve notice thereof upon the Surety and the Contractor, and the Surety shall have the right to take over and perform the Contract subject to County's approval. However, if the Surety does not commence performance thereof within ten (10) days from the date of the mailing to such Surety of notice of termination, the County may take over the Work and prosecute the same to completion by Contract or by force account for the account and at the expense of the Contractor. The Contractor and Surety shall be liable to the County for any excess cost occasioned the County thereby, and in such event the County may take possession of and utilize in completing the Work, such equipment, materials and / or supplies as may be on the site of the Work and therefore necessary.

H. **Non-Liability.** The Contractor shall not be liable in damages for delay in shipment or failure to deliver when such delay or failure is the result of fire, flood, strike, the transporting carrier, act of God, act of government, act of an alien enemy or by any other circumstances which, in the Public Works Project Engineer's opinion, is beyond the control of the Contractor. Under such circumstances, however, the Public Works Project Engineer may in the discretion, cancel the Contract.

I. **Quality Assurance.** Inspection of equipment, materials and / or supplies shall be made by or at the direction of the County or the Agency to which the goods are delivered, and any articles supplied that are defective, or fails in any way to meet Specifications or other requirements of the Contract, will be rejected. The Public Works Project Engineer shall direct all required laboratory tests. The decision of the Public Works Project Engineer on acceptance shall be final.

J. **Time for Completion.** The Contractor agrees that the Work shall be prosecuted regularly and diligently and complete the entire project as stated in the Construction Documents.

K. **Changes in the Work.**

1. Except in cases of emergency, no changes in the Work covered by the approved Construction Documents shall be made without having prior written approval of the Department. Charges or credits for the work covered by the approved change shall be determined by one of the following methods:
 - a) Unit bid prices previously approved.
 - b) An agreed lump sum based on actual cost of:
 - 1) Labor, including foremen, and all fringe benefits that are associated with their wages;
 - 2) Materials entering permanently into the Work;
 - 3) The ownership or rental cost of construction plant and equipment during the time of use on the extra work;
 - 4) Power and consumable supplies for the operation of construction or power equipment;
 - 5) Workmen's Compensation Insurance, Contractor's Public Liability and Property Damage Insurance, and Comprehensive Automobile Liability Insurance;
 - 6) Social Security, pension and unemployment contributions;
 - 7) To the cost under K.1.b) 2), there shall be added a fixed fee to be agreed upon, but not to exceed fifteen percent (15%) of the actual cost of the Work performed with their own labor force; the fee shall be compensation to cover the cost of supervision, overhead, bond, profit and any other general expense;
 - 8) On that portion of the work under K.1.b) 2) done under subcontract, the Contractor may include not over seven and one-half percent (7½%) for supervision, overhead, bond, profit and any other general expense; and

- 9) The Contractor shall keep and present in such form as directed, a correct amount of the cost together with such supporting vouchers as may be required by the Department.
- c) Cost-Plus Work, with a not-to-exceed dollar limit, based on actual cost of:
- 1) Labor, including foremen, and all fringe benefits that are associated with their wages;
 - 2) Materials entering permanently into the Work;
 - 3) The ownership or rental cost of construction plant and equipment during the time of use on the extra work. (Rental cost cannot exceed fifty percent (50%) replacement value of rented equipment);
 - 4) Power and consumable supplies for the operation of construction or power equipment;
 - 5) Workmen's Compensation, Contractor's Public Liability and Property Damage Insurance, and Comprehensive Automobile Liability Insurance;
 - 6) Social Security, pension and unemployment contributions;
 - 7) To the cost under K.1.c) 3) there shall be added a fixed fee to be agreed upon, but not to exceed fifteen percent (15%) of the actual cost of the Work performed with their own labor force; the fee shall be compensation to cover the cost of supervision, overhead, bond, profit, and any other general expense;
 - 8) On that portion of the work under K.1.c) 3) done under subcontract, the Contractor may include not over seven and one-half percent (7½%) for supervision, overhead, bond, profit, and any other general expense; and
 - 9) The Contractor shall keep and present in such form as directed, a correct amount of the cost together with such supporting vouchers as may be required by the Department.
2. If the Contractor claims that by any instructions given by the Architect / Engineer, the Department, by drawings or otherwise, regarding the performance of the Work or the furnishing of material under the Contract, involves extra cost, the Contractor shall give the Department written notice thereof within two weeks after the receipt of such instructions and in any event before proceeding to execute the work, unless delay in executing the work would endanger life or property.
 3. No claim for extra work or cost shall be allowed unless the same was done in pursuance of a written order of the Architect / Engineer and approved by the Department, as previously mentioned, and the claim presented with the payment request submitted after the changed or extra work is completed.
 4. Negotiation of cost for a change in the Work shall not be cause for the Contractor to delay prosecution of the Work if the Contractor has been authorized in writing by the Public Works Project Engineer to proceed.
- L. Payments to Contractor.**
1. The County will make partial payments to the Contractor for the value, proportionate to the amount of the Contract, of all labor and material incorporated in the work during the preceding calendar month upon receipt of approved Application and Certificate of Payment from the Architect / Engineer and approval of the Department.
 2. The Contractor shall submit to the Architect / Engineer an Application and Certificate of Payment. The Architect / Engineer will review and approve this before sending it to the Public Works Project Engineer. Evidence may be required, and supplied on demand, that supports the request and the Contractor's right to the payment claimed.

3. Request for payment for preparatory work and materials delivered and suitably stored at the site to be incorporated into the Work at some future period, will be given due consideration. Requests involving materials stored off the site, may be rejected; however, if deemed essential for reasons of job progress, protection, or other sufficient cause, requests will be considered conditional upon the submission by the Contractor of bills of sale and such other procedures as will adequately protect the County's interest such as storage in a bonded warehouse with adequate coverage. If there is any error in a payment, the Contractor is obligated to notify the Department immediately, but no longer than ten (10) days from receipt of payment.
4. Payments by the County will be due within forty-five (45) days after receipt by the Department of a certified request.
5. Five percent (5%) of each request for certification will be retained until final completion and acceptance of all the Work covered by the Contract. However, anytime after fifty percent (50%) of the Work has been furnished and installed at the site, the remaining payments will be made in full if the Architect / Engineer and Public Works Project Engineer find that the progress of the Work corresponds with the construction progress schedule. If the Architect / Engineer and Public Works Project Engineer find that the progress of the Work does not correspond with the construction progress schedule, up to ten percent (10%) of each request for payment may be retained for the Work completed.
6. All material and work covered by partial payments made shall become the sole property of the County. This provision shall not be construed as relieving the Contractor from the sole responsibility for the care and protection of materials and work upon which payments have been made or the restoration of any damaged work, or as a waiver of the right of the County to require the fulfillment of all of the terms of the Contract.
7. Final payment will be made within sixty (60) days after final completion of the Work, and will constitute acceptance thereof.
8. On completion and acceptance of each separate division of the Contract, on which the stated price is separated in the Contract, payment may be made in full, including retained percentages thereon, less authorized deductions.
9. 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. If Wisconsin Prevailing Wage Rate Determination is required for this Work, use "Prime Contractor Affidavit of Compliance With Prevailing Wage Rate Determination" and "Agent or Subcontractor Affidavit of Compliance With Prevailing Wage Rate Determination" (if applicable). If Wisconsin Prevailing Wage Rate Determination is not required for this Work, use "Dane County, Wisconsin Contractor Wage Affidavit". Forms of such affidavits are included in Supplementary Conditions.

M. Withholding of Payments.

1. The County, after having served written notice on the said Contractor, may either pay directly any unpaid bills of which the Department has written notice, or withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged. Then payment to the Contractor shall be resumed

in accordance with the terms of this Contract, but in no event shall these provisions be construed to impose any obligations upon the County to either the Contractor or the Contractor's Surety.

2. In paying any unpaid bills of the Contractor, the County shall be deemed the Agent of the Contractor, and any payment so made by the County, shall be considered as a payment made under the Contract by the County to the Contractor and the County shall not be liable to the Contractor for any such payment made in good faith.
3. Contractor shall indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from all claims growing out of the lawful demands of subcontractors, laborers, workmen, mechanics, material men, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in the performance of this Contract.
4. At the Department's request, the Contractor shall furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged or waived.

N. Acceptance of Final Payment as Release.

1. The making of final payment shall constitute a waiver of all claims by the County except those arising from:
 - a) Unsettled lien;
 - b) Faulty or defective work appearing after substantial completion;
 - c) Failure of the work to comply with the requirements of the Construction Documents; or
 - d) Terms of any special guarantees required by the Construction Documents.
2. The acceptance of final payment shall constitute a waiver of all claims by the Contractor.

O. Lien Waivers. The Contractor warrants that title to all work covered by an application for Payment will pass to the County no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all work for which Certificates for Payment have been previously issued and payments received from the County shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, subcontractor, material suppliers, or other persons or entities making a claim by reason of having provide labor, materials and equipment related to the Work.

P. Use and Occupancy Prior to Acceptance. The Contractor agrees to the use and occupancy of a portion or unit of the project before formal acceptance by the Department, provided the Department:

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

Q. Correction of Work.

1. 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 the inspection of the Architect / Engineer and the Public Works Project Engineer who shall be the judge of the quality and suitability of the work, materials, and processes of manufacture for the purposes for which they are used. Should they fail to meet the Architect / Engineer's and the Public Works Project Engineer's approval they shall be reconstructed, made good, replaced or corrected, as the case may be, by the Contractor at the Contractor's expense. Rejected material shall immediately be removed from the site.
2. If the Contractor defaults or neglects to carry out the Work in accordance with the Construction Documents or fails to perform any provision of the Contract, the Department may, after ten (10) days written notice to the Contractor and without prejudice to any other remedy the County may have, make good such deficiencies. In such case, an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies, including the cost of the Architect / Engineer's additional services made necessary by such default, neglect or failure.

6. GENERAL GUARANTEE

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

7. IDENTICAL BIDDING

- A. **Antitrust Laws.** All identical bids submitted to the County because of advertised procurement for materials, supplies, equipment or services exceeding \$1,000,000.00 in total

amount shall be reported to the Attorney Generals of the United States and the State of Wisconsin for possible violation and enforcement of antitrust laws.

8. BINDING CONTRACTS

- A. **Contract Commitment.** Any contracts resulting from this bid shall be binding on a successful bidder(s) to its conclusion and on its assigns, heirs, executors, administrators or successors.

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

- A. **Affirmative Action Provisions.** During the term of its Contract, Contractor agrees not to discriminate on the basis of race, religion, color, sex, handicap, age, sexual preference, marital status, physical appearance, or national origin against any person, whether a recipient of services (actual or potential), an employee, or an applicant for employment. 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 or level of service(s). Contractor agrees to post in conspicuous places, available to all employees, service recipients and applicants for this paragraph. The listing of prohibited bases for discrimination shall no be construed to amend in any fashion state or federal law setting forth additional bases and exceptions shall be permitted only to the extent allowable in state or federal law.
- B. Contractor is subject to this paragraph 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 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) days of the effective date of this Contract and failure to do so by that date shall constitute grounds for immediate termination of the Contract. During the term of this Contract, Contractor shall also provide copies of all announcements of employment opportunities to the County's Contract Compliance Office, and shall report annually the number of persons, by race, sex and handicap status, which apply for employment and, similarly classified, the number hired and the number rejected.
- C. Contact the 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.
- D. In all solicitations for employment placed on Contractor's behalf during the term of this Contract, Contractor shall include a statement to the effect the Contractor is an "Equal Opportunity Employer."
- E. 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 provision of this Contract.
- F. **Minority / Women / Disadvantaged / Emerging Small Business Enterprises.** Chapter 19.508 of the Dane County Code of Ordinances is the official policy of Dane County to utilize Minority Business Enterprises (MBEs), Women Business Enterprises (WBEs), Disadvantage Business Enterprises (DBEs) and Emerging Small Business Enterprises (ESBEs) fully.

- G. The Contractor may utilize MBEs / WBEs / DBEs / ESBEs as subcontractors or suppliers. A list of subcontractors will be required of the low bidder as stated in this Contract. The list shall indicate which subcontractors or suppliers are MBEs / WBEs / DBEs / ESBEs and what percentage of subcontract is awarded, shown as a percentage of the total dollar amount of the bid.

10. COMPLIANCE WITH FAIR LABOR STANDARDS

- A. During term of this Contract, Contractor shall report to County Contract Compliance Officer, within ten (10) 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."

11. INSURANCE REQUIREMENTS


- A. 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 the 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 the loss of use resulting there from, and is caused in whole or in part by any act or omission of the 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 a part indemnified hereunder.
- B. In any and all claims against Dane County, its boards, commissions, agencies, officers, employees and representatives or by any employee of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Contract shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor under worker's compensation acts, disability benefits or other employee benefit acts.
- C. The obligations of the Contractor under this Contract shall not extend to the liability of the Architect / Engineer, its agents or employees arising out of (1) the preparation or approval of maps, drawings, opinion, reports, surveys, change orders, designs or specifications; or (2) the giving of or the failure to give directions or instruction by the Architect / Engineer, its agents or employees provided such giving or failure to give is the primary cause of the injury or damage.

- D. The County shall not be liable to the Contractor for damages or delays resulting from work by third parties or by injunctions or other restraining orders obtained by third parties.
- E. **Contractor Carried Insurance.** In order to protect itself and the County, the Contractor shall not commence work under this Contract until obtaining all the required insurance and the County has approved such insurance. The Contractor shall not allow any subcontractor to commence work on the subcontract until the insurance required of the subcontractor has been so obtained and approved.
1. **Worker's Compensation Insurance**
The Contractor shall procure and shall maintain during the life of this Contract, Worker's Compensation Insurance as required by statute for all of its employees engaged in work at the site of the project under this Contract and, in case of such work sublet, the Contractor shall require the subcontractor similarly to provide Worker's Compensation Insurance for all of the latter's employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractor's Worker's Compensation Insurance.
 2. **Contractor's Public Liability and Property Damage Insurance**
The Contractor shall procure and maintain during the life of this Contract, Contractor's Public Liability Insurance and Contractor's Property Damage Insurance in an amount not less than \$1,000,000.00 per occurrence for bodily injury and death, and Contractor's Property Damage Insurance in an amount not less than \$1,000,000.00 and shall be primary with Dane County as an "Additional Insured".
 3. **Auto Liability Insurance**
The Contractor shall procure and maintain during the life of this Contract, Comprehensive Automobile Liability Insurance covering owned, non-owned and hired automobiles for limits of not less than \$1,000,000.00 and shall be primary with Dane County as an "Additional Insured".
- F. The Contractor either (1) shall require each of the subcontractors to procure and to maintain during the life of the subcontract, subcontractor's Public Liability Property Damage Insurance, and Comprehensive Automobile Liability Insurance of the type and in the same amount specified in the preceding paragraphs; or (2) insure that activities of the subcontractors in their own policy.
- G. The Contractor shall furnish the County with certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of policies. Such certificates shall also contain substantially the following statement: "The insurance covered by this certificate will not be canceled or materially altered, except after ten (10) days written notice has been received by the County."
- H. **County Provided Protection.** The County shall provide a Builder's Risk policy when applicable to the project. The County's Risk Manager, upon the Contractor's request, will make available the terms of this policy. By executing this contract, the Contractor warrants it is familiar with the terms of said policy.

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 Public Works Project Engineer for approval.


AIA Document G702™ – 1992

Application and Certificate for Payment

TO OWNER:	PROJECT:	APPLICATION NO:	Distribution to:
		PERIOD TO:	OWNER <input type="checkbox"/>
		CONTRACT FOR:	ARCHITECT <input type="checkbox"/>
FROM CONTRACTOR:	VIA ARCHITECT:	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. Continuation Sheet, AIA Document G703, 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 (Column 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 \$ _____

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

8. CURRENT PAYMENT DUE \$ _____

9. BALANCE TO FINISH, INCLUDING RETAINAGE (Line 8 less Line 6) \$ _____

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 shows (green in row due).

CONTRACTOR:
 By: _____ Date: _____
 State of _____
 County of _____
 Subscribed and sworn to before me this _____ day of _____
 Notary Public
 My Commission expires: _____

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

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.

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Continuation Sheet

AIA Document G703. APPLICATION AND CERTIFICATION FOR PAYMENT, containing Contractor's signed certification is attached.
 In tabulations below, amounts are stated in the nearest dollar.
 Use Column E 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 (YES/NO) (D+E)	G TOTAL COMPLETED AND STORED TO DATE (D+F)	H % (G ÷ C)	I BALANCE TO (PUSH) (C - G)	J RETAINAGE (IF VARIABLE RATE)
			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD					

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 G703™ – 1992. Copyright © 1993, 1995, 1996, 1997, 1970, 1976, 1982 and 1992 by The American Institute of Architects. All rights reserved. (WARNING) This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. Purchasers are permitted to reproduce ten (10) copies of this document when completed. To report copyright violations of AIA Contract Documents, e-mail The American Institute of Architects legal counsel, copyright@aia.org.

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.

SECTION 01000
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. Coordination
 6. Cutting and Patching
 7. Conferences
 8. Progress Meetings
 9. Submittal Procedures
 10. Proposed Products List
 11. Shop Drawings
 12. Product Data
 13. Samples
 14. Manufacturers' Instructions
 15. Manufacturers' Certificates
 16. Quality Assurance / Quality Control of Installation
 17. References
 18. Protection of Installed Work
 19. Parking
 20. Progress Cleaning
 21. Products
 22. Transportation, Handling, Storage and Protection
 23. Product Options
 24. Substitutions
 25. Contract Closeout Procedures
 26. Final Cleaning
 27. Adjusting
 28. As-Built Drawings and Specifications

1.2 SUMMARY OF THE WORK

- A. Project Description:
1. Base Bid:
Perform the Work as specified and detailed in Construction Documents package. Provide approximately 115 LF of 5' high, acrylic coated, galvanized steel chain link fencing, approximately 375 LF of custom decorative galvanized fencing, new concrete stairs, and repairs to deteriorated dam concrete. Repairs to deteriorated concrete include approximately 200 square feet of concrete

replacement and approximately 100 LF of deteriorated joint sealant. Fence length and deteriorated concrete values are only approximations. It is solely the Contractor's responsibility to verify these values. Along new stairs, finish grade with existing material. Plant Vetch or similarly quick established turf at a rate of 10 lbs/acre, and mulch with a layer of 2" chopped straw or equal.

Provide dam stop logs, 19-foot ladder, and manhole access hatch, as shown on Drawings. These shall be constructed of galvanized steel or stainless steel. Draw down water to facilitate some concrete patching and to expose two underwater drainage tile discharge pipes for Engineer inspection. Pump used to draw down water must be capable of discharging at least 2 cubic feet per second of water.

2. Alternate Bid 1:

Perform the Work as specified and detailed in Construction Documents package. Install approximately 375 LF of 42" tall, acrylic polyurethane coated, galvanized steel chain link fencing instead of custom fencing in all locations that specify a custom decorative fence. Contractor to verify actual fence length. All other Work to remain the same as Base Bid.

B. Work by Owner: Erosion control and brush clearing to provide Contractor access to Work areas.

C. Permits: Not applicable.

1.3 CONTRACTOR USE OF PREMISES

A. Limit use of premises to allow work by Contractors or Subcontractors and access by Owner.

1.4 APPLICATIONS FOR PAYMENT

A. Submit two (2) copies 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: Bi-weekly.

1.5 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.

1.6 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.

1.7 CONFERENCES

- A. Dane County Department Public Works, Highway & Transportation will schedule a preconstruction conference after Award of Contract for all affected parties.
- B. When required in individual Specification section, convene a pre-installation conference at project site prior to commencing work of the section.

1.8 PROGRESS MEETINGS

- A. Owner shall schedule and administer meetings throughout progress of the Work at minimum of one (1) per week.
- B. Owner shall preside at meetings, record minutes, and distribute copies within two (2) days to those affected by decisions made.

1.9 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.

1.10 PROPOSED PRODUCTS LIST

- A. Within fifteen (15) 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.

1.11 SHOP DRAWINGS

- A. Submit number of copies that Contractor requires, plus two (2) copies that shall be retained by Public Works Project Engineer.

1.12 PRODUCT DATA

- A. Submit number of copies that Contractor requires, plus two (2) copies that shall be retained by Public Works Project Engineer.
- 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.

1.13 SAMPLES

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

1.14 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.

1.15 MANUFACTURERS' CERTIFICATES

- A. When specified in individual Specification sections, submit manufacturers' certificate to Public Works Project Engineer 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.

1.16 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.

1.17 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 Engineer before proceeding.

1.18 PROTECTION OF INSTALLED WORK

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

1.19 PARKING

- A. Arrange for temporary parking areas to accommodate construction personnel. Parking shall be available at the Work site. The north parking lot may be used for Contractor parking and staging.

1.20 PROGRESS CLEANING

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

1.21 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.

1.22 TRANSPORTATION, HANDLING, STORAGE AND PROTECTION

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

1.23 PRODUCT OPTIONS

- A. Where definite material is specified, it is not intention to discriminate against "equal" product made by another manufacturer. Intention is to set definite standard of material quality.

- B. Requests for substitutions that result in minor variations in specification may be accepted if, in the opinion of Dane County, they do not adversely affect the quality, maintenance or performance of the items.
- C. Should bidder choose to bid materials other than those specified, bidder shall submit said materials specifications to Project Engineer for approval at least seven (7) days prior to Bid Opening. Public Works Project Engineer shall consider requests for Substitutions up to seven (7) days prior to date of Bid Opening.
- D. Products and materials that are not specified, but have been approved for use by Public Works Project Engineer shall be identified in addenda to all bidding contractors.
- E. Requests for material or product substitutions submitted up to fifteen (15) days after Bid Opening may be considered, but Project Engineer is not required to consider them. Dane County reserves right to approve or reject substitutions based on Specification requirements and intended use.

1.24 SUBSTITUTIONS

- A. Document each request with complete data substantiating compliance of proposed Substitution with Construction Documents.
- B. Submit three (3) copies of requests for Substitution for consideration. Limit each request to one (1) proposed Substitution.
- C. Substitutions shall not change contract price established at Bid Opening.

1.25 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 Engineer's inspection.
- B. Submit final Application for Payment identifying total adjusted Contract Sum / Price, previous payments, and amount remaining due.

1.26 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.

1.27 ADJUSTING

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

1.28 AS-BUILT DRAWINGS AND SPECIFICATIONS

- A. Contractor shall furnish Public Works Project Engineer with one set of as-builts drawings in AutoCAD 2007 (or lower) or in manually drafted format.

END OF SECTION

SECTION 01090

DEFINITIONS

PART 1 GENERAL

1.1 DEFINITIONS

- A. **CONTRACT DOCUMENTS** - The contract documents for this project include but are not limited to:
1. These specifications entitled specifications for the “Fencing & Dam Repairs, Stewart Lake Dam.”
 2. Architectural and Structural Drawings prepared by Mead, Ward & Hunt, Inc. on the original construction dated May 1938.
 3. Architectural and Structural Drawings prepared by Dane County Public Works for this project.
- B. **UNSOUND CONCRETE** - Concrete which contains internal and/or surface cracking or loss of density and which, in the judgment of the Engineer, is detrimental to the strength and serviceability of the structure. Unsound concrete is also associated with concrete surface spalling and crumbling, infiltration of moisture and salts, corrosion of reinforcement, rust staining, increased porosity and reduced strength.
- C. **DELAMINATION** - Planar cracking of concrete usually initiated by bursting stresses due to expansion of corrosion by-products of embedded reinforcing.
- D. **SOUND CONCRETE** - Firm, dense, homogeneous concrete which contains in the judgment of the Engineer no significant detriments to its strength or serviceability.
- E. **REMOVAL** - Removal of unsound and sound concrete, epoxy patches and asphalt using chipping hammers or other means.
- F. **SCARIFYING** - The process of making numerous cuts into a concrete surface, which results in fracturing the cement paste and aggregate, exposing a new roughened surface free of contaminants.
- G. **SLAB** - Flat, horizontal or ramped layers of reinforced concrete.
- H. **SUPPORT BARS** - Reinforce bars used to support the main reinforcing bars and not shown on the original drawings as main reinforcing bars themselves.
- I. **DRAWINGS** - Graphical description of the work to be performed, designated.
- J. **SPECIFICATIONS** - Written description of the work to be performed, designated.
- K. **ORIGINAL DRAWINGS** - Graphical description of the existing structure as designed. See above.

END OF SECTION

SECTION 01151

UNIT PRICES

PART 1 GENERAL

1.1 PAYMENT

- A. Work is to be paid for on a Unit Price basis and Base Bid is to be submitted on estimated quantities. The work items and basis of payment are listed in abbreviated form below. These work items are to be installed and completed per specifications and as shown on the drawings.

<u>Item</u>	<u>Type of Work</u>	<u>Unit Price</u>
1	<u>Removal and replacement of unsound concrete</u> includes removal of concrete to a maximum depth of 6" from outer surface, sandblasting or wire brushing and compressed air spraying of the newly exposed concrete surface and reinforcing steel, placing supplemental and replacement reinforcing steel as needed, and placing "ready-mix" concrete fill (pre-packaged concrete at Contractor's option). Fill flush with existing adjacent surface. Refer to Specification Sections 02075 and 03730. Payment based on area removed at top surface, vertical surface, angled surface, and less than 10 SQ FT of underslab surface.	\$/Sq. Ft.
5	<u>Seal slab cracks and joints</u> including routing and sealing of random cracks and deteriorated joints and installation of sealant in cracks and joints as detailed and per Specification Section 07900. Payment based on length of sealant installed	\$/Lin. Ft.

1.2 MEASUREMENT OF QUANTITIES

- A. Work to be performed on a unit price basis shall be measured according to the quantities described above. Payment will be made for work actually performed, based on quantities recorded by the Contractor and approved by the Engineer. Unless stated otherwise, records described below shall consist of both plan view drawings and tables cross-referenced to the drawings with the required measured quantities. Unless otherwise stated, the Engineer will verify the accuracy of the record by visual examination of the work performed and measuring the quantities.
- B. The Contractor shall notify the Owner and the Engineer at once in writing of any unit price work that deviates materially from the prescribed basis for bidding and for which an adjustment in Unit Price is desired. The Contractor shall measure and quantify all such deviations, subject to the Engineer's verification, prior to any repair work which might make verification impossible. No adjustments in Unit Prices will be considered unless supporting field measurements are provided, and subject to the Owner's prior approval. Adjustments will only be considered if all repairs of a given type have been measured

- and the all deviations, both plus and minus have been included in the determination of average deviation from the Unit Price basis.
- C. Removal of slab concrete.
1. The Contractor shall maintain a record of the location and quantity of concrete removed, identified by unit price item. This record shall be submitted to the Engineer on a weekly basis. The quantities shall be reported in the form of scale maps along with tables cross-referenced to the drawings.
- D. Placing replacement and supplemental reinforcing.
1. The Contractor shall maintain a record of the location and quantity of reinforcement placed. This record shall show the quantity and size placed. Replacement and supplemental reinforcement records shall be associated with the concrete removal maps. This record shall be submitted to the Engineer on a weekly basis.
- E. Rout and seal random cracks and reseal selected existing cracks.
1. The Contractor shall maintain a record of the location and quantity of cracks sealed. Drawings in the form of scale maps along with tables cross-referenced to the drawings shall show length of crack sealed and related work item.

END OF SECTION

SECTION 01508

RECYCLING

PART 1 GENERAL

1.1 SUMMARY

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

- B. Related Sections:
 - 1. Section 01000 - Basic Requirements
 - 2. Section 01500 - Temporary Facilities and Controls: Progress cleaning and waste removal
 - 3. Section 02221 - Building Demolition
 - 4. Section 02225 - Minor Demolition for Remodeling

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 The Dane County Green Building Policy, Resolution 299, 1999-2000.

- B. Contractor shall develop, with assistance of Public Works Project Engineer and Architect / Engineer, Waste Management Plan (WMP) for this project. 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.

1.3 WASTE MANAGEMENT PLAN

- A. Contractor shall complete WMP and include cost of recycling / reuse in Bid. WMP will be submitted to Public Works Project Engineer within fifteen (15) days of Notice to Proceed 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.

1.4 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.

1.5 RECYCLING

- A. These materials can be recycled in Dane County area:
 - 1. Wood.
 - 2. Wood Pallets.
 - 3. Fluorescent Lamps.
 - 4. Foam Insulation & Packaging (extruded and expanded).
 - 5. PVC Plastic (pipe, siding, etc.).
 - 6. Concrete.
 - 7. Corrugated Cardboard.
 - 8. Metal.
 - 9. Carpet Padding.
 - 10. Gypsum Drywall.
 - 11. Barrels & Drums.
 - 12. Solvents.

1.6 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.

1.7 LISTS OF RECYCLING FACILITIES PROCESSORS AND HAULERS

- A. Web site www.countyofdane.com has recycling symbol (link) near top of page that lists current information for Dane County Recycling Markets. Contractors can also contact Dane County's Recycling Manager at 608/267-8815, or local city, village, town recycling staff listed in above referenced web site. Statewide listings of recycling / reuse markets at available from Wisconsin Department of Natural Resources, www.dnr.state.wi.us/org/aw/wm/markets.

1.8 WASTE MANAGEMENT PLAN FORM

A. Contractor Information:

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	
Glass	_____ 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	
Fluorescent Lamps	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Foam Insulation	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Asphalt & Concrete	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
PVC Plastic	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Corrugated Cardboard	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Metals	_____ cu. yds. _____ tons	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Carpet Padding	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Gypsum / Drywall	_____ cu. yds. _____ tons	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Barrels & Drums	_____ units	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	

Solvents	_____ gallons	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Other	_____	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Other	_____	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Other	_____	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Other	_____	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Other	_____	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01510

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 TEMPORARY FACILITIES

A. TEMPORARY UTILITIES

1. The Contractor shall arrange for, obtain and pay for all temporary utilities necessary to complete the work except as stated otherwise in these specifications.

B. TELEPHONE

1. The Contractor shall provide temporary telephone service. This service shall consist of at least a cellular phone for the Contractor's and Owner's use.

C. TOILETS

1. The Contractor may use the toilet facilities located at the south end of the lake. Owner will provide Contractor with a key to the toilet facilities. If it is found that the toilet facilities are not being maintained and are being abused by the Contractor, the use of the facilities by the Contractor will end. As an option, the Contractor may provide and maintain suitable, weather tight, painted sanitary toilet facilities for all workers during construction period. When toilet facilities are no longer required, promptly remove from site, disinfect, and clean or treat the area as required.
2. General Contractor shall keep all toilet facilities clean and supplied with toilet tissue at all times. Maintain facilities in accordance with requirements of applicable building codes.

D. PROJECT SIGN

1. No individual advertising signs, plaques or credits, temporary or permanent, will be permitted on the premises, except the name of each contractor at the entrance or on the Contractor's office or material shed.

E. EXPLOSIVES

1. Use of explosives, for any purpose, is prohibited.

F. FIRST AID

1. The Contractor shall provide temporary first-aid facilities on the site.

1.2 CONTROLS

A. TRAFFIC/DUST/DEBRIS CONTROL

1. The Contractor shall provide personnel, signs, barricades, lights and warning devices to control the orderly flow of traffic at the site, where needed, and prevent pedestrians and cars from entering areas of the Contractor's operations. This is especially critical when permanent fences and pit covers are not in place. The traffic devices shall meet the requirements of the U.S. Department of Transportation Manual on Uniform Traffic Control Devices.

2. The Contractor shall use crack router with vacuum attachment to eliminate dust from this process. Water or similar measures shall be used when sawing. The Contractor shall provide adequate protection to prevent damage to damage and pollution from flying debris.
3. Plywood or other suitable material must be placed below compressors to protect the substrate from grease, oil, and other debris.
4. All Contractors shall comply with applicable OSHA regulations.

B. PARKING

1. Parking of vehicles and equipment required for construction purposes shall be in the Contractor's designated work areas.
2. All Contractors and their employees shall cooperate with the General Contractor and others in the parking of vehicles to avoid interference with normal construction activities.

C. SECURITY

1. The Contractor shall provide for the security of materials and equipment stored at the site. The Contractor may store equipment and materials in areas in which the Contractor is working; otherwise, they shall be removed from the site. Special care shall be taken to secure all materials, new and removed, and equipment.

1.3 SPECIAL CONTROLS

A. NOISE CONTROL

1. The Contractor shall confine hours of operations to those required by State, County and City laws and ordinances. Work shall be limited to the hours between 7:00 a.m. and 7:00 p.m., Monday through Friday.

B. WATER CONTROL

1. Contractor shall pump down lower ponds for access to retaining walls that need concrete patching and for inspection of drain tile discharge pipes. The pump used must be capable of pumping water at the rate of 2 cubic feet per second. Stop logs may also be used to lower the water level, but this activity must be coordinated with Project Engineer to maintain lowered lake level and to not interfere with dredging that may be ongoing.
2. All concrete Work and grouting must be protected from water and weather damage until properly cured (generally 3 days).
3. The Contractor shall meet the DNR waste water regulations for construction site runoff requirements.

C. POLLUTION CONTROL

1. All internal combustion engines used in the Contractor's work and operating in a fixed location while running shall have their exhaust directed so as to prevent accumulation of fumes or carbon stains on the surfaces of the structure.

END OF SECTION

SECTION 02075

REMOVAL OF EXISTING CONCRETE AND SURFACE PREPARATION

PART 1 GENERAL

1.1 Applicable provisions of Division 01 shall govern work of this section.

1.2 SUMMARY

- A. Include all materials, labor, services and incidentals necessary for the completion of this section of the work.
- B. Include the removal of unsound concrete, examination of all exposed reinforcing, sandblasting or wire brushing of acceptable reinforcing, replacement of unacceptable reinforcing with new, and cleaning of the newly exposed underlying sound concrete prior to casting new fill concrete.

1.3 RELATED WORK

- A. Related work specified elsewhere:
 - 1. Temporary Facilities and Controls - Section 01510
 - 2. Patching of Deteriorated Concrete - Section 03730

PART 2 PRODUCTS

2.1 EQUIPMENT

- A. CHIPPING HAMMERS: Use chipping hammers with a total weight not to exceed:
 - 1. 60 pounds and equipped with flat chisel-type points with a cutting edge not less than $\frac{3}{4}$ " or greater than $2\frac{1}{2}$ " in width.
 - 2. 60 pound hammers will be allowed for initial removal only.
 - 3. Chipping hammers with a total weight not to exceed 30 pounds must be used once the reinforcing is exposed.
 - 4. If, in the opinion of the Engineer, it appears that the 60 pound hammer is having detrimental effects on the existing concrete slab, its use shall be discontinued and nothing heavier than a 30 pound hammer will be allowed.
 - 5. Use chipping hammers of nominal 15 pound class or less for removal of concrete from beneath reinforcing.
- B. SANDBLASTING EQUIPMENT: Sandblasting equipment shall be capable of removing rust from the exposed reinforcement and laitance from newly exposed concrete surfaces.
- C. COMPRESSED AIR EQUIPMENT: Compressed air equipment shall be capable of removal of dust and dirt from concrete repair areas.

PART 3 EXECUTION

3.1 CONCRETE REMOVAL

- A. Shoring the structure as required. Shoring design, supply, and installation is the responsibility of the Contractor.
- B. Prior to any removal, the Contractor shall submit the Contractor's plan for confining dust, collecting and disposal of broken concrete, steel reinforcement and other waste material as a result of the Contractor's removal operations. This plan shall be submitted to the Engineer and the Owner prior to start of construction. Dumpster location shall be coordinated with the Engineer and the Owner.
- C. Delaminated areas which require removal of unsound concrete will be identified and marked by the Engineer. The unsound concrete shall be removed by chipping to sound concrete. The marking by the Engineer in the field does not guarantee that unsound concrete is not present in areas beyond those marked. Additional concrete removal may be required after the Contractor's initial removal. The Engineer will review the removal areas prior to concrete replacement.
- D. Do not feather edges, but chip edges square or slightly undercut.
- E. At topside of slab repair, where possible, the areas removed shall be rectangular in shape in plan view.
- F. During the chipping process in these deteriorated concrete areas, care shall be exercised to avoid cracking of the underlying sound concrete.
- G. During the removal of unsound concrete, if more than half of the reinforcing bar diameter is exposed or if the bar is not firmly bonded to the surrounding concrete, then the remaining concrete around the bar shall be removed. The clearance between the bar and the concrete shall be a minimum of $\frac{3}{4}$ ". Support bars for the main reinforcing steel shall not be exposed provided there is no corrosion on these bars.
- H. The newly exposed sound concrete shall be cleaned by blowing away loose material with a deep sandblast or a wire brushing and followed by cleaning with a compressed air jet.
- I. Coordinate with the Engineer before performing this Work to allow for the Engineer to inspect properly prepared concrete surfaces and reinforcement, before the scheduled concrete placement.

3.2 REINFORCEMENT CLEANING AND/OR REPLACEMENT

- A. Exposed reinforcing shall be thoroughly cleaned by sandblasting or wire brushing to remove all rust and unsound concrete.
- B. Bars that are damaged or that have lost more than 10% of their original area at any point along the length shall be considered unacceptable and shall be removed and replaced with

an equivalent new bar of equal length. No. 8 bars and smaller that have lost between 5% and 10% of their original area at any point can be blast-cleaned or wire brushed clean and reused as long as a new full-length #4 bar is used as supplemental steel next to the old cleaned bar.

- C. All exposed or supplemental reinforcing bars shall be no closer than $\frac{3}{4}$ " measured radially from existing concrete. The elevation of all exposed or supplemental reinforcing shall be maintained at the original height.
- D. Where portions of reinforcing bars are exposed, the Engineer will determine if the embedded portion of the bar is soundly bonded to the remaining concrete. If, in the Engineer's judgement, the bar is not soundly bonded, the Contractor shall remove concrete around and under the bar for a length as determined by the Engineer.
- E. Install additional reinforcing bars as detailed.

3.3 CLEAN UP

- A. Contractor shall remove all loose concrete from the site and leave the area broom clean.
- B. Debris shall not be flushed into the stream.

END OF SECTION

SECTION 02820

CUSTOM DECORATIVE METAL FENCE

PART 1 PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Work of this section includes providing a
- B. Section Includes:
 - 1. Decorative galvanized steel tubular picket fences, including fences to be installed on sloped wing walls of the dam.
- C. Related Sections:
 - 1. 02821 – Chain Link Fences
 - 2. 03340 – Concrete

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For gates. Include plans, elevations, sections, details, and attachments to other work.
- C. Samples: For each fence material and for each color specified.
 - 1. Provide Samples 12 inches in length for linear materials.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Fabricator of products.
- B. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code – Steel.
- C. Mockups: Build mockups to verify selections made under sample submittals, demonstrate aesthetic effects, and set quality standards for fabrication and installation.
 - 1. Include 6-foot length of fence complying with requirements.
 - 2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

- D. Rail and fencing system shall be able to withstand a lateral thrust of 300 lbs per square foot.

PART 2 PRODUCTS

2.1 STEEL AND IRON

- A. Steel material for fence panels and posts: ASTM A123/A123M galvanized-steel sheet, tubing, and shapes, structural quality, Grade 50.

2.2 MISCELLANEOUS MATERIALS

- A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.
- B. Concrete for Posts Set in Soils: Normal-weight, air-entrained, ready-mix concrete complying with requirements in 03340 – Concrete, with a minimum 28-day compressive strength of 3000 psi.
- C. Non-Shrink Grout for Posts Set in Existing Concrete Structures: As specified in Specification Section 03340 – Concrete.

2.3 DECORATIVE STEEL FENCES

- A. Decorative Steel Fences: Fences made from steel tubing and shapes, hot-dip galvanized.
 - 1. Manufacturers: Subject to compliance with requirements, fabricators may provide custom fabricated products to be incorporated into the Work.
 - 2. Basis-of-Design Product: Subject to compliance with requirements, including installation where shown on the Drawings.
- B. Posts: Square steel tubing.
 - 1. Line Posts, End Posts, and Corner Posts: Square steel tubing 1-1/2" square formed from 12-gauge steel sheet and hot-dip galvanized after fabrication.
- C. Post Caps: Formed from steel sheet and hot-dip galvanized after forming.
- D. Top and Bottom Rails: Angle iron 1" x 1", welded to pickets as shown on details.
- E. Pickets: 3/4 inch square, 14-gauge steel tubes, hot-dip galvanized after fabrication.
 - 1. Terminate tops of pickets at top rail for flush top appearance.
 - 2. Picket Spacing: 4 inches maximum between pickets and under fence.
- F. Handrail: 1-1/2" nominal diameter schedule 40 galvanized steel pipe. Securely attach handrail to fencing at every post.

- G. Handrail brackets to attach handrail to fence shall be 1/2" diameter threaded rod welded to underside of handrail and bolted through fence post.
- H. Fasteners: Hot-dip galvanized angle brackets, carriage bolts, and tamperproof nuts or spot welds.
- I. Fabrication: Assemble fences into sections by welding pickets to angle iron rails.
 - 1. Fabricate sections with clips welded to rails for fastening to posts in field.
 - 2. Drill posts and angle brackets for fasteners before finishing to maximum extent possible.
- J. Finish exposed welds to comply with NOMMA Guideline 1, Finish #3 - partially dressed weld with splatter removed.
- K. Galvanizing: For items other than hardware that are indicated to be galvanized, hot-dip galvanize to comply with ASTM A 123/A 123M. For hardware items, hot-dip galvanize to comply with ASTM A 153/A 153M.
 - 1. Hot-dip galvanize posts.
 - 2. Hot-dip galvanize rail and picket assemblies after fabrication.

2.4 METALLIC-COATED STEEL FINISHES

- A. Galvanized Finish: Clean welds, mechanical connections, and abraded areas and repair galvanizing to comply with ASTM A 780.
- B. Surface Preparation: Clean surfaces with nonpetroleum solvent so surfaces are free of oil and other contaminants. After cleaning, apply a zinc-phosphate conversion coating suited to the coating to be applied over it. Clean welds, mechanical connections, and abraded areas and repair galvanizing to comply with ASTM A 780.
- C. High-Performance Coating: Apply epoxy primer and a high solids acrylic polyurethane topcoat to prepared surfaces. Comply with coating manufacturer's written instructions and with requirements in SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting. Apply at spreading rates recommended by coating manufacturer. The minimum coating thickness of epoxy shall be 6 mils dried and of high solids acrylic polyurethane shall be 5 mils dried.
 - 1. Color: Black.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for site clearing, earthwork, construction layout, and other conditions affecting performance of the Work.

- B. Do not begin installation before final grading is completed unless otherwise permitted by Project Engineer.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Owner will clear site of trees and brush. Contractor may have to perform minor clearing of brush, logs, and other debris.
- B. Stake locations of fence lines, gates, and terminal posts. Do not exceed intervals of 25 feet or line of sight between stakes.

3.3 DECORATIVE FENCE INSTALLATION

- A. Install fences by setting posts as indicated on the Drawings and fastening fence panels to posts. Peen threads of bolts after assembly to prevent removal.
- B. Attach handrail to fence as shown on the Drawings.
- C. Post Excavation: Drill or hand-excavate holes for posts in firm, undisturbed soil, solid rock, or existing concrete.
- D. Post Setting: Set posts in concrete at indicated spacing into firm, undisturbed soil, solid rock, or existing concrete.
 - 1. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or grout.
 - 2. Space posts uniformly at 6 feet o.c.
 - 3. Install posts with 6 inches maximum clear opening from end posts to buildings, fences and other structures
 - 4. Place concrete or grout around posts, as specified, and vibrate or tamp for consolidation.
 - 5. Posts Set in Soil:
 - a. Option A:
 - 1) Excavate holes to a diameter of not less than 16" and a depth of not less than 36 inches.
 - 2) Crown concrete 2 inches above grade to assure drainage away from post. If a minimum of 8" of solid rock is encountered in a hole, it is adequate to drill the hole and seal it as if the post is being set in existing concrete.
 - 3) Extend post to within 6 inches of specified excavation depth, but not closer than 3 inches to bottom of new concrete.
 - b. Option B (Only if there is 4' of binding soil without bedrock or boulders):
 - 1) Drive post into the ground at least 36".
 - 2) Drive 24" long steel anchors in the ground at 40 degrees. Attach these anchors to the posts to secure the posts into place.

6. Posts Set into Existing in Concrete:
 - a. Form or core drill holes not less than 1/8 inch larger than outside diagonal dimension of post and to a depth of not less than 8 inches.
 - b. Clean holes of loose material, insert posts, and fill space between post and concrete with non-shrink grout, mixed and placed to comply with grout manufacturer's written instructions. Finish and slope top surface of grout to drain water away from post.
7. Posts Strapped Along Side of Concrete Walkway:
 - a. Each 1/4" thick strap to have a minimum of two 3/8" x 4" galvanized bolts into expandable anchorment. Embed bolts and anchorments full depth into concrete.
 - b. Extend posts 12" below walkway surface.

3.4 ERECTION TOLERANCES

- A. Maximum Variation From Plumb: 1/4 inch.
- B. Maximum Offset From Indicated Position: 1 inch

END OF SECTION

SECTION 02821
CHAIN LINK FENCES

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Chain link fence framework, fabric, and accessories.
 - 2. Excavation for post bases.
 - 3. Concrete foundation for posts.
- B. Related Sections:
 - 1. 02820 – Custom Decorative Metal Fence
 - 2. Section 03340 – Concrete

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - 2. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
 - 3. ASTM A392 - Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric.
 - 4. ASTM F567 - Standard Practice for Installation of Chain-Link Fence.
 - 5. ASTM F1043 - Standard Specification for Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework.
 - 6. ASTM F1083 - Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures.
- B. Chain Link Fence Manufacturers Institute:
 - 1. CLFMI - Product Manual.

1.3 SYSTEM DESCRIPTION

- A. Summary:
 - 1. Base Bid chain link fence consists of the approximately 110 LF of galvanized fencing in the woods on the northeast edge of the Work limits.
 - 2. Alternate Bid 1 fencing consists of substituting all fencing described in Section 02820 – Custom Decorative Metal Fence with 42” high galvanized, acrylic coated chain link fencing.
- B. Fence Height:
 - 1. Base Bid: 60 inches.
 - 2. Alternate Bid 1: 42 inches.

- C. Line Post Spacing:
 - 1. Base Bid: 8 feet o.c.
 - 2. Alternate Bid 1: 6 feet o.c.
- D. Fence Post and Rail Strength: Conform to ASTM F1043 Light Industrial Fence quality.

1.4 SUBMITTALS

- A. Shop Drawings: Indicate plan layout, spacing of components, post foundation dimensions, hardware anchorage, and schedule of components.
- B. Product Data: Submit data on fabric, posts, accessories, fittings and hardware.
- C. Samples: Submit one 12 x 12 inch sample of fence fabric, illustrating construction and colored finish.
- D. Manufacturer's Installation Instructions: Submit installation requirements and post foundation anchor bolt templates.

1.5 QUALITY ASSURANCE

- A. Supply material in accordance with CLFMI - Product Manual.
- B. Perform installation in accordance with ASTM F567.
- C. Perform Work in accordance with State of Wisconsin standards.
- D. Rail and fencing system shall be able to withstand a lateral thrust of 300 lbs per square foot.
- E. (Alternate Bid 1 Only) Mockups: Build mockups to verify selections made under sample submittals, demonstrate aesthetic effects, and set quality standards for fabrication and installation.
 - 1. Include 6-foot length of fence complying with requirements.
 - 2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years experience.
- B. Installer: Company approved by manufacturer and specializing in performing work of this section with minimum three years experience.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver fence fabric and accessories in packed cartons or firmly tied rolls.

- B. Identify each package with manufacturer's name.
- C. Store fence fabric and accessories in secure and dry place.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Framing (Steel): ASTM F1083 Schedule 40 galvanized steel pipe, welded construction, minimum yield strength of 25 ksi; coating conforming to ASTM F1043 Type A on pipe exterior and interior.
- B. Fabric Wire (Steel): ASTM A392 galvanized steel.
- C. Concrete for Posts Set in Soils: Normal-weight, air-entrained, ready-mix concrete complying with requirements in 03340 – Concrete, with a minimum 28-day compressive strength of 3000 psi.
- D. (Alternate Bid 1 Only) Non-Shrink Grout for Posts Set in Existing Concrete Structures: As specified in Specification Section 03340 – Concrete.

2.2 COMPONENTS

- A. Line Posts: 1-1/2" nominal diameter schedule 40 pipe.
- B. Corner and Terminal Posts: 2" nominal diameter schedule 40 pipe.
- C. Top and Brace Rail: 1-1/2" nominal diameter tube with a minimum 0.065 wall thickness.
- D. Fabric: 2 inch diamond mesh interwoven wire, 9 gauge thick, top knuckle end closed, bottom selvage knuckle end closed.
- E. Tension Wire: 12 gauge smooth class III single strand tension wire attached to bottom of fence fabric with 9 gauge aluminum hog rings spaced 24" o.c.
- F. Tie Wire: 6-1/2" 9 gauge aluminum pre-tie tie wire.
- G. Handrail: 1-1/2" nominal diameter schedule 40 galvanized steel pipe. Securely attach handrail to fencing at every post.

2.3 ACCESSORIES

- A. Caps: die cast aluminum dome cap, sized to post diameter, set screw retainer.
- B. Galvanized Steel Fittings: Beveled brace band and carriage bolt and nut, pressed steel rail end, pressed steel loop cap, 3/16" x 3/4" tension bar, and beveled tension band and carriage bolt and nut.

- C. Handrail brackets to attach handrail to fence shall be 1/2" diameter threaded rod welded to underside of handrail and bolted through fence post.

2.4 FINISHES

- A. Components, Hardware, and Fabric: Galvanized to ASTM A123/A123M for components; ASTM A153/A153M for hardware; ASTM A392 for fabric.
- B. Galvanized Finish: Clean welds, mechanical connections, and abraded areas and repair galvanizing to comply with ASTM A 780.
- C. Surface Preparation (Alternate Bid 1 Only): Clean surfaces with nonpetroleum solvent so surfaces are free of oil and other contaminants. After cleaning, apply a zinc-phosphate conversion coating suited to the coating to be applied over it. Clean welds, mechanical connections, and abraded areas and repair galvanizing to comply with ASTM A 780.
- D. High-Performance Coating (Alternate Bid 1 Only): Apply epoxy primer and a high solids acrylic polyurethane topcoat to prepared surfaces. Comply with coating manufacturer's written instructions and with requirements in SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting. Apply at spreading rates recommended by coating manufacturer. The minimum coating thickness of epoxy shall be 6 mils dried and of high solids acrylic polyurethane shall be 5 mils dried.
 - 1. Color: Black.
- E. Accessories: Same finish as framing and fabric.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for site clearing, earthwork, construction layout, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Owner will clear site of trees and brush. Contractor may have to perform minor clearing of brush, logs, and other debris.
- B. Stake locations of fence lines, gates, and terminal posts. Do not exceed intervals of 25 feet or line of sight between stakes.

3.3 INSTALLATION

- A. Install framework, fabric, and accessories in accordance with ASTM F567.

- B. Attach handrail to fence posts as shown on Drawings.
- C. Post Excavation: Drill or hand-excavate holes for posts in firm, undisturbed soil or existing concrete.
- D. Post Setting: Set posts in concrete at indicated spacing into firm, undisturbed soil, solid rock, or existing concrete.
 - 1. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or grout.
 - 2. Space posts uniformly at 6 feet o.c.
 - 3. Install posts with 6 inches maximum clear opening from end posts to buildings, fences and other structures
 - 4. Place concrete or grout around posts, as specified, and vibrate or tamp for consolidation.
 - 5. Posts Set in Soil:
 - a. Option A:
 - 1) Excavate holes to a diameter of not less than 16" and a depth of not less than 36 inches.
 - 2) Crown concrete 2 inches above grade to assure drainage away from post. If a minimum of 8" of solid rock is encountered in a hole, it is adequate to drill the hole and seal it as if the post is being set in existing concrete.
 - 3) Extend post to within 6 inches of specified excavation depth, but not closer than 3 inches to bottom of new concrete.
 - b. Option B (Only if there is 4' of binding soil without bedrock or boulders):
 - 1) Drive post into the ground at least 36".
 - 2) Drive 24" long steel anchors in the ground at 40 degrees. Attach these anchors to the posts to secure the posts into place.
 - 6. Posts Set into Existing in Concrete:
 - a. Form or core drill holes not less than 1/8 inch larger than outside diagonal dimension of post and to a depth of not less than 8 inches.
 - b. Clean holes of loose material, insert posts, and fill space between post and concrete with non shrink grout, mixed and placed to comply with grout manufacturer's written instructions. Finish and slope top surface of grout to drain water away from post.
 - c. Seal hole with a non-shrink grout with a raised finish to assure drainage away from post.
 - 7. Posts Strapped Along Side of Concrete Walkway:
 - a. Each 1/4" thick strap to have a minimum of two 3/8" x 4" galvanized bolts into expandable brackets. Embed bolts and anchorments full depth into concrete.
 - b. Extend posts 12" below walkway surface.
- E. Brace each corner post to adjacent line post with horizontal center brace rail. Install brace rail one bay from end posts.
- F. Install top rail through line post tops and splice with 6 inch long rail sleeves.

- G. Place fabric on outside of posts and rails.
- H. Stretch fabric between terminal posts or at intervals of 100 feet maximum, whichever is less.
- I. Position bottom of fabric 2 inches above finished grade.
- J. Fasten fabric to top rail, line posts, braces, and bottom tension wire with tie wire at maximum 15 inches on centers.
- K. Attach fabric to end, corner, and gate posts with tension bars and tension bar clips.
- L. Install bottom tension wire stretched taut between terminal posts.
- M. Connect to existing fence at new terminal post where indicated on Drawings.
- N. Allow footings to cure minimum 7 days before installing fabric and other materials attached to posts.

3.4 ERECTION TOLERANCES

- A. Maximum Variation From Plumb: 1/4 inch.
- B. Maximum Offset From Indicated Position: 1 inch.

END OF SECTION

SECTION 03110

CONCRETE FORMWORK

PART 1 GENERAL

- 1.1 Applicable provisions of Division 01 shall govern all work of this Section.
- 1.2 WORK INCLUDED
- A. Include all materials, labor, services and incidentals necessary for the completion of this Section of the Work.
 - B. Include formwork for cast-in-place concrete as required by Concrete Contractor.
 - C. Include formwork to buildup surfaces to match existing.
 - D. Notify all trades in ample time for each to install own work required in conjunction with formwork.
 - E. Supply, install and maintain all shoring and re-shoring related to concrete formwork.
- 1.3 QUALITY ASSURANCE
- A. Industry Standards, Specifications and Codes:
General: Comply with all provisions of the following codes and standards except as modified herein.
 - B. All Referenced codes and standards including all revisions and commentaries shall be the most currently adopted as of the date of these Contract Documents.
 - C. American Concrete Institute (ACI)
 - ACI 301 Specifications for Structural Concrete for Buildings
 - ACI 318 Building Code Requirements for Reinforced Concrete
 - ACI 347 Recommended Practice for Concrete Formwork
 - D. National Forest Products Association (NFPA)
NDS National Design Specification for Wood Construction including Design Values for Wood Construction
 - E. American Plywood Association (APA)
Plywood Design Specification

1.4 DESIGN CRITERIA

- A. Design forms, shores and bracing. Include all factors pertaining to safety of formwork structure such as live load, dead load, weight of equipment on formwork, concrete mix, height of concrete drop, vibration reactions and similar factors.
- B. Design formwork to be readily removable without impact, shock or damage to cast-in-place concrete surfaces and adjacent materials.

1.5 ALLOWABLE TOLERANCES

Flatwork true to plane:	1/4" in 10'
Vertical surfaces true to plane:	1/4" in 10'
Formwork displacement:	Maximum 1/4"
Deviation in cross sectional dimensions of columns, piers or beams or in thickness of slabs and walls:	± 1/4"

PART 2 PRODUCTS

2.1 FORM MATERIALS

- A. General: Plywood, metal-framed plywood-faced or other acceptable panel type materials to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practical sizes to minimize number of joints. Provide form material with sufficient thickness to withstand pressure of newly placed concrete without bow or deflection.
- B. Formed Surfaces Exposed To View: New plywood complying with U.S. Standard PS-1 Plyform Class I, B-B Concrete Form Plywood, B-Matte MDO Plywood by Simpson, 5/8" or 3/4" thick without defects, mill oiled and edge sealed or wood forms lined with 3/16" tempered pressed wood or 1/4" thick plywood B-B conforming to EXT-DFPA as large a size as possible to minimize joints.
- C. Formed Surfaces Concealed From View: Clean straight lumber dressed on face and edges, nominal 1" thickness or plywood 5/8" or 3/4" thick conforming to EXT-DFPA or metal forms smooth and as large a size as possible.
- D. Reveals and Chamfers: Wood or purpose-made plastic or high density plastic foam to achieve sharp, true lines. Match existing.

2.2 ACCESSORIES

- A. Miscellaneous items shall be provided as shown on drawings and called for in specifications. They shall be standard manufactured items subject to approval of the Engineer. Embedded accessories shall be accurately placed and firmly anchored to forms. Sufficient time shall be allowed after forms are erected to various trades to install embedded

items before concrete is poured. Slab bolsters, beam bolsters and high chairs shall be plastic tipped.

2.4 FORM COATINGS

- A. Form coatings for exposed concrete shall consist of either an approved non-staining form oil, lacquer or plastic. Plywood approved for reuse shall be recoated as directed by the Engineer. When oil is used, excess shall be wiped off with rags. When lacquer is used, a light coating of form oil over lacquer will be permitted provided excess is wiped off. When factory-applied plastic coatings are used, follow manufacturer's instructions. Contact surface of forms shall be free of all foreign matter including dust. Form oil shall be applied to forms before reinforcing is erected. Form oil shall be of type which will not affect bonding of specified exterior finish.

2.5 CONSTRUCTION JOINT MATERIALS

- A. Solid Wood Lumber: Shall be Spruce #2 or equivalent.

PART 3 EXECUTION

3.1 FORMWORK ERECTION

- A. Form shall conform to approximate shape, lines, grade and dimensions of members shown on the original drawings and shall be braced and tied together to maintain position and shape during placement of concrete. Supports shall be spaced sufficiently close to prevent deflection of form material.
- B. Where necessary, formwork shall be cambered to compensate for anticipated deflections due to weight of fresh concrete and construction loads.
- C. Special care shall be taken to obtain a seal between existing concrete construction and new forms so that there is a positive seal which can take up variations in the existing concrete surfaces. The Contractor shall seal forms so that bleeding at form edges is held to a minimum and so that clean straight lines are left after stripping forms. These conditions occur at column repairs and cast-in-place slab replacement.

3.2 CONSTRUCTION JOINTS

- A. Joints not shown on the drawings will not be permitted except when due to equipment failure or extreme hardship imposed on the Contractor. Joints in the structural concrete shall be located as shown on the drawings. Construction joints not complying with the drawings will be rejected and adjacent materials shall be removed and reconstructed. In the event unplanned joints are unavoidable, the Contractor shall notify the Engineer of the need for such joints and describe a recommended execution of such joints and request the Engineer's approval of said joint treatment for use that one time.
- B. At transverse and longitudinal joints, the concrete overlay course previously placed shall be sawed to a straight and vertical edge and deeply sandblasted before the adjacent overlay course is placed.

- C. Contractor shall obtain the Engineer's approval as to condition and placement of reinforcing prior to completing formwork and ordering of concrete for each separate pour.

3.3 FORMWORK REMOVAL

- A. Notify Engineer prior to removing formwork, centering, shoring and reshoring.
- B. The forms may be removed when field cured cylinders achieve 75% of the specified 28-day strength. If the Contractor chooses to have supplemental strength tests, it shall be the responsibility of the Contractor to make and pay for the costs of these tests. These Supplemental cylinders shall be stored on the structure in vicinity of the area they represent and shall be cured in the same manner as that portion of the structure.
- C. Forms shall be readily removable without hammering, prying, or damage to concrete. Metal tools shall not come in contact with concrete surfaces during form removal. All exposed concrete corners shall be finished to match existing corners.

END OF SECTION

SECTION 03115

SHORING

PART 1 GENERAL

1.1 Applicable provisions of Division 01 shall govern Work of this Section.

1.2 SUMMARY

- A. Include all materials, labor, services and incidentals necessary for the completion of this Section of the Work.
- B. Include all materials related to the shoring as described below.
- C. The Shoring shall be designed by the Contractor to temporarily support members whose support is to be removed by partial demolition and concrete removal.

1.3 SUBMITTALS

- A. The Contractor shall submit the type of shoring, location, number and safe load carrying capacity of the shores the Contractor intends to use in the Work to the Engineer for review prior to the commencement of the Work.
- B. The Contractor shall submit to the Engineer a record of reference elevations of shored members at various stages as described below.

1.4 QUALITY ASSURANCE

- A. The Contractor shall obtain reference elevations of members supported by shoring prior to concrete removal, during concrete removal, after concrete removal, during and after concrete replacement, and after shoring removal.
- B. When reference elevations indicate unanticipated movements, shoring shall be adjusted to minimize the adverse effects of that movement.

PART 2 PRODUCTS

2.1 VERTICAL LOAD SHORES

- A. Shores supporting vertical loads shall be adjustable through positive means such as by adjustable screw jacks in order to compensate for elastic shortening of shores during their loading and other effects. Ellis Shore clamps shall not be used.

- B. These Shores shall be effectively cross-braced to prevent buckling failure of individual members and overall shoring stability failure.
- C. Shores shall be provided to carry the full weight of the entire area in which work is being performed. These Shores shall be in place prior to removal of unsound concrete and shall be supported on one structural level or to grade.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Shores shall be installed snug, plumb and square.
- B. Shores shall be adjusted as required during the progress of the work as indicated by movements measured during relative elevation surveys of shored members.

3.2 REMOVAL

- A. Shores shall only be removed when compressive strength results of replacement concrete reaches 75% of its specified 28-day strength. If the Contractor chooses to have supplemental strength tests, it shall be the responsibility of the Contractor to make and pay for the costs of these tests. These Supplemental cylinders shall be stored on the structure in vicinity of the area they represent and shall be cured in the same manner as that portion of the structure.
- B. Shores that have been removed shall not be stored in such a manner that they interfere with the Owner's continued use of the structure. If the shoring is not to be used within the structure it shall be removed from the structure or stored in the area in which the Contractor is working.

END OF SECTION

SECTION 03200

CONCRETE REINFORCEMENT

PART 1 - GENERAL

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

1.2 WORK INCLUDED

- A. Include all materials, labor, services and incidentals necessary for the completion of this section of the work.
- B. Work includes fabrication and placement of reinforcement for cast-in-place concrete including bars, welded wire fabric, ties, dowels, stirrups, supports and accessories required.
- C. The work also includes the addition of supplemental reinforcing to replace bar cross section loss due to corrosion.

1.3 QUALITY ASSURANCE

A. INDUSTRY STANDARDS, SPECIFICATIONS AND CODES

1. GENERAL

- a. Comply with all provisions of the following codes and standards except as modified herein.
- b. All referenced codes and standards including all revisions and commentaries shall be the most currently adopted as of the date of these contract documents.

2. AMERICAN CONCRETE INSTITUTE (ACI)

- a. ACI 301 Specifications for Structural Concrete for Buildings
- b. ACI 318 Building Code Requirements for Reinforced Concrete
- c. ACI 315 Details and Detailing of Concrete Reinforcement

3. CONCRETE REINFORCING STEEL INSTITUTE (CRSI)

- a. Manual of Standard Practice
- b. Recommended Practice for Placing Reinforcing Bars

4. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- a. Specific ASTM numbers are noted in later text.

B. QUALIFICATIONS

1. ACCEPTABLE MANUFACTURERS

- a. Shall be regularly engaged in the manufacture of steel bar, welded wire fabric reinforcing and mechanical splicing devices.

2. INSTALLER QUALIFICATIONS

- a. Shall have three years experience in the installation of steel bar and welded wire fabric reinforcing.

1.3 SUBMITTALS

- A. Submit in accordance with Division 01 requirements.

1.4 STEEL PROPERTIES

- A. Submit certification of grade, chemical analysis and tensile properties of steel furnished.

PART 2 - PRODUCTS

2.1 REINFORCING STEEL

1. REINFORCING BARS

- a. Shall conform to ASTM A-615 "Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement".
- b. All reinforcing bars shall be deformed.
- c. All main reinforcing bars and other bars not listed above shall be Grade 60 unless noted otherwise on the contract documents.

2.2 ACCESSORIES

1. SUPPORTS FOR REINFORCEMENT

- a. Provide supports for reinforcement including bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcement in place.
- b. Use wire bar type supports complying with CRSI recommendations unless otherwise indicated. Do not use wood, brick and other unacceptable materials.
- c. For exposed-to-view concrete surfaces where legs of supports are in contact with forms provide supports with legs which are plastic protected. For sandblasted or

bush-hammered concrete provide stainless steel protected or special stainless bar supports.

- d. In areas of concrete removal, short lengths of reinforcing bar shall be used to provide support for bars on chipped or rough concrete surfaces using similar spacing of supports.

2.7 FABRICATION

- A. Shop fabricate reinforcing bars to conform to required shapes and dimensions. In case of fabricating errors, do not re-bend or straighten reinforcement in a manner that will injure or weaken the materials.
- B. All reinforcement shall be bent cold unless otherwise permitted by the Engineer.

2.8 UNACCEPTABLE MATERIALS

- A. Reinforcement with any of the following defects will not be permitted in the work:
 - Bar lengths, depths and bends exceeding specified fabrication tolerances.
 - Bends or kinks not indicated on drawings or final shop drawings.
 - Bars with reduced cross-section due to excessive rusting or other cause.

2.9 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver reinforcement to the project site in bundles marked with metal tags indicating bar size, lengths and other information corresponding to markings shown on placement drawings.
- B. Handle and store materials to prevent dirt or excessive rust.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine the formwork and other conditions under which concrete reinforcement is to be placed and notify Formwork Contractor of unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner to your satisfaction.

3.2 PLACEMENT

- A. Comply with the specified codes and standards and CRSI "Recommended Practice for Placing Reinforcing Bars" for details and methods of reinforcement placement and supports and as herein specified.
- B. Clean reinforcement to remove loose rust and mill scale, earth, ice and other materials which reduce or impair bond with concrete.

- C. Position, support and secure reinforcement against displacement by formwork, construction or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers and hangers as required.
- D. Place reinforcement to obtain coverages for concrete protection as indicated. Arrange, space and securely tie bars and bar supports together with 16 gauge wire to hold reinforcement accurately in position during concrete placement operations. Set wire ties so that ends are directly away from exposed concrete surfaces.
- E. All exposed or additional reinforcing shall be no closer than $\frac{3}{4}$ " measured radially from existing concrete. The elevation of all exposed or additional reinforcing shall be maintained at the original height.
- F. Reinforcing shall not be bent after being embedded in hardened concrete.
- G. Provide sufficient number of supports and sizes as required to carry reinforcement. Maximum spacing of chairs is 48" on center. Do not place reinforcing bars more than 2" beyond the last leg of any continuous bar support. Do not use supports as bases for runways for concrete conveying equipment and similar construction loads.

3.3 WELDING OF REINFORCEMENT

- A. Welding of reinforcement covered by this section is prohibited.

3.4 FIELD QUALITY CONTROL

- A. Notify Engineer when reinforcing is in place so he may review the reinforcing placement. Engineer shall have a minimum of 24 hour notice prior to placement of concrete.
- B. Tend to reinforcing at all times during concrete placement and make necessary adjustments to reinforcing which has been dislodged by concrete placement or workmen.

3.5 BAR PLACEMENT TOLERANCES

- $\frac{1}{4}$ " (\pm) between bars
- $\frac{1}{4}$ " (\pm) vertically for members 8" deep or less
- $\frac{1}{2}$ " (\pm) vertically for members over 8" deep and less than 2' deep
- 1" (\pm) vertically for members 2' or deeper

END OF SECTION

SECTION 03340

CONCRETE

PART 1 - GENERAL

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

1.2 SUMMARY

- A. Include all materials, labor, services and incidentals necessary for the completion of this section of the work.
- B. The extent of concrete work described in this Section consists of the installation of new concrete stairs, the installation of concrete anchors for fence posts set in soil, and the installation of non-shrink grout for fence posts set in existing concrete structures, as shown on the drawings.

1.3 RELATED WORK

- A. Related work specified elsewhere:
 - 1. Concrete Formwork – 03110
 - 2. Concrete Reinforcement – 03200
 - 3. Custom Decorative Metal Fence – 02820
 - 4. Chain Link Fence – 02821

1.4 PRECONSTRUCTION MEETINGS

- A. A preconstruction meeting of Engineer, Contractor and finisher shall take place at least one week prior to startup. Topics of discussion shall include concrete handling, placing, finishing and curing.

1.5 NOTIFICATION

- A. This Contractor shall notify the Engineer at least 24 hours prior to any concrete pour.

1.6 PROTECTION OF ADJACENT WORK

- A. This Contractor shall be responsible to see that due care is exercised and avoid staining any adjacent finished material during concrete work. Any such damage shall be made good by this Contractor without expense to the Owner.

1.7 REFERENCES

- A. INDUSTRY STANDARDS, SPECIFICATIONS AND CODES
 - 1. GENERAL
 - a. Comply with all provisions of the following codes and standards except as modified herein.

- b. All referenced codes and standards including all revisions and commentaries shall be the most currently adopted as of the date of these contract documents.

2. AMERICAN CONCRETE INSTITUTE (ACI)

- a. ACI 301 Specification for Structural Concrete for Buildings.
- b. ACI 318 Building Code Requirements for Reinforced Concrete.
- c. ACI 211.1 Standard Practice for Selecting Proportions for Normal Heavyweight and Mass Concrete

Additional ACI sections are noted in later text.

3. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- a. ASTM C-31 Standard Method of Making and Curing Concrete Test Specimens in the Field
- b. ASTM C-33 Specifications for Concrete Aggregates
- c. ASTM C-39 Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
- d. ASTM C-42 Standard Method of Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
- e. ASTM C-94 Specification for Ready Mixed Concrete
- f. ASTM C-143 Standard Test Method for Slump of Portland Cement Concrete
- g. ASTM C-150 Specification for Portland Cement
- h. ASTM C-231 Test for Air Content of Freshly Mixed Concrete by the Pressure Method
- i. ASTM C-260 Specification for Air-Entraining Admixture for Concrete

Additional ASTM numbers are noted in later text.

1.8 ALLOWABLE TOLERANCES

- A. Flatwork true to plane 1/4" in 10 feet.

1.9 MIX DESIGNS

- A. Submit a concrete mix design a minimum of two weeks before its intended use as described later in this section.
- B. Mix design shall be in accordance with ACI 211.1 Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete. Furnish mix designs based upon schedule herein. Submit material content per cubic yard of each class of concrete furnished including:
 - Dry weight of cement
 - Quantities, type and name of admixtures
 - Weight of water
- C. Submit to Engineer and obtain approval prior to placing concrete.

1.10 TEST REPORTS

- A. Submit test reports of concrete compression, yield, and slump. Furnish copies to the Project Engineer.

1.11 SLUMP AND AIR CONTENT TESTS

- A. For each set of cylinders made a slump test shall also be made. Slump tests shall be made in accordance with ASTM C-143.

PART 2 - PRODUCTS

2.1 CONCRETE TYPES, STRENGTHS AND USES

- A. The strength indicated is the 28-day design compressive strength.

<u>Concrete Type</u>	<u>Strength</u>	<u>Use</u>
Higher Strength Concrete	4000 PSI	Concrete for new stairs
Normal Weight Concrete	3000 PSI	Anchor concrete for fence posts set in soil
Non-Shrink Grout		Bonding for fence posts and stair reinforcing dowels into existing concrete structure

2.2 MATERIALS

A. PORTLAND CEMENT

- 1. Shall meet the requirements of ASTM C-150, non-air-entraining Type I with reinforcing fibers at 3 lbs / cu yd. Portland Cement Type III is not permitted.

B. COARSE AGGREGATE

- 1. Shall be clean, sound crushed stone or crushed gravel meeting the requirements of ASTM C-33. It shall have an absorption not exceeding 3.0% and the following gradation:
- 2. Maximum aggregate size shall be 3/4".

C. SAND

- 1. Shall be clean and sharp, and conform to the requirements of ASTM C-33.

D. GROUT

- 1. Shall consist of Type I Portland cement and sand.

E. WATER

- 1. Use clean, fresh, free from oil, acid, organic matter or other deleterious substances.

2.3 ADMIXTURES

- A. The following types of admixtures may be used when approved by the Engineer.
1. Air-Entraining Admixture
 - a. Shall conform to ASTM C-260.
 2. Mid-Range Water Reducing
 - a. Shall conform to ASTM C494, Type A
 3. High-Range Water Reducing (Super Plasticizer)
 - a. Shall conform to ASTM C494, Type F or Type G.
 4. Water Reducing, Non-Chloride Accelerator
 - a. Shall conform to ASTM C494, Type C or Type E.
 5. Water Reducing, Retarding
 - a. Shall conform to ASTM C494, Type D.
 6. Calcium Chloride
 - a. Shall not be permitted in the concrete as an additive and not permitted in admixtures.

2.4 CONCRETE MIX DESIGN

- A. The Contractor shall develop a mix design.
- B. Mix design for concrete shall be proportioned in accordance with this specification. Mix designs proposed for use, when tested in the laboratory, shall have an average 28-day compressive strength in excess of design strength as required in Chapter 4 of ACI 318. The fine and coarse aggregate shall be proportioned to have equal volumes. The exact "super" water-reducing admixture dose shall be recommended by the manufacturer. In addition, slump shall be such that the finished surface follows that of the existing concrete surfaces with no sagging or bulging due to gravity on the plastic mix. Maximum replacement of Portland cement with fly ash shall be limited to 25 percent.
- C. Specified slumps shall apply at time when concrete is discharged at job site. In all cases, concrete shall have a slump not exceeding that specified.
- D. The entrained air content shall be $6\% \pm 1\frac{1}{2}\%$ and shall be measured according to ASTM C231.
- E. Whenever temperature is above 80°F Contractor shall provide when required by the Engineer, an approved admixture to be added to concrete for retarding initial set of concrete. Admixture shall be used in strict accordance with manufacturer's recommendations.
- F. DCI may act as an accelerator. This accelerated set may be retarded with either an ASTM C494 Type D or G admixture. DCI concrete should be placed within one hour of batching.

2.5 GROUT MIX DESIGN

- A. Grout shall consist of equal parts by weight of cement and sand. It shall be mixed with sufficient water to form a stiff slurry.

2.6 TESTING OF CONCRETE MIX DESIGNS

- A. If required by Project Engineer, mix designs of each separate mix shall be prepared and the following data shall be submitted to the Engineer for each mix design. The Owner shall be responsible for costs relating to these tests.
 - Sieve analysis for fine and coarse aggregate.
 - Moisture content of the aggregates at time of mixing and percent absorption of the aggregates.
 - Proportions of all materials, including admixtures.
 - Mixing method.
 - Air content
- B. A mix design previously used and which complies with the specifications may be submitted for approval. All information noted above shall be included. During progress of construction, tests on two sample concrete cylinders will be made by an approved testing laboratory to determine if concrete complies with quality specified. Contractor shall cooperate in making of such tests to the extent of providing concrete test cylinders, and in affording protection to specimens against injury or loss through his operations. Contractor shall furnish all concrete for testing.

PART 3 - EXECUTION

3.1 REDI-MIX CONCRETE

- A. Ready-mix concrete shall be measured, mixed and delivered according to ASTM C-94 except as modified herein.
- B. Design mixes so that the average of any five consecutive strength tests of laboratory cured specimens will be at least 15% greater than minimum strength specified. No test may have less than 90% of the specified minimum strength.
- C. Delete the references for allowing additional water to be added to the batch for material with insufficient slump. Addition of water to the batch is not permitted.
- D. During hot weather or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C-94 may be required. When the air temperature is between 85°F and 90°F, reduce the mixing and delivery time from 1½ hours to 75 minutes and when the air temperature is above 90°F, reduce the mixing and delivery time to 60 minutes.

3.2 READY-MIX DELIVERY TICKET

- A. Furnish with each batch of concrete before unloading at the site a delivery ticket on which is printed, stamped or written the following information:

- Name of ready-mix batch plant
 - Serial number of ticket
 - Date and truck number
 - Name of Contractor
 - Job name and location
 - Specific class or designation of concrete
 - Amount of concrete (cubic yards)
 - Time loaded or of first mixing of cement and aggregates
 - Type, name and amount of admixture
 - Type, brand and amount of cement
 - Total water content by producer (or W/C ratio)
 - Maximum size of aggregate
 - Weights of fine and coarse aggregates
- B. Chemical admixtures when used shall be incorporated into mix in amounts and manner recommended by manufacturer and approved by Engineer. Accuracy of measurement of any admixture shall be within $\pm 3\%$. Two or more admixtures may be used in the same concrete provided such admixtures are added separately and that the combination is compatible and has no deleterious effect on concrete.
- C. The maximum time between addition of the final mixing water and admixture to the mixer and the time when the concrete has been finished shall be 30 minutes. Indiscriminate addition of water to increase slump is prohibited.
- D. No concrete shall be placed when the air temperature is lower than 45°F. It may be placed at 45°F and rising. Cement shall not be added to mixtures of water and aggregate when temperature of the mixture exceeds 70°F.
- E. At temperatures above 85°F, the Engineer may require placements to be made at night or early morning hours, if in the Engineer's opinion a satisfactory placement is not being achieved.
- F. Temperature of the concrete, when discharged, shall not exceed 90°F. NOTE: Contractor is cautioned that difficulty may be encountered with concrete at temperatures approaching 90°F and every effort should be made to maintain it at a lower temperature.

3.3 PREPARATION

- A. Before placing concrete, all equipment for mixing and transporting concrete shall be cleaned, vibrators shall be checked for workability, all frost, ice, mud, debris and water shall be removed from forms, forms shall be thoroughly wetted or oiled, and reinforcement shall be securely tied in place and thoroughly cleaned of ice and other coatings which may destroy or reduce bonding with concrete. No concrete shall be placed until Engineer has inspected and approved the areas to receive Work. Conveying the concrete from mixer to place of deposit shall not cause separation or loss of materials.
- B. Screed guides may be placed and fastened in position to assure finishing the concrete to the required final grade. Supporting rails upon which the finishing machine travels shall be placed outside the area to be concreted. Anchorage of supporting rails shall provide horizontal and vertical stability. A hold-down device shot into concrete shall not be

permitted unless the concrete is to be subsequently resurfaced. Plans for anchoring support rails shall be submitted to the Engineer for approval.

- C. Transverse and/or longitudinal bulkheads, equal in depth to the thickness of the concrete shall be installed to the required grade and profile prior to placing concrete. Provisions for anchorage of supporting rails or strips shall provide horizontal or vertical stability.
- D. The Contractor shall make every reasonable effort to secure a smooth surface. Prior to placement operations, he shall review his equipment, procedures, personnel and previous results with the Engineer in order to assure that concrete shall be produced and placed within the specified time limits, continuously and with uniformity.

3.4 LIMITATIONS OF OPERATIONS

- A. Concrete shall not be placed adjacent to a previous casting less than 36 hours old; however, this restriction does not apply to a continuation of placement in a surface beyond a joint in the same surface.
- B. If concrete placement is stopped or delayed for a period of 60 minutes, further placement shall be discontinued and may resume only after a period of not less than 12 hours.
- C. Preparation of an area may be started adjacent to newly placed concrete the day following its placement. If this preparation work is started before the end of the 72-hour curing period, the work shall be restricted as follows:
 - Sawing or other operations shall interfere with the curing process for the minimum time only and in the immediate work area only, and the curing shall be resumed properly.
 - No power-driven tools heavier than a 15 pound chipping hammer shall be used.
 - No loads other than construction equipment shall be permitted on any portion of the floor that has undergone preparation for placement.
 - No construction equipment shall be permitted on a finished course until 72 hours after placement. At temperature below 55°F, a longer waiting time will be required and must be approved by the Engineer.

3.5 PLACING

- A. Placing of concrete shall be such that it shall be deposited as nearly as possible in its final position to avoid segregation due to rehandling or flowing. Placing shall be at such a rate that at all times concrete shall be plastic and flow readily into corners of forms and into spaces between rebars. No concrete that has partially hardened or has been contaminated by foreign materials shall be deposited. When concreting is commenced, it shall be carried on as a continuous operation until panel or section is completed. When being deposited, concrete shall not be allowed to fall a vertical distance greater than 4' from point of discharge to point of deposit.

- B. All newly placed concrete shall be consolidated by means of vibration. Generally, vibration shall be accomplished by means of surface and internal vibrators. Surface vibrators shall have operating frequencies in the range of 3000 to 6000 VPM and internal vibrators shall run at a speed of 7000 RPM or higher depending on the nature of concrete being consolidated. Extra vibrators shall be kept at project site to be used in case a vibrator will not work. Concrete 3" or more in thickness and edges of a pour shall be vibrated internally in addition to surface vibration. A technical description of the vibrating screed shall be submitted to the Engineer for review.
- C. Placement of concrete shall be a continuous operation throughout the pour. The concrete shall be manipulated and struck off slightly above final grade. It shall then be consolidated and finished at final grade. Spud vibration may be required in deep pockets and at the edges of the placement, column bases and other obstructions immediately prior to the application of the screed.
- D. A bulkhead shall be installed in case of major delay in the placement operation. During minor delays of 1 hour or less, the end of the placement may be protected from drying with several layers of wet burlap.

3.6 FINISHING

- A. Placing and finishing equipment shall include adequate mechanized and hand tools for placement of concrete and for working down to approximately the correct grade for striking off with a screed.
- B. The elapsed time between depositing the concrete and final screeding shall not exceed 10 minutes.
- C. Sprinkling of dry cement or a mixture of dry cement and sand on surface of fresh concrete to absorb water or to stiffen the mix shall not be permitted during any stage of construction.
- D. After screeding when a tight, uniform surface has been achieved, all driving surfaces shall be texturized a finish to match existing adjacent finish.
- E. Maximum variation in slab surfaces shall be 1/4" in 10 feet. If variations greater than this exist, the Engineer may direct the Contractor to grind the floor to bring the surface within requirements. Patching of low spots shall not be permitted. Grinding shall be done as soon as possible, preferably within 3 days, but not until concrete is sufficiently strong to prevent dislodging coarse aggregate particles.
- F. Hand finishing with a float may be required along the edge of the pour or on small areas of repair.

3.7 CURING

- A. Concrete shall be maintained above 50°F and in a moist condition for at least 3 days after placing.

- B. The surface shall be promptly covered after finishing, with a single layer of clean, wet burlap. Care shall be exercised to insure that the burlap is well drained and that it is placed as soon as the surface will support it without deformation.
- C. It is intended that the concrete receive a wet-burlap cure for at least 72 hours. For the first 24 hours, the burlap shall be kept continuously wet. After 24 hours the Contractor may cover the wet burlap with a layer of 4 mil polyurethane film conforming to ASTM C171 for a minimum of 48 hours in lieu of using a sprinkling or wetting system.
- D. Any day during which the curing temperature falls below 50°F shall not be counted as a curing day. If at any time during the curing period the ambient air temperature falls below 35°F, the work may be considered as being unsatisfactory and rejected.
- E. If shrinkage cracks over 0.01" or in large numbers appear in the concrete when the 72-hour curing period is completed, the concrete shall be considered defective and it shall be removed and replaced by the Contractor at no extra cost. All small cracks which exist but are not significant enough to require removal of the overlay shall be thoroughly sealed with grout as described below to the satisfaction of the Engineer. Note: Contractor is cautioned that exposure to direct sunlight may result in surface cracks.
- F. The concrete shall be sounded by the Contractor in the presence of the Engineer with a hammer or chain drag after the 72-hour cure and any hollowness shall be corrected by the Contractor by removing the concrete at these locations and recasting at no extra cost to the Owner.
- G. After finishing and curing the Contractor shall check the surface with a straightedge. Causes of non-conformance with the specification shall be eliminated by the Contractor.
- H. If, after the curing of the overlay has been completed, there is evidence of cracking along construction joints, these joints shall be given a thorough coating of grout with the following proportions:
 - 13.5 pounds cement
 - 42.0 pounds fine sand
- I. Water shall be added to produce a thick grout which is intended to seal any minute cracks which may develop at these locations. Prior to application of the grout the area is to be sandblasted or wire brushed and then cleaned with compressed air. The surface shall be wetted and kept wet for at least 1 hour prior to brushing the grout into the surface. The grout shall be at least 2" wide and shall be neatly and uniformly applied. The grout coating shall be cured by use of a double layer of burlap kept continuously wet for not less than 12 hours. The curing material shall then be removed for an additional 72-hour air cure. The area shall then be sealed with a 30% solids penetrating epoxy sealer such as TSA 30008 or equal. This work shall be performed at no extra cost to the Owner.

3.8 FIELD QUALITY CONTROL

A. TESTING OF CONCRETE

1. Two (2) standard 6" x 12" cylinders will be fabricated, cured and tested in accordance with ACI 301 except as noted in this specification.

2. A set of concrete field specimens consisting of two (2) 6" x 12" cylinders shall be taken according to ASTM C-31.
3. All cylinders shall be made and tested by a qualified approved test laboratory which meets the requirements of ASTM E-329 and their reports will be sent to the Engineer and the Contractor. Costs for these tests shall be paid by the Owner.
4. The two cylinders shall be cured under field conditions for 1 day of moisture curing. One cylinders shall then be transported to the testing agency's laboratory and moist cured. The remaining cylinder shall be field cured. The two cylinders shall be strength tested at 28 days.
5. For each set of cylinders made, a slump and air content test shall also be made. The temperature of the concrete shall be taken at the same time cylinders are made. Slump tests shall be made in accordance with ASTM C-143. Air content tests shall be made in accordance with ASTM C-231. Following sampling of the discharge or normally mixed material, the commencement of tests shall be delayed from 2 to 4 minutes. These results shall be sent to the Engineer and the Contractor.
6. Testing of cylinders shall be in accordance with ASTM C-39. Each test report shall contain the following information for each set of cylinders:
 - Individual test specimen strength, type of failure.
 - Slump.
 - Air content.
 - Concrete and air temperature.
 - Specimen number.
 - Portion of structure represented by the concrete tested.
 - Date cast.
 - Date tested.
 - Concrete properties specified.
 - Notice if tests indicate concrete is not in conformance with specifications.
7. Cost of additional field cured cylinders if tests indicate compliance with specifications at the required 28-day compressive strength, shall be paid for by Owner.
8. Strength of concrete shall be considered satisfactory if average of two 28-day tests in each set of cylinders equals or exceeds the specified 28-day strength and neither of the 28-day tests is 500 PSI or more below specified 28-day strength.
9. Should results of cylinder tests not meet preceding requirements, the Contractor shall submit revised mix design data for concrete which will conform to the specifications. In the event of failure of test cylinder specimens for any portion of work, the Contractor at the Contractor's expense shall have sample cores cut from that portion of structure represented by unsatisfactory test specimens.

10. Three cores shall be taken from each area in question according to ASTM C-42. Concrete in the area represented by core tests will be considered structurally adequate if the average of the three cores is equal to at least 85% of required 28-day strength. If these strength acceptance criteria are not met by core tests, the Contractor shall remove and replace all questionable areas of concrete at the Contractor's expense.

END OF SECTION

SECTION 03730

PATCHING OF STRUCTURAL CONCRETE

PART 1 GENERAL

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

1.1 SUMMARY

- A. Include all materials, labor, services and incidentals necessary for the completion of this section of the work.
- B. Furnish labor, material, equipment and tools for repair of topside and underside spalled concrete slabs and vertical wall surfaces as indicated on the drawings and as specified.
- C. Contractor shall assume Total Responsibility Guarantee for Material and Labor.
- D. A pre-construction meeting will be required with the Contractor in order to coordinate the work schedule and inspection required by the Engineer.

1.2 RELATED WORK

- A. Related work specified elsewhere:
 - 1. Removal of Existing Concrete and Surface Preparation – Section 02075
 - 2. Concrete – Section 03340

1.3 REFERENCES

- A. AMERICAN CONCRETE INSTITUTE (ACI)
 - 1. ACI 305 Recommended Practice for Hot Weather Concreting
 - 2. ACI 306 Recommended Practice for Cold Weather Concreting

PART 2 PRODUCTS

2.1 ACCEPTABLE PRODUCTS

- A. Overhead and Vertical Patching Materials
 - 1. “SikaRepair SHB” by Sika Corporation
 - 2. “HBA” by ThoRoc
 - 3. “Emaco S88 CI” by BASF
 - 4. Or approved equal with corrosion inhibitor
- B. Horizontal Patching materials
 - 1. “SikaRepair 222” by Sika Corporation
 - 2. “Emaco T430” by Degussa Building Systems
 - 3. “Emaco S66 CI” by BASF
 - 4. Or approved equal with corrosion inhibitor

- C. Grout
 - 1. Shall consist of Type I Portland cement and sand.
 - 2. Grout shall consist of equal parts by weight of cement and sand. It shall be mixed with sufficient water to form a stiff slurry. The consistency of this slurry shall be such that it can be applied with a stiff brush or broom to the old concrete in a thin, even coating that will not run or puddle in low spots. For use on vertical joints, this grout shall be thinned to paint consistency.
- D. Consult with manufacturers for product limitations.
- E. All patch materials whether noted or not shall be less than 50,000 ohm cm in resistivity. Contractor shall submit manufacturer's test data stating such.

PART 3 EXECUTION

3.1 PREPARATION OF SURFACES TO RECEIVE PATCHING CONCRETE

- A. Remove all unsound material, dirt, oil, grease and other bond-inhibiting materials. Continue removal until there are no offsets in the cavity which will cause an abrupt change in thicknesses of the patching concrete. Remove concrete around exposed reinforcing steel to provide a minimum 3/4" clearance between the bar and the concrete.
- B. Remove rust on exposed reinforcing steel by sandblasting or wire brushing. Loose concrete should be removed from reinforcing bars.
- C. The concrete substrate shall be saturated surface dry with no standing water prior to application.
- D. The concrete substrate shall be saturated for a minimum of two hours prior to application
- E. Conform to additional specific preparation requirements specified by the manufacturer or ACI Standard for each patching product as applicable.
- F. Prime all existing concrete with an acryl 60 bonding agent grout mixture.
- G. Immediately before applying grout, in preparation for placement of the replacement concrete, the surface shall be cleaned with air blasting or wire brushing. If necessary to remove rust, oil or other foreign material, chipping, sandblasting, or wire brushing followed by air blasting will be required. Existing concrete shall not be presaturated with water before grout and replacement concrete is placed. The prepared surface shall be dry to allow some absorption of the grout.
- H. After the structural concrete surface has been cleaned and immediately before placing concrete, a thin coating of acryl 60 bonding grout mixture shall be scrubbed into the dry, prepared surface. Care shall be exercised to insure that all surfaces receive a thorough even coating and that no excess grout is permitted to collect in pockets. The rate of progress in applying grout shall be limited so that the grout does not become dry before it is covered with new concrete.

- I. Before placing concrete, all equipment for mixing and transporting concrete shall be cleaned, vibrators shall be checked for workability, all frost, ice, mud, debris and water shall be removed from forms, forms shall be thoroughly wetted or oiled, and reinforcement shall be securely tied in place and thoroughly cleaned of ice and other coatings which may destroy or reduce bonding with concrete. No concrete shall be placed until Engineer has inspected and approved the concrete removal areas per Specification Section 02075 and the Drawings. Conveying the concrete from mixer to place of deposit shall not cause separation or loss of materials.
- J. Screed guides may be placed and fastened in position to assure finishing the concrete to the required final grade. Supporting rails upon which the finishing machine travels shall be placed outside the area to be concreted. Anchorage of supporting rails shall provide horizontal and vertical stability. A hold-down device shot into concrete shall not be permitted unless the concrete is to be subsequently resurfaced. Plans for anchoring support rails shall be submitted to the Engineer for approval.
- K. Transverse and/or longitudinal bulkheads, equal in depth to the thickness of the concrete shall be installed to the required grade and profile prior to placing concrete. Provisions for anchorage of supporting rails or strips shall provide horizontal or vertical stability.
- L. The Contractor shall make every reasonable effort to secure a smooth surface. Prior to placement operations, he shall review his equipment, procedures, personnel and previous results with the Engineer in order to assure that concrete shall be produced and placed within the specified time limits, continuously and with uniformity.

3.2 MIXING, APPLICATION, AND FINISHING

- A. Conform to manufacturer's specifications or ACI Standard for each patching product, as applicable.
- B. Finished surface shall be struck off flush with existing surfaces. Finish shall match existing or be lightly brushed.

3.3 CURING

- A. Concrete shall be maintained above 50°F and in a moist condition for at least the first 3 days after placing.
- B. Curing shall be accomplished by burlap covers kept continuously wet, continuous waterproof paper or 4 mil polyethylene sheeting conforming to ASTM C-171 with edges lapped and tightly sealed by sand, wood planks, pressure-sensitive tape, mastic or glue.
- C. For concrete surfaces receiving no overlay a spray applied curing compound may be used in accordance with ASTM C-309. Two applications shall be made; the second shall be within an hour of the first application.
- D. The concrete shall be sounded by the Contractor in the presence of the Engineer with a chain drag after the curing time. Any hollowness shall be corrected by the Contractor by removing the concrete at these locations and recasting at no extra cost to the Owner.

- E. Adequate protection shall be provided for concrete during freezing or near freezing weather. All concrete materials, reinforcement, forms, filler and ground with which concrete is to come in contact shall be free of frost, ice and snow. Whenever air temperature is below 40°F, the minimum temperature of concrete when discharged shall be 65°F and concrete during the required curing period shall be maintained at a temperature not less than 50°F. Throughout heating period concrete shall be kept moist as specified. Placement and curing of concrete during cold weather shall conform to requirements of ACI 306R.

- F. Placement and curing of concrete during hot weather shall be in conformance with the requirements of ACI 305R.

END OF SECTION

SECTION 07900

CRACK AND JOINT SEALANTS

PART 1 GENERAL

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

1.1 WORK INCLUDED

- A. Include all materials, labor, services and incidentals necessary for the completion of this section of the work.
- B. Sealants are required at, but are not necessarily limited to the following general locations:
 - 1. Routed random cracks, deteriorated concrete control joints and deteriorated construction joints.
 - 2. Joints at penetrations of walls, decks and floor by piping and other services and equipment.
 - 3. Specific drawing details requiring caulking. Wherever caulking is called for on drawings it shall mean "sealant".

1.2 SUBMITTALS

- A. MANUFACTURER'S DATA
 - 1. Submit three copies of manufacturer's specifications, recommendations and installation instructions for each type of sealant, caulking compound and associated miscellaneous material required. Include manufacturer's published data, letter of certification or certified test laboratory report indicating that each material complies with the requirements and is intended generally for the applications shown. Show by transmittal that one copy of each recommendation and instruction has been distributed to the installer.
- B. SAMPLES
 - 1. Submit samples of each color required for each type of sealant or caulking compound exposed to view. Compliance with all other requirements is the exclusive responsibility of the Contractor.

1.3 GUARANTEE

- A. The sealant manufacturer shall furnish the Owner with a written single-source performance guarantee agreeing to repair or replace sealants which fail to perform as airtight and watertight joints or fail in joint adhesion, cohesion, abrasion resistance, weather resistance, extrusion resistance, migration resistance, stain resistance or general durability or appear to deteriorate in any other manner not clearly specified by submitted manufacturer's data as an inherent quality of the material for the exposure indicated. Sealant must be installed per manufacturer's installation requirements.
- B. Guarantee period shall be five years from the date of substantial completion.

1.4 APPLICATOR QUALIFICATIONS

- A. The Contractor shall have a minimum of three years of experience in performing work similar to that shown in the drawings and specifications.

PART 2 PRODUCTS

2.1 SEALANT

- A. Type II, class A, unmodified polyurethane sealant containing no asphalt, fillers or plasticizers. Follow all manufacturer's previously submitted recommendations for type required at joints. Sealants shall conform to Federal Specification TT-S-00227E.
- B. Acceptable Productions and Manufacturers:
 - 1. "Sikaflex-2C NS" by Sika
 - 2. "Sonolastic NP1" by Sonneborn
 - 3. Or Approved Equal

2.2 JOINT CLEANER

- A. Provide the type of joint cleaning compound recommended by the sealant or caulking compound manufacturer for the joint surfaces to be cleaned.

2.3 JOINT PRIMER/SEALER

- A. Joints must be primed for this project. Provide the type of joint primer/sealer recommended by the sealant manufacturer for the joint surfaces to be primed or sealed.

2.4 BOND BREAKER TAPE

- A. Polyethylene tape or other plastic tape as recommended by the sealant manufacture to be applied to sealant-contact surfaces where bond to the substrate or joint filler must be avoided for proper performance of sealant. Provide self-adhesive tape wherever applicable.

2.5 SEALANT BACKER ROD

- A. Compressible rod stock polyethylene foam, polyethylene jacketed polyurethane foam or other flexible, permanent, durable non-absorptive material as recommended for compatibility with sealant by the sealant manufacturer which will control the joint depth for sealant placement, break bond of sealant at bottom of joint, form optimum shape of sealant bead on back side and provide a highly compressible backer to minimize the possibility of sealant extrusion when joint is compressed. Backer rod shall be at least 1/4" larger than width of joint.

PART 3 EXECUTION

3.1 WEATHER CONDITIONS

- A. Do not proceed with installation of sealants under adverse weather conditions or when temperatures are below or above manufacturer's recommended limitations for installation. Proceed with the work only when forecasted weather conditions are favorable for proper cure and development of high early bond strength. Coordinate time schedule with Contractor to avoid delay of project.

3.2 JOINT SURFACE PREPARATION

- A. Clean joint surfaces immediately before installation of sealant or caulking compound. Remove dirt, insecure coatings, moisture and other substances which would interfere with bond of sealant or caulking compound.
- B. The installer must examine the joint surfaces, backing and anchorage of units forming sealant rabbet and conditions under which the sealant work is to be performed and notify the Contractor in writing of any conditions detrimental to the proper and timely completion of the work and performance of the sealants. Do not proceed with the sealant work until unsatisfactory conditions have been corrected in a manner acceptable to the installer.

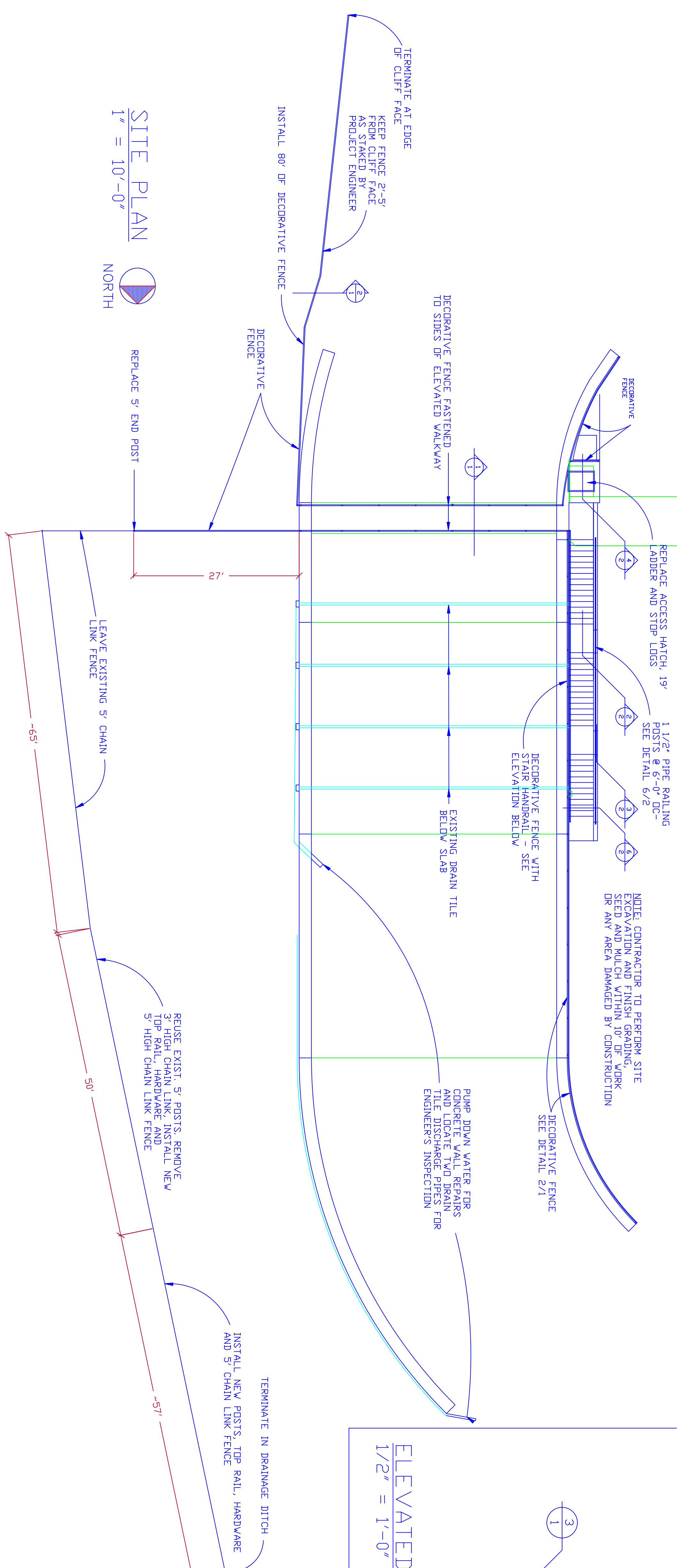
3.3 INSTALLATION

- A. Comply with sealant manufacturer's printed instructions except where more stringent requirements are shown or specified and except where manufacturer's specific recommendations directs otherwise.
- B. The Contractor shall saw and grind the surface of all cracks and control joints a depth of at least 3/8" and a width at the surface of at least 5/8". Edges of cracks or joints to be sealed shall be of sound substrate. Prior to installing sealant, surfaces shall be cleaned of foreign debris and the edges ground.
- C. Prime and seal the joint surfaces wherever shown. Do not allow primer/sealant to spill or migrate onto adjoining surfaces.
- D. Install sealant backer rod for sealants except where specifically noted to be omitted or recommended to be omitted by sealant manufacturer for the application shown.
- E. Install bond breaker tape wherever required by manufacturer's recommendations to ensure that elastomeric sealants will perform properly.
- F. Employ only proven installation techniques which will ensure that sealants will be deposited in uniform, continuous ribbons without gaps or air pockets, with complete "wetting" of the joint bond surfaces equally on opposite sides. Except as otherwise indicated, fill sealant rabbet to a slightly concave surface slightly below adjoining surfaces. Where horizontal joints are between a horizontal surface and a vertical surface, fill joint to form a slight cove so that joint will not trap moisture and dirt.
- G. Install sealant to depths as recommended by the sealant manufacturer.

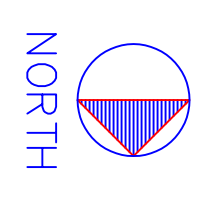
3.4 CURE AND PROTECTION

- A. Cure sealants and caulking compounds in compliance with manufacturer's instructions and recommendations to obtain high early bond strength, internal cohesive strength and surface durability.
- B. The installer shall advise the Contractor of procedures required for the curing and protection of sealants and caulking compounds during the construction period so that they will be without deterioration or damage (other than normal wear and weathering) at the time of Owner's acceptance.

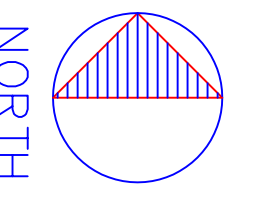
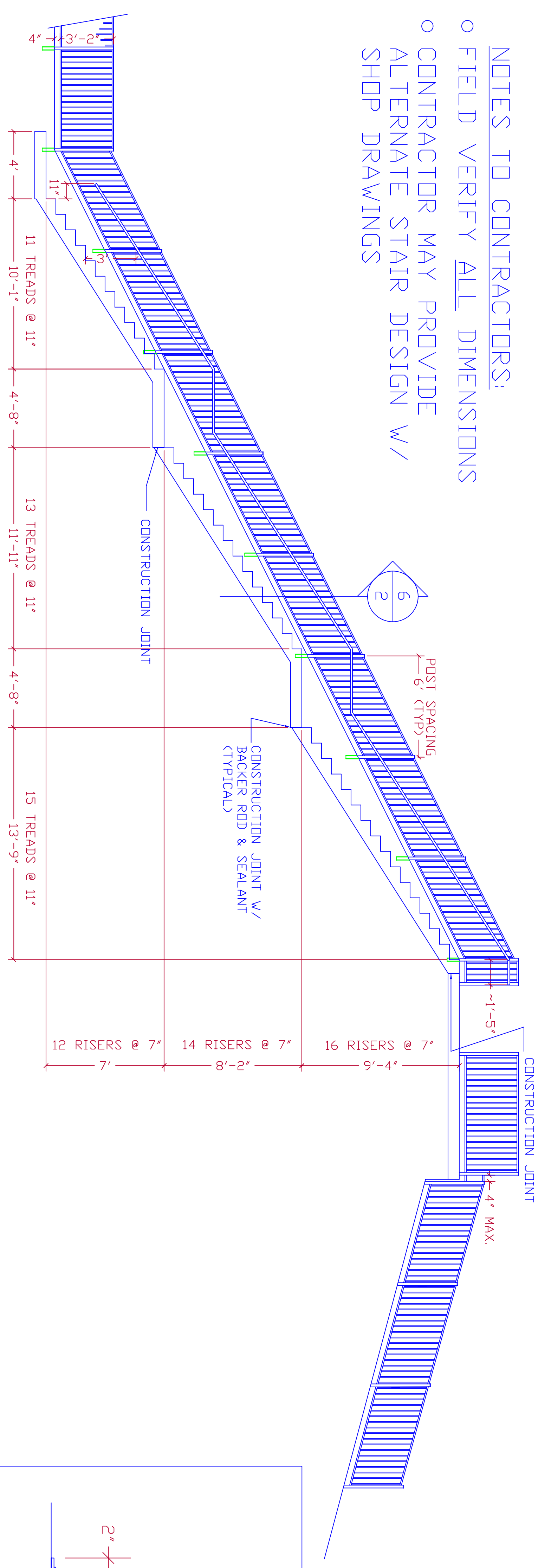
END OF SECTION



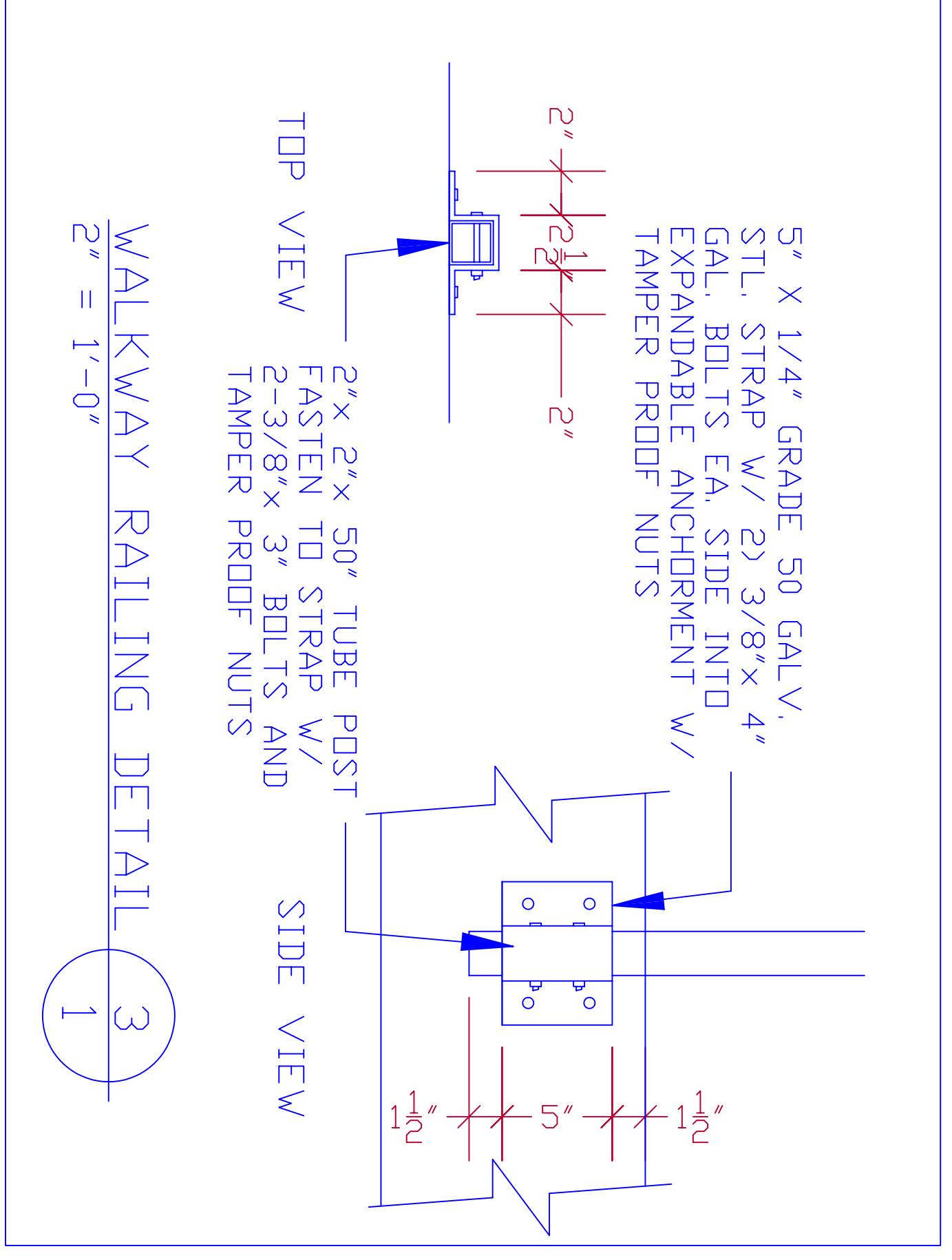
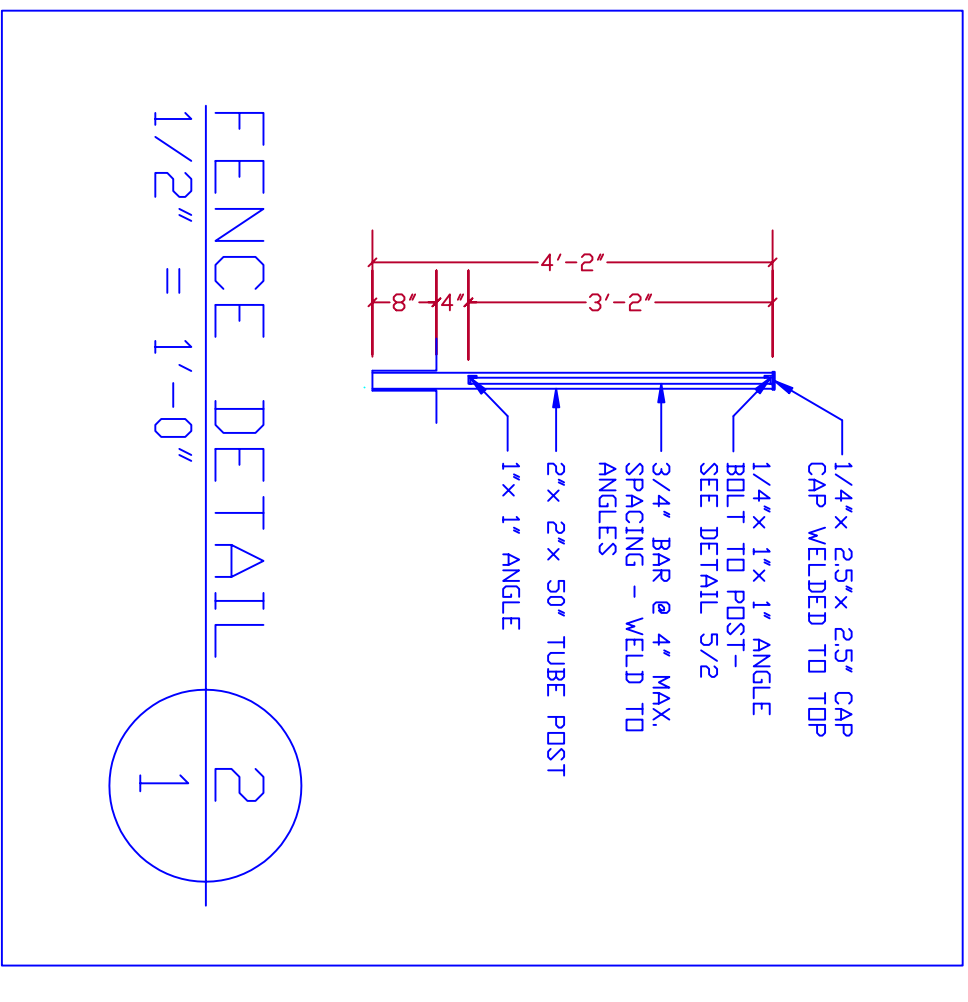
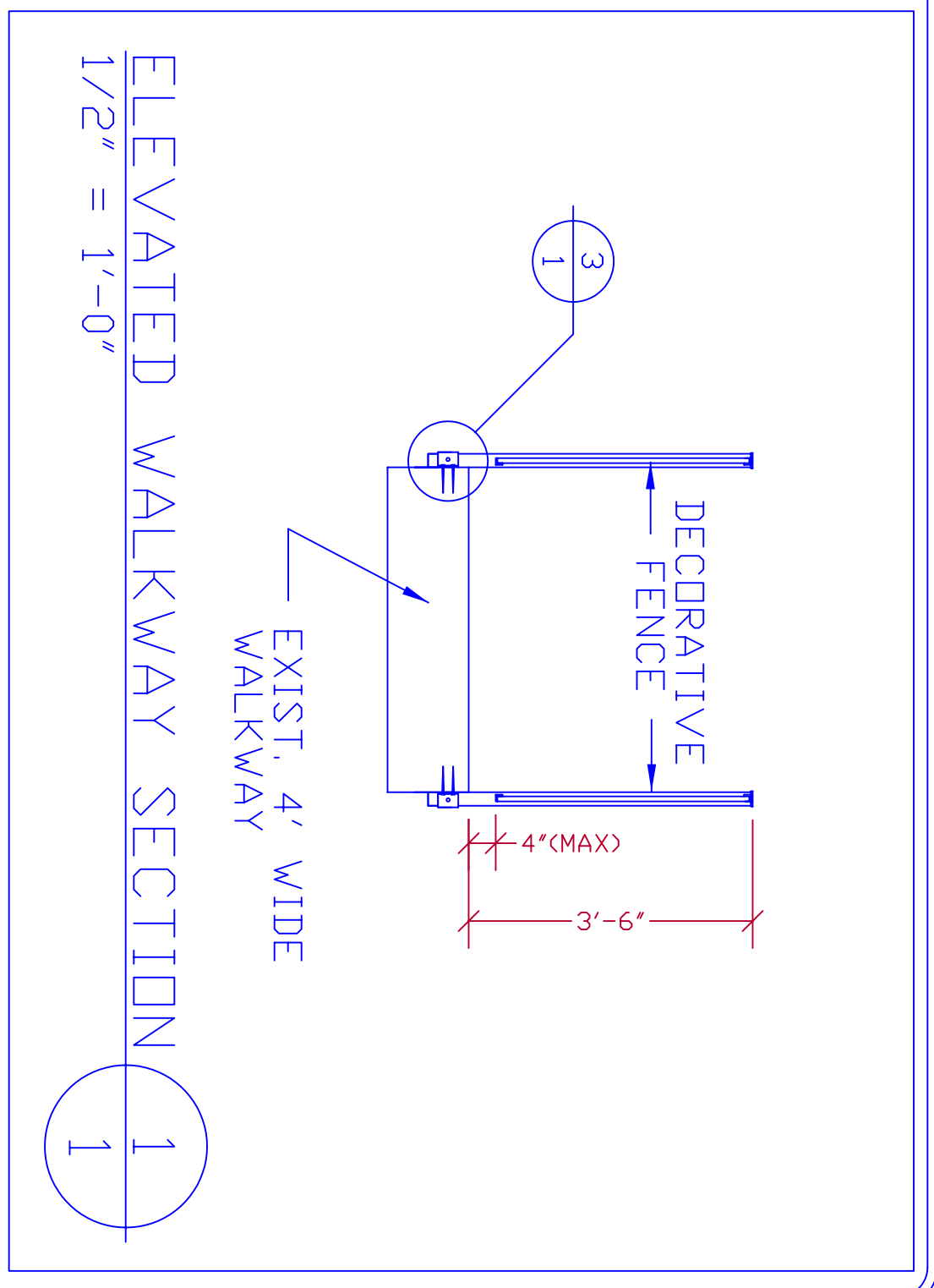
SITE PLAN
1" = 10'-0"

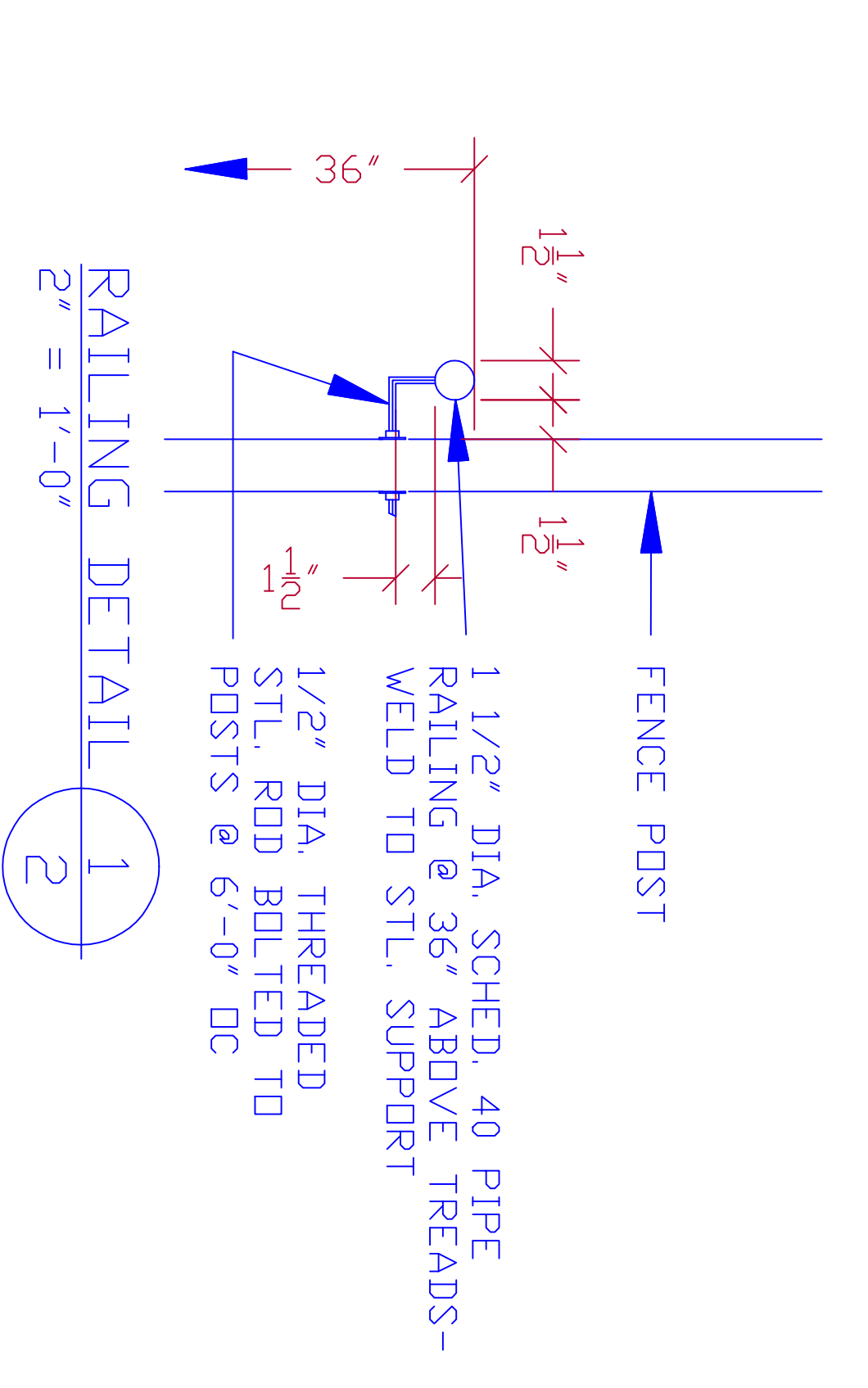


- NOTES TO CONTRACTORS:**
- FIELD VERIFY ALL DIMENSIONS
 - CONTRACTOR MAY PROVIDE ALTERNATE STAIR DESIGN W/ SHOP DRAWINGS

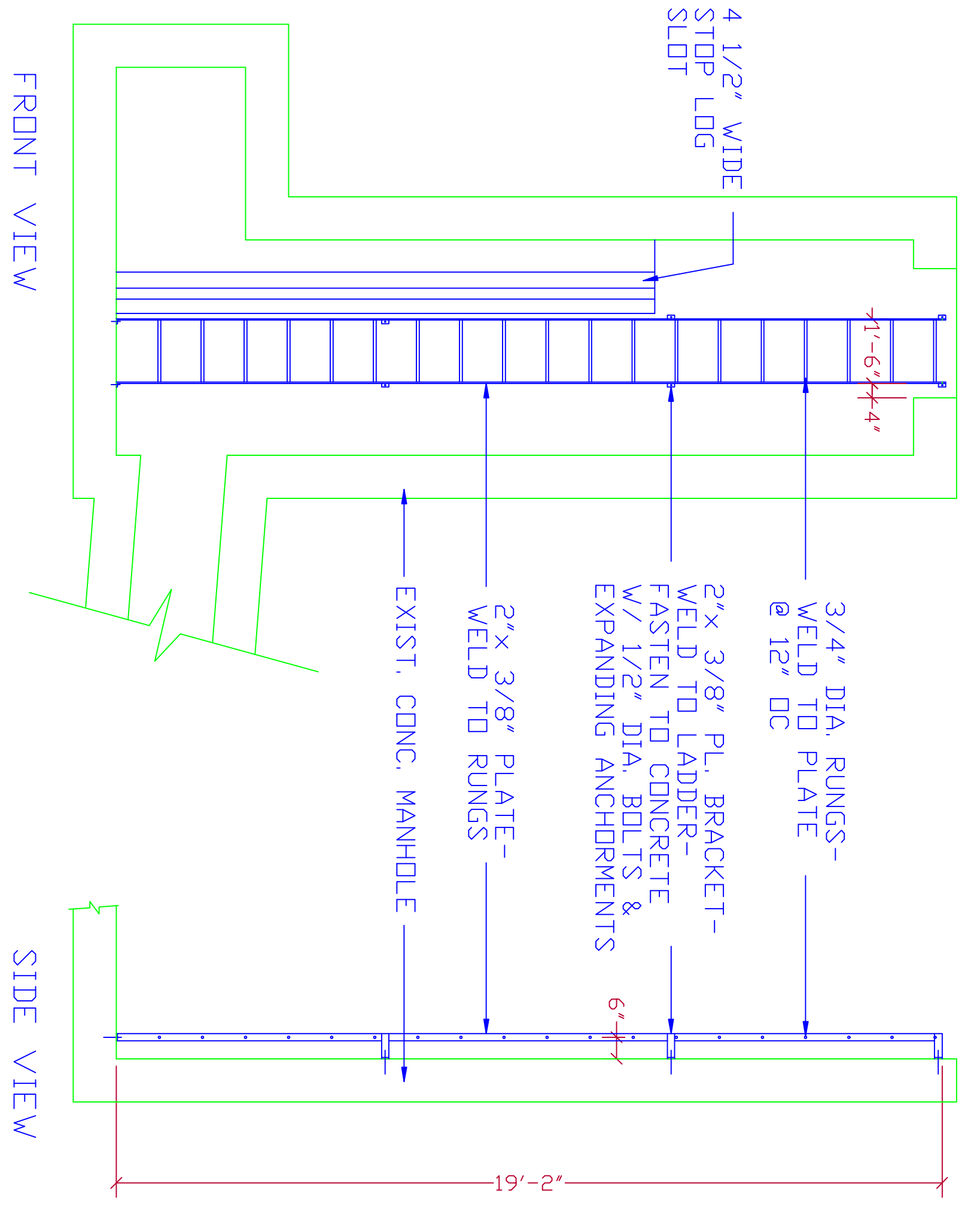


STAIR ELEVATION
1/4" = 1'-0"

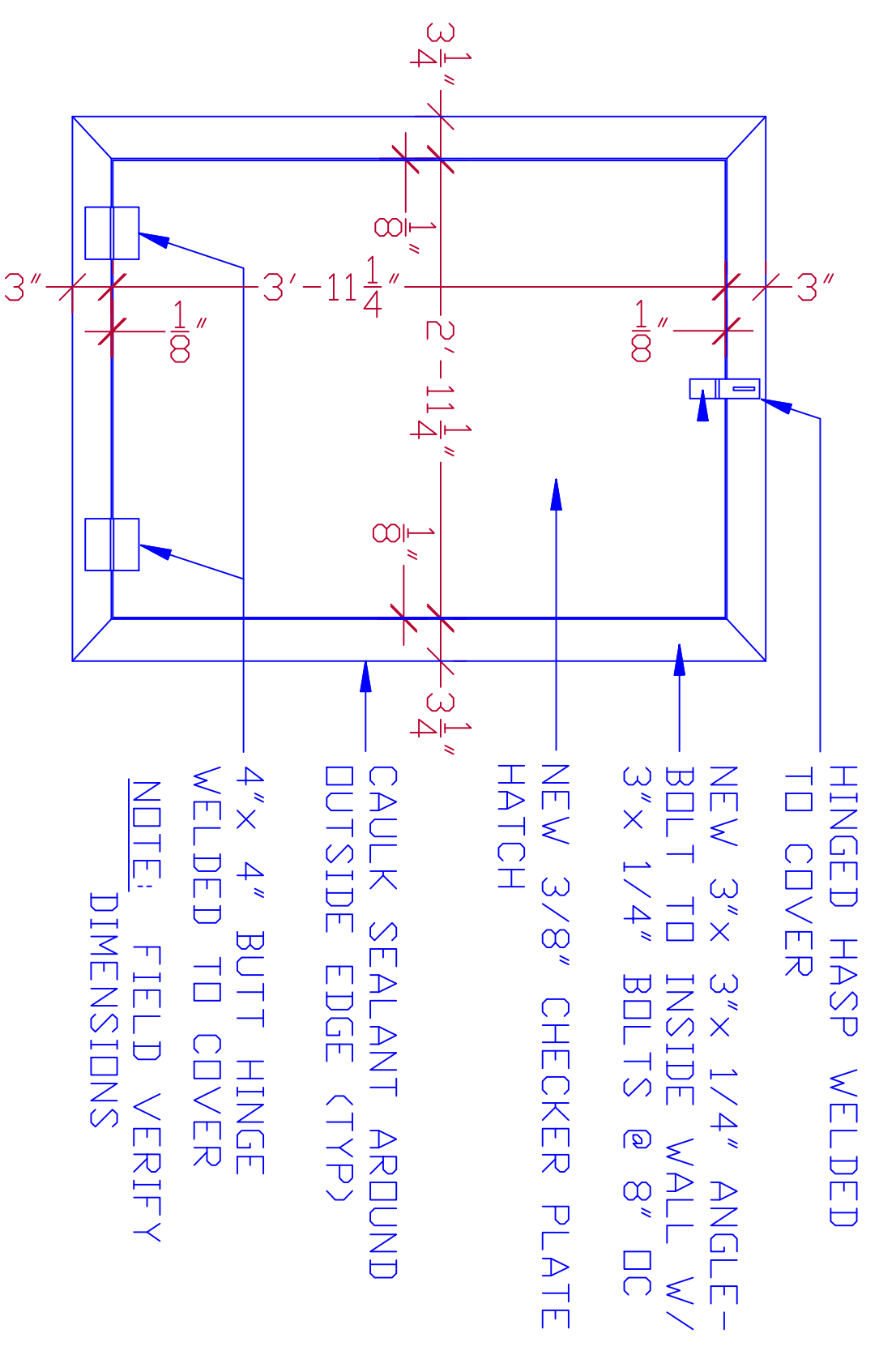




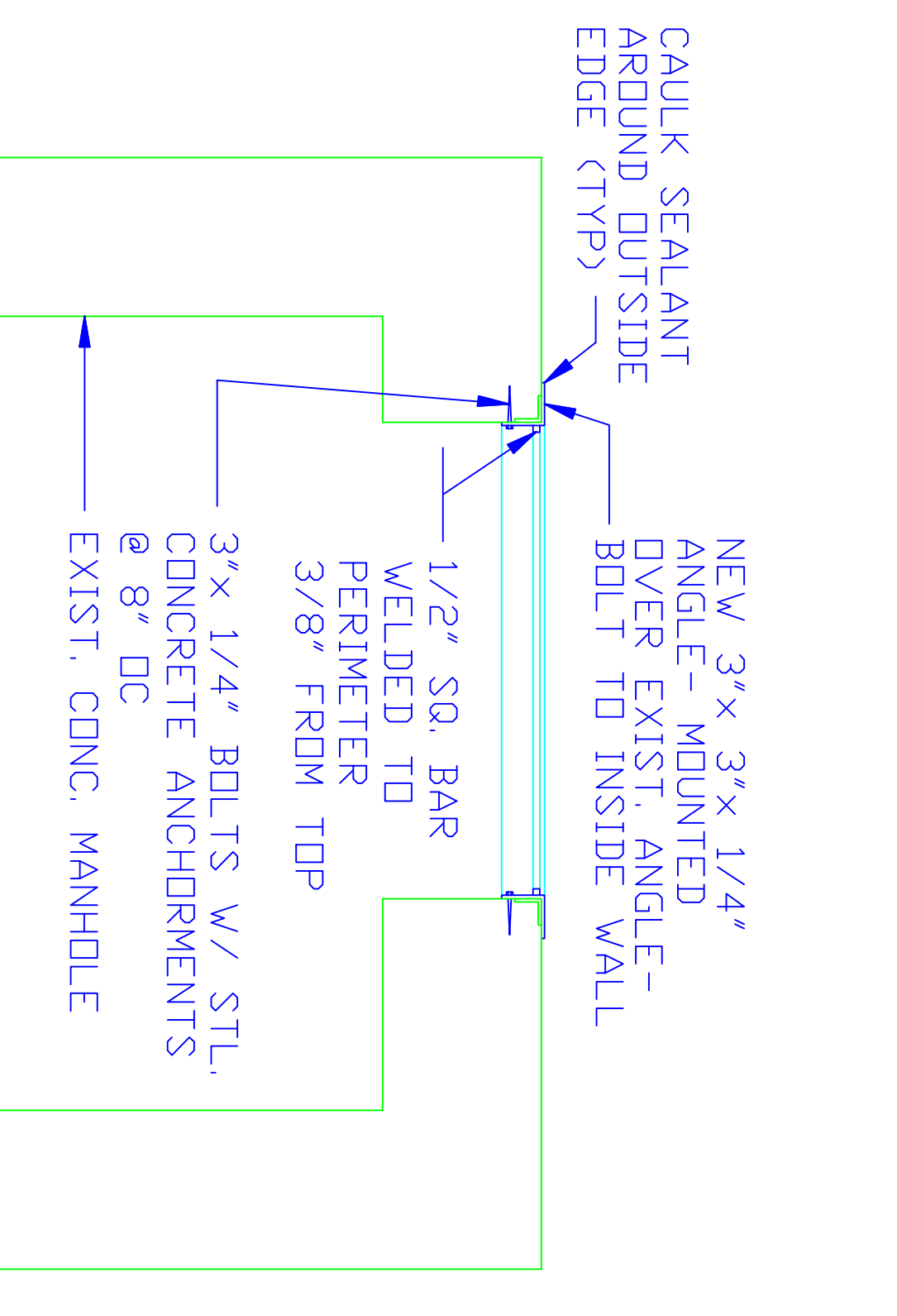
RAILING DETAIL 1
2" = 1'-0"



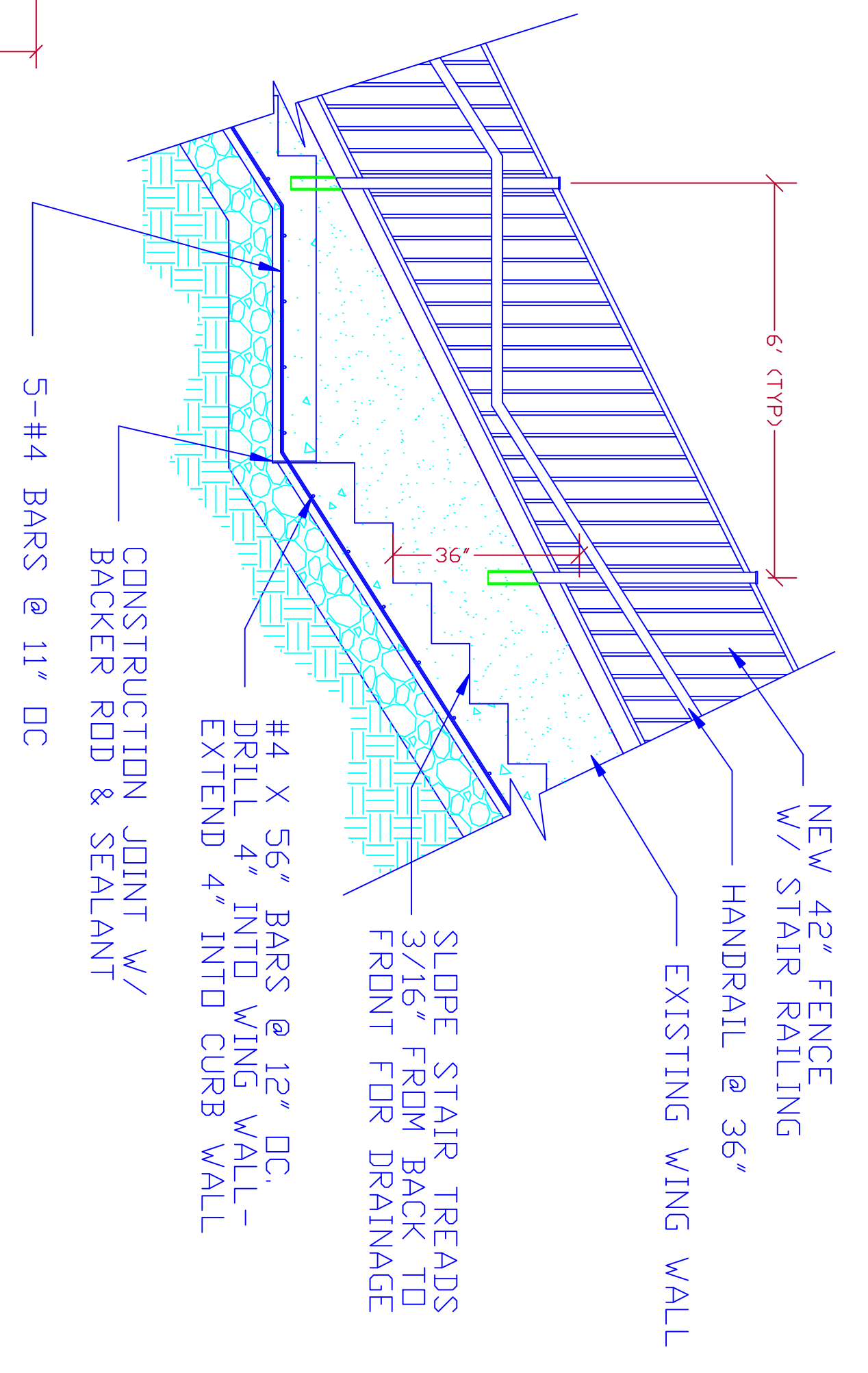
LADDER DETAIL 4
3/8" = 1'-0"



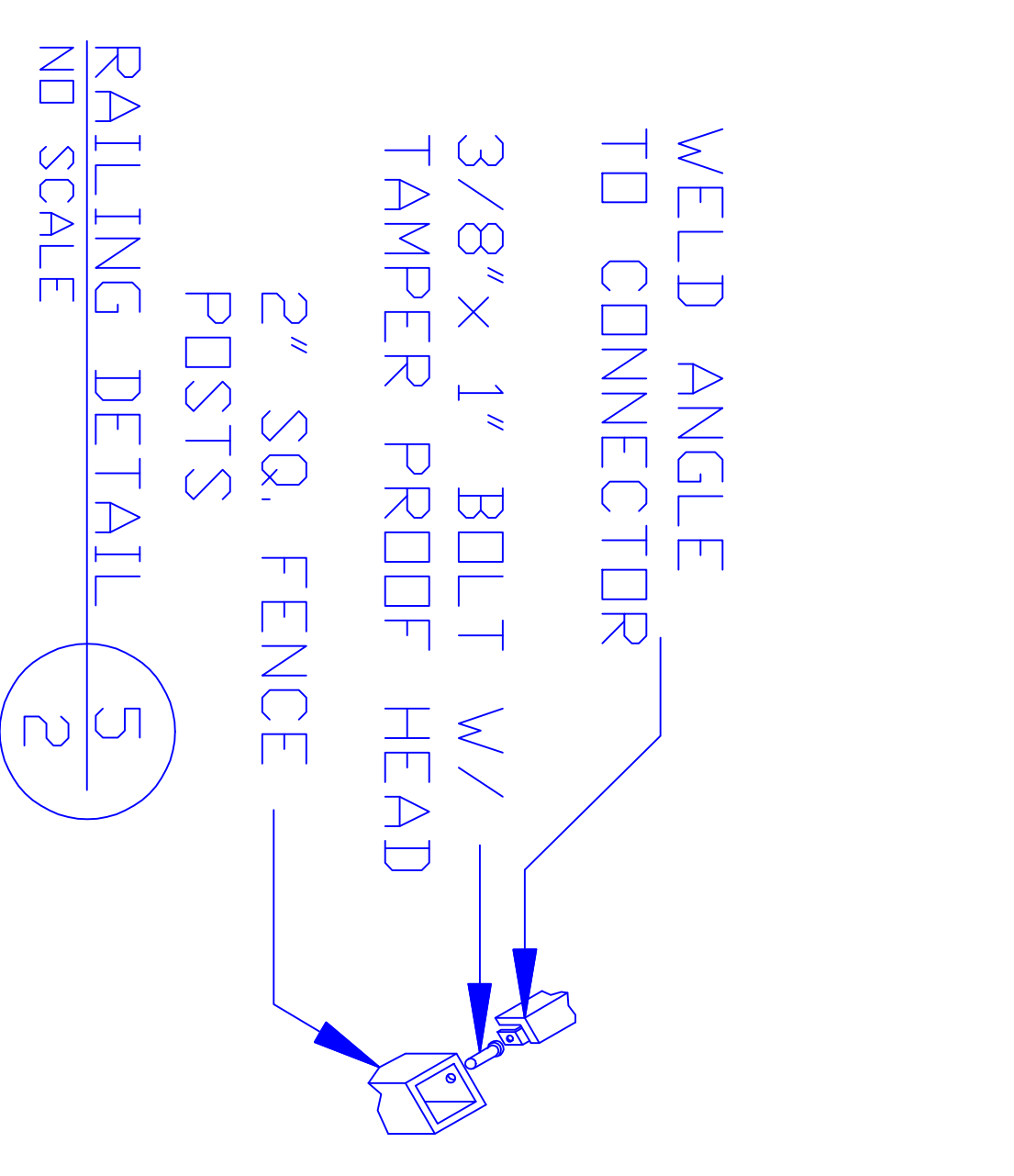
MANHOLE COVER 7
1" = 1'-0"



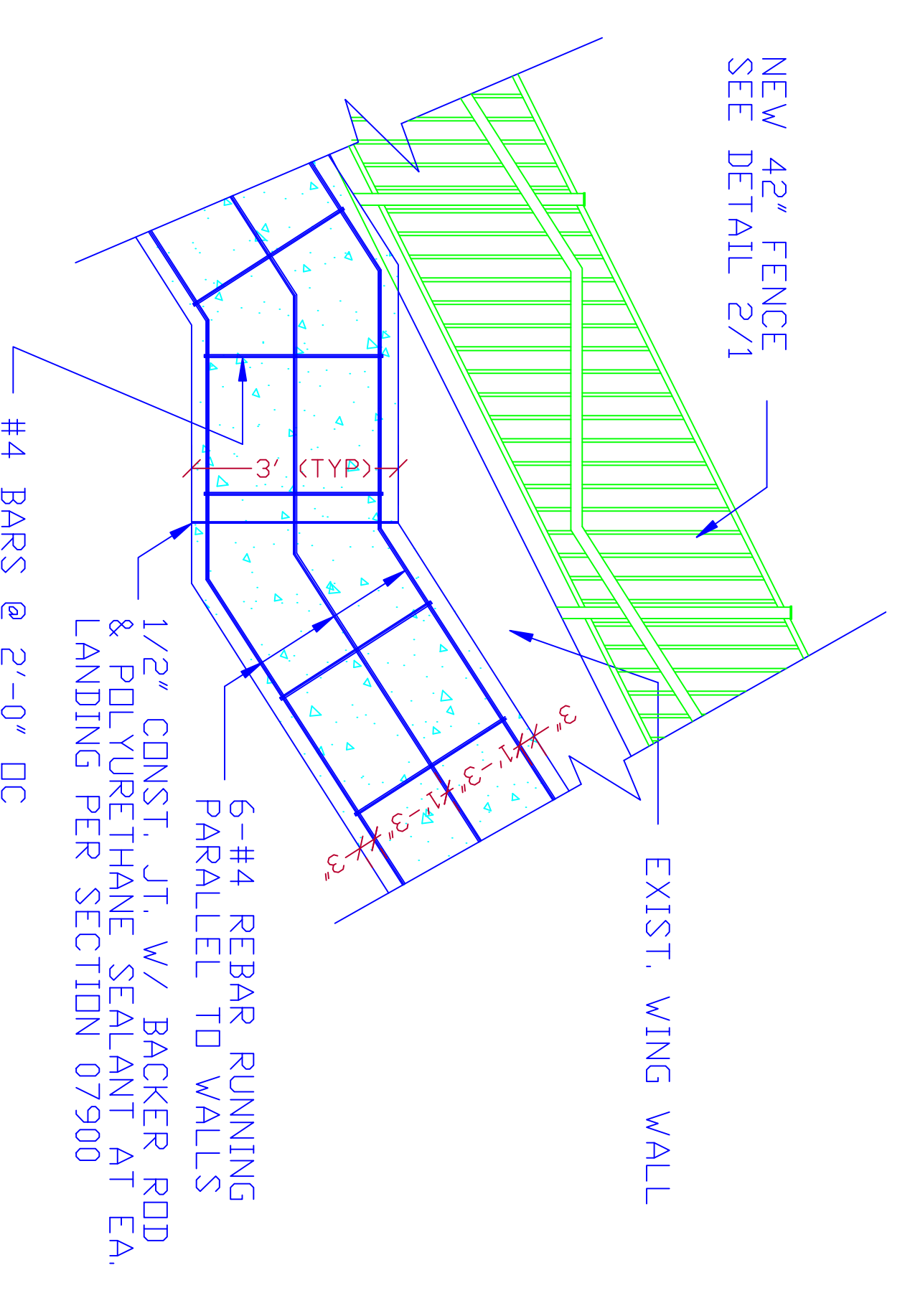
MANHOLE EDGE SECTION 8
1" = 1'-0"



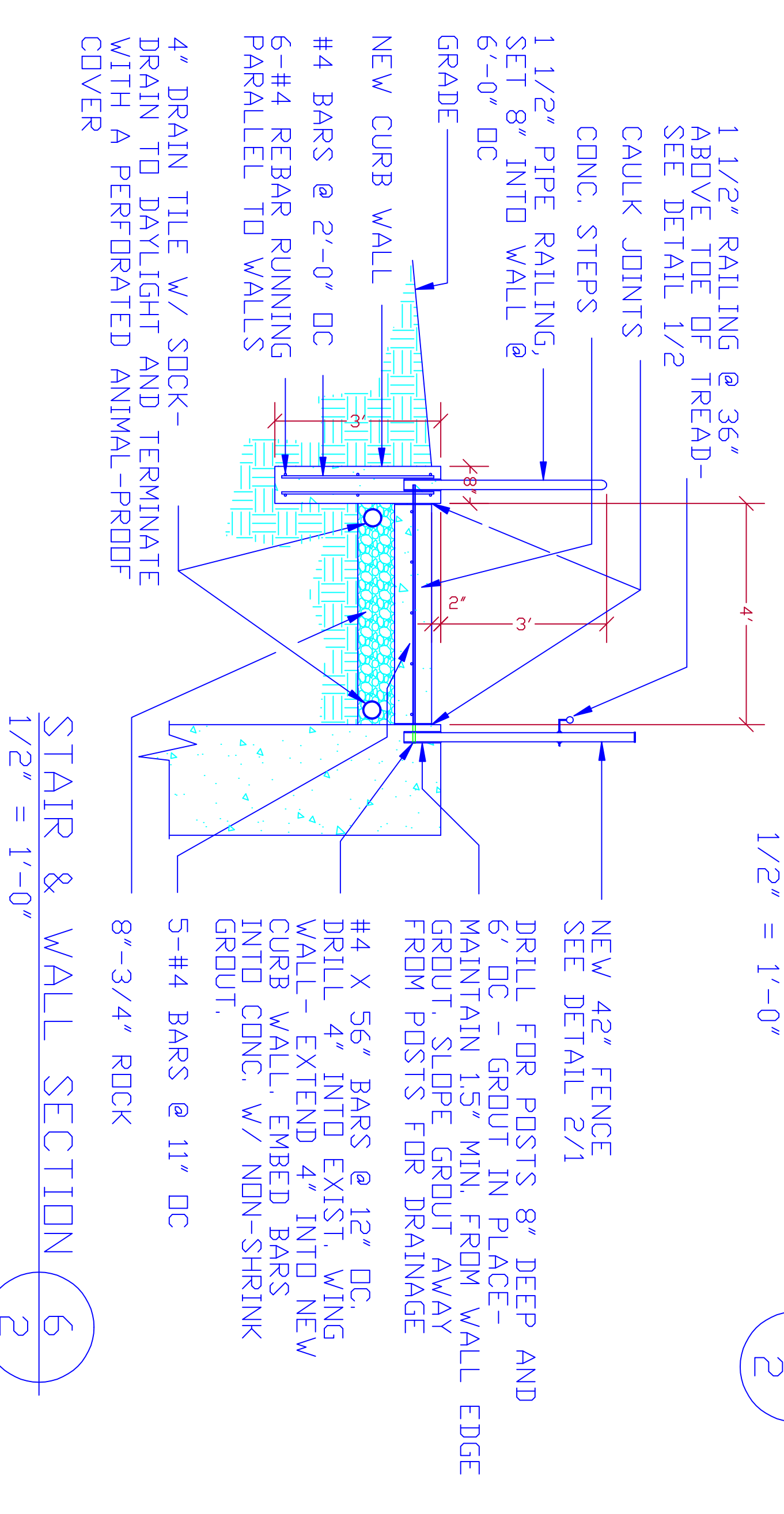
STAIR & WALL SECTION 2
1/2" = 1'-0"



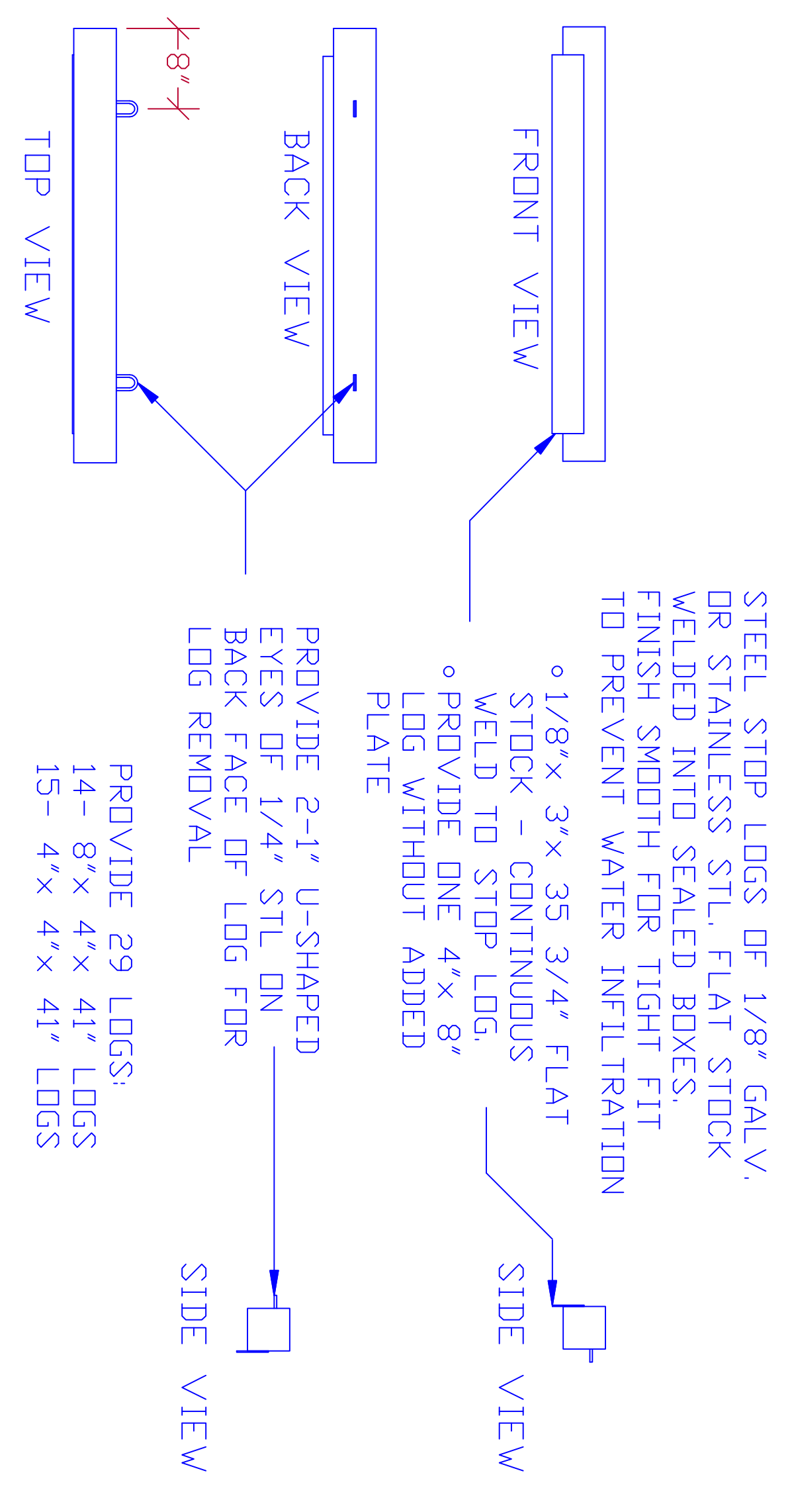
RAILING DETAIL 5
ND SCALE



CURB WALL SECTION 3
1/2" = 1'-0"



STAIR & WALL SECTION 6
1/2" = 1'-0"



STOP LOG 9
ND SCALE