



6402 Odana Road Madison, WI 53719

ADDENDUM NO. 01ISSUE DATE: June 14, 2012

2012 RESTORATION CAPITOL SQUARE SOUTH PARKING RAMP MADISON, WISCONSIN 53703

DANE COUNTY RFB# 312010

BID DATE & TIME IS UNCHANGED

FROM: Gunnar Malm & Associates 6402 Odana Road Madison, WI 53719

TO: Prospective Bidders

This addendum forms a part of the Contract Documents and modifies the original Contract Documents dated May 29, 2012 as noted below. Acknowledge receipt of this Addendum by inserting the number and issue date of this addendum in the blank space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of 16 pages total. Note drawings are to be printed in 30x42 sheets

CHANGES TO DIVISION 00 PROCUREMENT AND CONTRACTING REQUIREMENTS:

Document Index, Page 1

1. Add "03 64 23 Epoxy Injection" specification section to index to the bottom of Division 03.

Bid Form, Page BF-2

2. Description of second unit pricing from the top of the page, delete "Epoxy Coated" by striking words.

CHANGES TO SPECIFICATIONS (DIVISIONS 02 THRU 7):

3. Insert specification section "03 64 23 Epoxy Injection" (6 pages) within Project Manual in location noted in #1 above.

CHANGES TO DRAWINGS:

- 4. Sheet T0-01: Revised Materials Key to add hatch and description for Epoxy Injection of Topping Slab
- Sheet S1-01: Revised plan 2/S1-01 to show the hatched area where Contractor to chain drag the concrete topping slab, and locate delaminated topping for injection. Added note "B" to TOPSIDE CONSTRUCTION NOTES in title block margin.

CHANGES TO DRAWINGS: (cont.)

- 6. Sheet S1-01: Revised plan 3/S1-01 to show column repair locations and quantities that for some reason did not plot on original set of drawings
- 7. Sheet S1-02, Deleted note "B" to TOPSIDE CONSTRUCTION NOTES in title block margin.

ADDITIONAL DOCUMENT:

8. Pre-bid meeting minutes and attendee list.

END OF ADDENDUM no.01

DOCUMENT INDEX FOR RFB NO. 312010

PROCUREMENT AND CONTRACTING REQUIREMENTS

Project Manual Cover Page

Documents Index

Invitation to Bid (Legal Notice)

Instructions to Bidders

Bid Form

Fair Labor Practices Certification

Best Value Contracting Application

Sample Public Works Contract

Sample Bid Bond

Sample Performance Bond

Sample Payment Bond

General Conditions of Contract

Supplementary Conditions

Prevailing Wage Rates

DIVISION 01 – GENERAL REQUIREMENTS

01 00 00 Basic Requirements

01 15 10 Unit Pricing 01 74 09 Recycling

DIVISION 02 – EXISTING CONDITIONS

02 41 49 Selective Structure Demolition

DIVISION 03 - CONCRETE

03 01 30.71 Rehabilitation of CIP Concrete

03 21 00 Concrete Reinforcement 03 37 12 Gunite

03 37 12 Guille 03 37 13 Shotcrete

03 64 23 Epoxy Injection

DIVISION 05 – METALS

05 50 00 Metal Fabrications

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

07 18 17 Broadcast Overlay System

07 19 10 Epoxy Crack Healer – Penetrating Sealer

07 92 13 Elastomeric Joint Sealant

DRAWINGS

To be printed to correct scale or size, plot sheets on 30" x 42" (E1) paper

T0-01 Title Page

S1-01 Topside Plans 5, 4, 3, 1

S1-02 Topside Plan LL & Details

S1-03 Underside Plans 5, 4, 1 & Details

S4-01 Stair Sections, Plans & Details

J. GUNNAR MALM E-24318 MADISON VI 5/29/12 AV. 2 - DW.7

END OF SECTION

1 **SECTION 03 64 23** 2 3 4 5 6 7 **EPOXY INJECTION** Part 1- General Summary References 8 **Applicator Qualifications** 9 Source Quality Control 10 Submittals 11 Product Delivery, Storage and Handling 12 13 Part 2 – Product 14 Materials 15 Equipment 16 17 Part 3 – Execution 18 **Examinations** 19 Surface Preparation, Injection and Delivery Systems 20 Field Quality Control 21 22 Applicable provisions of Division 1 shall govern work of this section. 23 24 25 PART ONE-GENERAL 26 27 28 29 **SUMMARY** Include all materials, labor, services and incidentals necessary for the completion of this section of the work. 30 31 TOPSIDE SLAB DELAMINATION INJECTION 32 The Contractor shall provide all necessary materials, equipment and labor necessary to chain drag entire slab area 33 shown on plans for the identification of delaminated topping and the inject the interface between areas of debonded 34 1 1/2" +/- topping slab and the structural slab below, see bid form for estimated quantities. Provide unit pricing on 35 bid form for the rebonding of delaminated concrete from the topside. Note the topping slab contains a titanium mesh 36 anode for the cathodic protection system; injection will leave the anode undisturbed while rebonding the topping. 37 38 39 Payment is based on per square foot of successful delamination rebonding. 40 41 REFERENCES 42 INDUSTRY STANDARDS, SPECIFICATIONS AND CODES 43 44 **GENERAL** 45 Comply with all provisions of the following codes and standards except as modified herein. 46 47 All referenced codes and standards including all revisions and commentaries shall be most currently 48 adopted as of the date of these contract documents. 49 50 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) 51 Specified AASHTO numbers are noted in later text. 52 53 AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) 54 Specific ASTM numbers are noted in later text.

57 58 Manual of Concrete Practice 201.2R Field Guide to Concrete Repair Application Procedures - RAP Bulletin #1

59

ICRI (International Concrete Repair Institute)

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APPLICATOR QUALIFICATIONS

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The Contractor shall meet all of the following requirements:

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The Contractor shall have a minimum of three years of experience in performing epoxy injection work.

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The Contractor shall submit a list of at least five projects in which epoxy injection was performed successfully. This list shall contain the following for each of the five projects:

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- Project name
- Owner of project
- Owner's representative, address and telephone number
- One sentence description of work

The sum of the costs of the five or more projects provided above shall be a minimum of \$30,000.

- Cost of portion of work involving epoxy injection
- Total cost of project
- Date of completion

A full-time, on-site supervisor shall be provided by the Contractor for the duration of the epoxy injection work. This supervisor shall have had 12 years of documented supervisory experience with the products to be used. The Contractor shall submit a list of projects the supervisor has worked on with the same information as required above.

In lieu of the above requirements, the Contractor shall meet all of the following requirements:

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- The manufacturer of the epoxy shall have a minimum of three years of experience providing epoxies similar to those specified in this section.
- The manufacturer of the epoxy shall supply a representative who will train the Contractor's crew on the proper techniques of injecting epoxy with an injection system approved by the manufacturer. This representative shall have 3 years of field experience supervising the injection of epoxy. The Contractor shall submit a list of projects the representative has worked on with the same information as required above.
- The manufacturer's representative shall be present at the site for a minimum of five 8-hour working days and shall train the Contractor's crew in the injection of epoxy during the start-up stage of this portion of the work.

SOURCE QUALITY CONTROL

The material supplier shall provide the following test data for each production run or batch of epoxy formulation to be used:

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- Tensile strength by ASTM D-638
- Elongation at break by ASTM D-638
- Flexural strength by ASTM D-790
- Flexural modulus by ASTM D-790
- Compressive yield strength by ASTM D-695

109	-	- Compressive modulus by ASTM D-695				
110	-	- Heat deflection temperature by ASTM D-648				
111	-	Slant shear by AASHTO-237				
112 113	SUBMITTALS					
113		lance with Section 01 30 00.				
115	Submit in accord	mance with Section of 50 oo.				
116	The Contractor s	hall submit the following to the Engineer:				
117						
118	-	Documentation showing he meets the applicator qualifications as specified.				
119						
120	-	Technical data sheets for each epoxy product or formulation to be used showing that the products				
121		meet the requirements of the specifications. Technical data shall include:				
122		T. (
123 124		Intended usePot life (neat)				
125		- Initial cure time (1000 PSI)				
126		- Tack free (thin film)				
127		- Final cure (75% ultimate strength)				
128		- Tensile strengths by ASTM D-638 (14 days)				
129		- Tensile elongation by ASTM D-638 modified (14 days)				
130		- Flexural strength and modulus per ASTM D-790 at 24 hours, 3 days and 7 days				
131		at 77°F				
132		- 24-hourr compressive strength by ASTM C-109 modified (1 part epoxy to 31/4				
133		parts aggregate)				
134 135		- A technical description of the epoxy injection equipment				
136	_	Products MSDS sheets				
137		Troducts Model shoots				
138	DELIVERY, ST	TORAGE AND HANDLING				
139	The product shal	l be delivered and handled according to the manufacturer's recommendations.				
140						
141	Damaged, open	containers shall not be used.				
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143 144	All labels shall c	learly indicate:				
144		Name of manufacturer				
146	-	Manufacturer's product name or product number				
147	_	- Manufacturer's lot number				
148	-	Mix ratio				
149	-	Conformance with the injection adhesive specification				
150	-	SPI hazardous material rating and appropriate warnings for handling				
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153		DADE ENGADO DE COMO				
154		PART TWO-PRODUCTS				
155 156						
157	MATERIALS					
158	Furnish epoxies shall be insensitive to the presence of water and is a two component epoxy resin designed for the					
159	structural rebonding of concrete.					
160	and the same					
161	The typical epox	y for injection shall be:				
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163 164	-	Sikadur 35 Hi-Mod LV as manufactured by Sika Corporation, Lyndhurst, NJ 07071.					
165	The epoxy gel sh	nall be:					
166	-	Sikadur 31 Hi Mod Gel manufactured by Sika Corporation or equal as approved by the Engineer.					
167	Or						
168 169	-	Sikadur 33 Fastset manufactured by Sika Corporation or equal as approved by the Engineer.					
170 171	Furnish all associate.	ciated injecting accessories including vessels, drill bits from port manufacturer, ports, caps, cleaners,					
172 173 174	Or approved equ	nal					
175 176	EQUIPMENT						
177	-	used to inject the epoxy shall perform all of the following:					
178	The equipment t	ised to inject the epoxy shall perform all of the following.					
179 180	-	Marked vessels for part A & B					
181 182	-	Automatic metered proportioning of materials by volume within the mix ratio tolerances set by the manufacturer of the epoxy material.					
183 184 185	-	Mix the epoxy automatically and completely using in line manifold device. (Batch mixing will not be permitted).					
186 187 188	-	Inject the material under pressures up to 200 PSI maximum.					
189 190	-	Double injection leads to inject two ports (delamination injection)					
191 192		PART THREE-EXECUTION					
193							
194 195 196 197		n conference with the Engineer, the Contractor's Injection Supervisor and the Owner is required ng with the work					
198	EXAMINATIO	N .					
199		rironmental conditions: The Contractor shall examine the condition of surfaces into which the					
200		jected. He shall follow the recommendations of the manufacturer with regard to limitations of the					
201	materials in varie	ous moisture and temperature levels.					
202 203 204	Contractor to cha	ain drag entire slab area shown on plans for the identification of delaminated topping for injection.					
205	SURFACE PRI	EPARATION, INJECTION AND DELIVERY SYSTEM					
206	PERSONAL PROTECTION EQUIPMENT						
207	The Contractor shall provide PPE for all workers in contact with resin. Provide notification to Owner 24 hours prior						
208	to injection. Ade	equate ventilation shall be provided for work area.					
209 210 211	GENERAL						
212 213	The Contractor shall notify the Engineer 24 hours prior to the start of the first injection						
214 215 216	Contractor to propreparation and	otect all adjacent surfaces, including dust protection barriers if required, prior to starting surface injection work.					

217 Transport, mix, inject and cure the resin per written manufacturer's instructions.

Prepare surface to receive paste over a minimum of 1/2" of either side of crack to assure bond. Remove all foreign materials from concrete surface that will inhibit bonding. Wire brushing of area below paste over shall be performed. Grinders shall not be used for surface preparation due to the excessive dust that may clog the crack. Vacuum the entire length of crack prior to installing paste over.

To contain the injected resin, the bottom, side and top surfaces of cracked members shall be sealed with a gelconsistency epoxy prior to injection and shall contain appropriate injection ports.

Test metering of pump in two separate vessels and compare to manufacturer's ratio by volume prior to injection.

Prior to injection: Run resin through pump to vacate any pump cleaners (acetone) from entire system into sacrificial vessel. Once cleaner is displaced from system, fill sacrificial vessel with resin to assure proper catalyst of resin components.

Injection shall be a continuous, successive port to port process, with the resin flowing from the next port prior to moving to the next port.

If opposite side of structure being injected is accessible but member cannot be observed directly by the injection pump operator, an additional observer on the back side of structure with communication device between the two workers shall be employed during the injection process.

Once injection is complete, the Contractor shall clean surfaces of excess epoxy, epoxy gel and injection ports by grinding or other appropriate means so that only the edge thickness of completed epoxied cracks is noticeable. No spray of injection ports shall extend beyond the plane of the surfaces of the site concrete.

VERTICAL MEMBERS:

The epoxy shall be injected into cracks or joints only from the lower elevations of the members, progressively working to the highest.

CRACK INJECTION

Where cracks in slabs to be injected have sealant, waterproofing material or other debris in the cracks, the cracks shall be cleaned at the top of slab using low pressure hot water or high pressure water jet as appropriate. Refer to manufacturers written procedures.

The epoxy injected into the cracks or joints shall be highly suited for this usage. The pressure injection system shall be capable of filling cracks as small as .002" wide.

In the event that unsound concrete is located in a zone along the crack and this prevents the complete injection of the cracks, notify the Engineer. The Engineer will determine if unsound concrete shall be removed prior to crack injection.

Contractor to adjust injection pump pressure based on width of crack being injected. Injection of hairline cracks may not be suitable for "pumping to refusal", increase pressure up to 200 psi for 5 minutes, or requirements by material manufacturer.

FIELD QUALITY CONTROL

265 SAMPLES

The Contractor shall supply samples of the injection epoxy to the Engineer or testing laboratory for the purpose of performing compression tests and/or Shore Hardness tests.

A minimum of three samples per day per injection machine of each epoxy formulation or use shall be made.

271 Samples shall be made by placing epoxy into 3/8" inside diameter test tubes. The height of the sample shall be 272 approximately 1" so that after trimming a cylinder of 3/8" diameter and 3/4" length can be obtained for compression 273 testing. 274 275

*** OR ***

Samples shall be made by placing epoxy into 3" diameter test tubes to a height of approximately ½". The epoxy is to be tested for Shore Hardness as directed by the Engineer.

CORES

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The Contractor shall be responsible for drilling and removing two 2" diameter cores into the members at the direction of the Engineer, to determine whether the crack injection is complete. Depth of coring will be determined by the Engineer. If injection is incomplete (less than 90% of the injected crack void), re-injection and additional cores may be required at the direction of the Engineer, at no extra cost to the Owner.

END OF SECTION

2012 RESTORATION DANE COUNTY CAPITOL SQUARE SOUTH PARKING RAMP 113 S. HENRY STREET MADISON, WI 53703

GMA PROJECT # 212003 DANE COUNTY RFB # 312010

DRAWING SHEET INDEX

T0-01 TITLE SHEET

S1-01 TOPSIDE PLANS 5, 4, 3, 2

S1-02 TOPSIDE PLANS LL & DETAILS

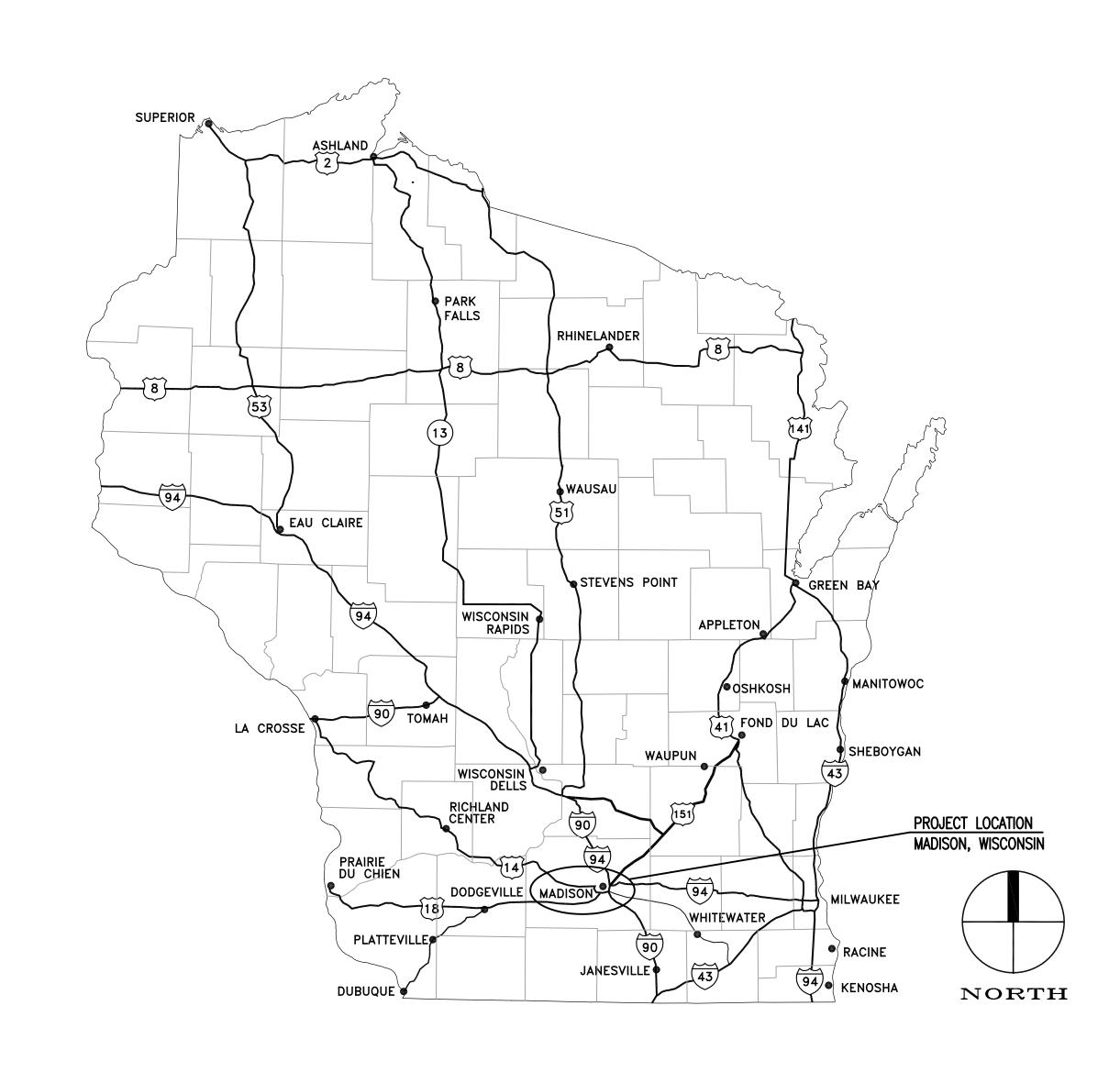
S1-03 UNDERSIDE PLANS 5, 4, 1 & DETAILS S4-01 STAIR SECTIONS, PLANS & DETAILS

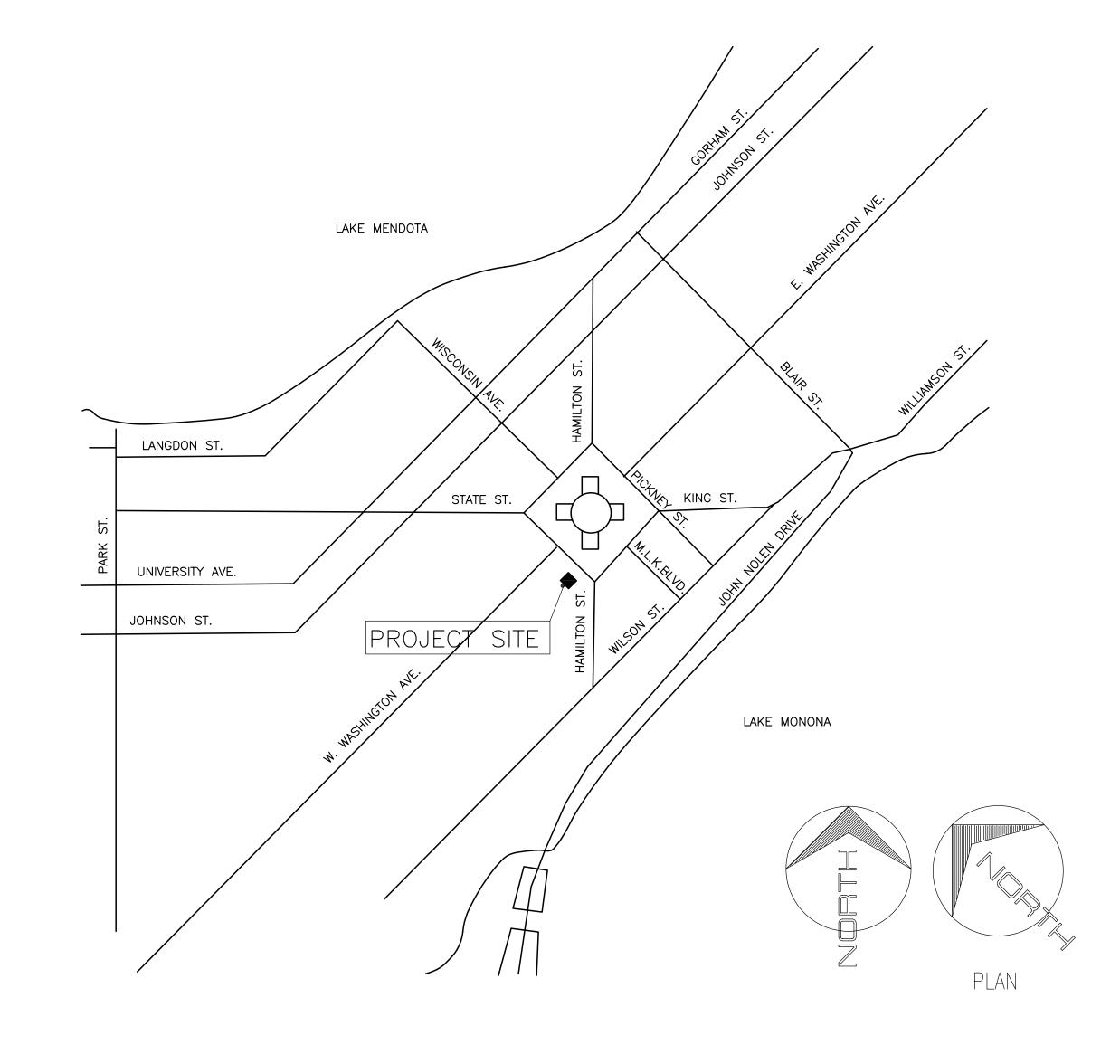
MATERIALS KEY TOPSIDE EPOXY HEALER SEALER FLOOD COAT AREA UNDERSIDE CONCRETE RESTORATION AREA EXISTING UNDERSIDE CATHOTIC PROTECTION ANODE CHAINDRAG & EPOXY INJECT TOPPING

DRAWING SEAL



PROJECT LOCATION







Consultant:



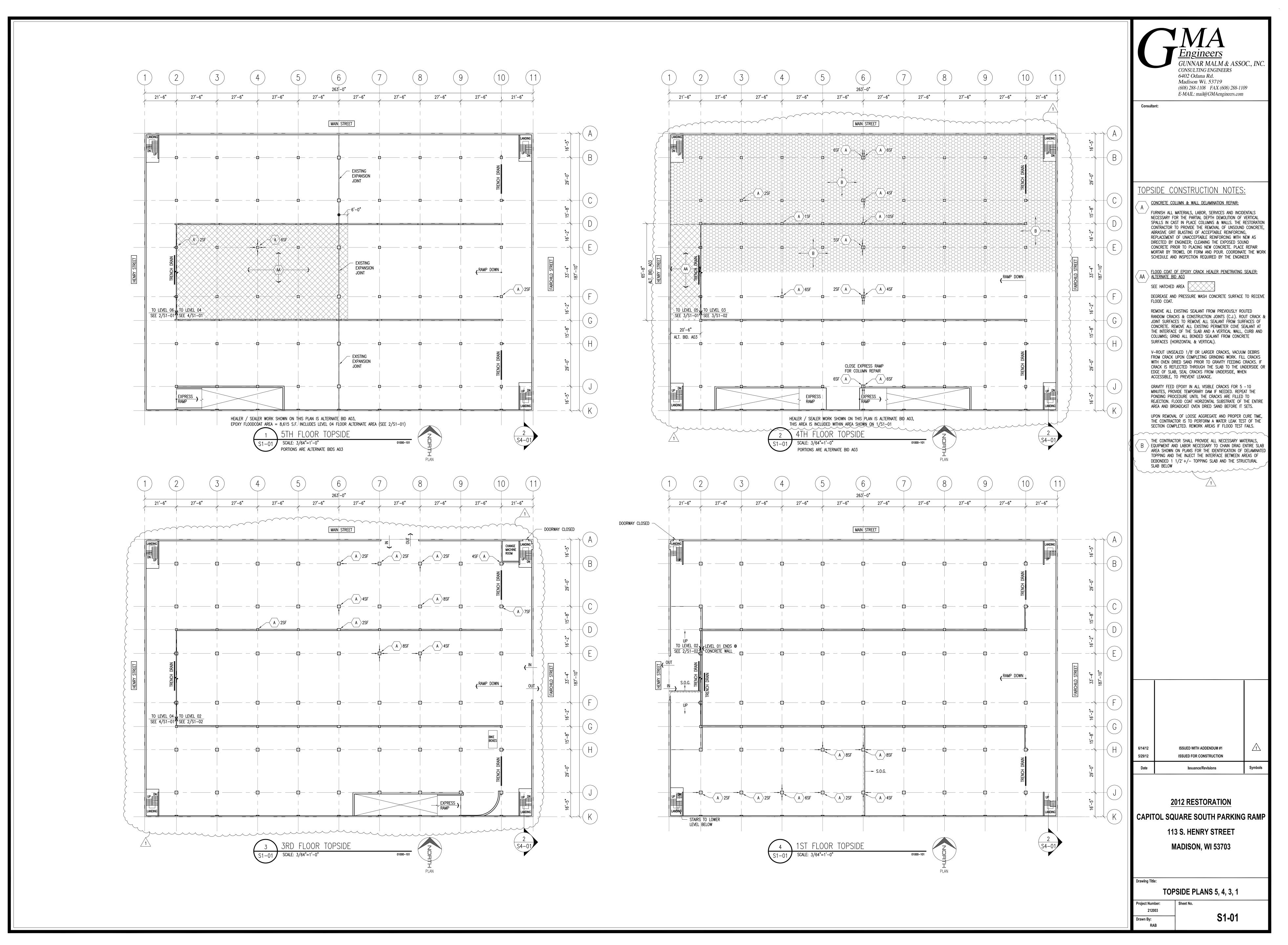
6/14/12 5/29/12	ISSUED WITH ADDENDUM #1 ISSUED FOR CONSTRUCTION	\triangle
Date	Issuance/Revisions	Symbols

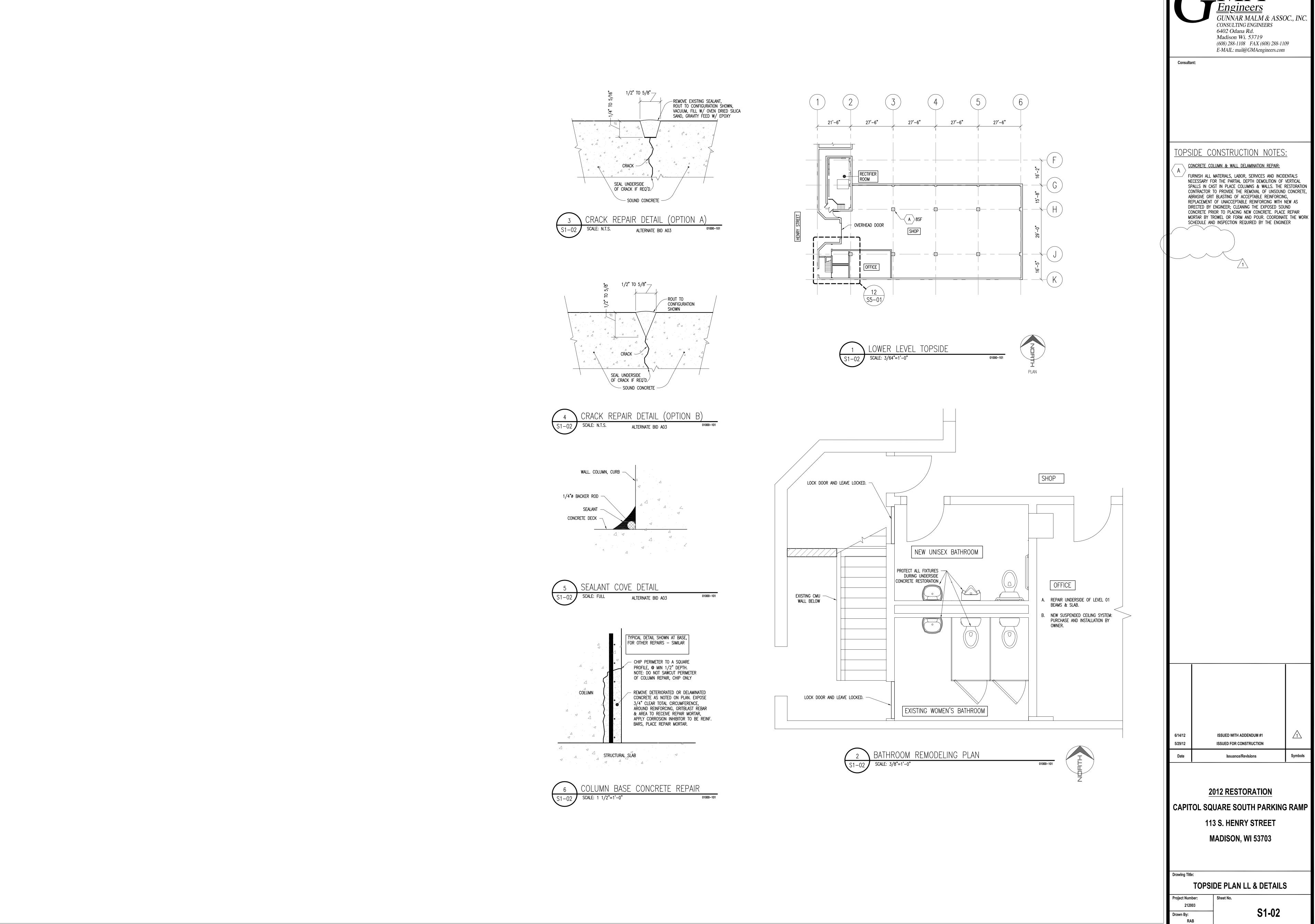
2012 RESTORATION

CAPITOL SQUARE SOUTH PARKING RAMP

113 S. HENRY STREET MADISON, WI 53703

Drawing Title:		
TITLE SHEET		
Project Number:	Sheet No.	
212003	TO 04	
Drawn By:	─ T0-01	





PRE-BID CONFERENCE MINUTES

2012 RESTORATION CAPITOL SQUARE SOUTH PARKING RAMP MADISON, WI

June 12, 2012 10:00 AM

JOHN SCHRAUFNAGEL 608-266-4798 SCHRAUFNAGEL@COUNTYOFDANE.COM

Minutes taken by Ron Bernhagen and noted in italics:

- Introductions *See Meeting Attendance Log*
- Vendor Registration *Required for bidders*
- Bidders are responsible to check for Addenda on Dane County P.W. website *Addenda will be posted Friday 6/15/12*
- Bids due 6-21-12 @ 2:00 P.M.
- Project construction schedule 7-26-12 to 10-24-12 (90 days)
 - Priority of starting the stair tower restoration first and completing by
 September 1 to accomidate work on railing and barriers by others
- Bonds and insurance *Bid & Performance Bonds*
- Meet qualification requirements
- Fair Labor Practices & BVC
- Plans and Specifications on internet or at Dane County Public Works no charge
- Routing of questions, submittals, change orders, shop drawings and pay requests –
 Electronically in .pdf format, Routing to Ron Bernhagen @ GMA Engineers, then
 to Dane County
- All permits by Contractor Building and street / sidewalk occupancy permits

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- Parking: Within Contractor's work area Work with Jon Walker for additional requirements during construction
- Staging Area: Within Contractor's work area
- Maximum Deck Loading 50psf
- Coordination/Phasing: 100 stalls out of service *This equates to 1 bay above and below maximum at one time*
- Traffic Routing Construction to be phased to allow one way traffic during construction
- Closing Stair Towers Contractor to supply signage for direction to other stairs on each level
- Utilities Water and electrical available in ramp. All electrical outlets are rated to 20amps, provide your own generator if requirements exceed existing
- List of Subcontractors to be submitted with bid
- Recycling Submittals
- Prevailing Wage Rates *Apply wage rates*
- Work times: 7:00 am -7:00 pm Tuesday through Friday, schedule with Owner.
- Progress meetings: Biweekly
- Noise & Pollution control Drain protection is required Drains empty into lakes
- Dust protection / Progress Cleaning— Dust protection is required with HEPA filters during dust creating activities
- Security *contractor to provide*
- Cathodic Protection Issues Entire ramp is cathodic protected mostly topside under 1 ½" topping, levels 2-3-4 underside anode (White Coating). Contractor to protect CP Systems

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- Work by Owner: Third-party testing for concrete & highlighted portions in Construction Documents
- Close out: guarantees, lien waivers, as-builts, certificate of compliance, punch list, payment bonds & cleanup
- Questions & Answers
 - o emailed / faxed bids not accepted
 - Delete Epoxy coated verbage from Bid Form (will be in addendum)
 - Epoxy Specifications mistakenly deleted from project manual (will be added in addendum)
- Scope Summary Ron Bernhagen paged through the plans and described work
- Walk Through with Contractors

RFB No.: 312010

PREBID CONTACT LIST

2012 RESTORATION CAPITAL SQUARE SOUTH PARKING RAMP DANE COUNTY

Madison, Wisconsin

RFB. # 312010

Name:	Representing:	Title:	Phone # (Cell #)	Email
John Schraufnagel	Dane County	LT Project Engineer	608-266-4798	schraufnagel@countyofdane.com
John Walker	Dane County	Facilities Manager	266-4363 (575-9520)	walker@countyofdane.com
Jim Matzinger	Dane County	Administration	608-266-4040	matzinger@countyofdane.com
Ron Bernhagen	GMA Engineers	A/E Construction Admin.	608-288-1108	rbernhagen@gmaengineers.com
Matt Goutcher	CMR	Business Development	(262-224-9997)	mgoutcher@cmscmr.com
Eric Johnson	Allied Waterproofing	Project Manager	(414) 333-3832	eric@alliedwp.com
Larry Little	Tarlton	Concrete Restoration Manager	314-633-3310	ltlittle@tarltoncorp.com