



DANE COUNTY DEPARTMENT of PUBLIC WORKS, HIGHWAY and TRANSPORTATION

County Executive
Joseph T. Parisi

1919 Alliant Energy Center Way ♦ Madison, Wisconsin 53713
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Commissioner / Director
Gerald J. Mandli

JULY 31, 2014

ATTENTION ALL REQUEST FOR BID (RFB) HOLDERS

RFB NO. 314018 - ADDENDUM NO. 1

2014 RESTORATION - CAPITOL SQUARE SOUTH PARKING RAMP

BIDS DUE: THURSDAY, AUGUST 14, 2014, 2:00 PM. DUE DATE AND TIME ARE NOT CHANGED BY THIS ADDENDUM.

This Addendum is issued to modify, explain or clarify the original Request for Bid (RFB), and is hereby made a part of the RFB. Please attach this Addendum to the RFB.

PLEASE MAKE THE FOLLOWING CHANGES:

1. Instructions to Bidders

Page ITB-8 - Item 19.A.: Delete the current paragraph & insert the following:

“A. This work will be accomplished by Owner or will be let under separate contracts and will not be included under this Contract:

1. Third-party testing for concrete used in restoration.”

2. Bid Form

Delete current Bid Form; replace with new Bid Form, issued with this Addendum.

3. Section 01 00 00

Delete current Section 01 00 00; replace with new Section 01 00 00, issued with this Addendum.

4. Section 01 15 10

Page 2 - After Item 8 insert the following:

“9 Joint Sealant including grinding crack and joint edges, installing backer rod or bond breaker tape and installing sealant. Refer to Specification Section 07 92 00. Payment based on length of sealant installed. \$/Lin. Ft.”

5. Section 03 31 45

Delete current Section 03 31 45; replace with new Section 03 31 45, issued with this Addendum. The only change corrects the Section footer references.

6. Section 33 44 00

Section Title:

Change “ PRECST ” to “ PRECAST ”.

Section Footer (all 4 pages):

Change “ 07 92 00 ” to “ 33 44 00 ”.

7. Sheet S-2.0

Delete current Sheet S-2.0; replace with new Sheet S-2.0, issued with this Addendum.

8. Sheet S-3.2

Delete current Sheet S-3.2; replace with new Sheet S-3.2, issued with this Addendum.

If any additional information about this Addendum is needed, please call Scott Carlson at 608/266-4179, carlson.scott@countyofdane.com.

Sincerely,

Scott Carlson

Project Manager

Enclosures:

Bid Form

Section 01 00 00

Section 03 31 45

Sheets S-2.0 & S-3.2

S:\PubWork\Shared\Engineering Division\Scott Carlson\314018 - 2014 Restoration Cap Sq So Ramp Construction\03 - Addendum\314018 Add'm 1.docx

Name of Bidding Firm: _____

BID FORM

BID NO. 314018

**PROJECT: 2014 RESTORATION
CAPITOL SQUARE SOUTH PARKING RAMP**

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

BASE BID - UNIT PRICING

Dane County is inviting Bids for construction services primarily consisting of cast-in-place concrete slab, beam, & columns repairs. Work to be performed on underside of south bay of 7th floor, and north bays of the 2nd and 5th floors. Additional concrete milling and repairs to be performed on topside of the southeast of the 7th floor. Additional construction services include expansion joint and trench drain repairs. 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 unit pricing as follows:

Restoration Work (Section 01 15 10 has numeric task correlations; quantities are estimated):

- 1. 7250 sq.ft – hydrodemolition, 2.5” deep: @ \$ _____/sq.ft. = \$ _____
- 2. 9 tons - replace reinforcing steel: @ \$ _____/ton = \$ _____
- 3. 1600 sq.ft. - replace top of slab concrete: @ \$ _____/sq.ft. = \$ _____
- 4. 550 sq.ft. - replace slab full depth: @ \$ _____/sq.ft. = \$ _____
- 5. 300 sq.ft. - repair concrete: slab bottom & beams: @ \$ _____/sq.ft. = \$ _____
- 6. 75 sq.ft. - repair concrete: vertical surfaces: @ \$ _____/sq.ft. = \$ _____
- 7. 60 ln.ft. - remove & replace expansion joint: @ \$ _____/ln.ft. = \$ _____
- 8. 20 ln.ft. - remove & replace trench drain: @ \$ _____/ln.ft. = \$ _____
- 9. 390 ln.ft. - install joint sealant: @ \$ _____/ln.ft. = \$ _____

Total: \$ _____
Numeric Price

_____ and _____/100 Dollars
Written Price

The undersigned 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, as stipulated below.

ALTERNATE BID 1 - UNIT PRICING:

Add price for providing restoration work on the underside of Level 2.

Restoration Work (Section 01 15 10 has numeric task correlations; quantities are estimated):

5. 900 sq.ft. - repair concrete: slab bottom & beams: @ \$ _____/sq.ft. = \$ _____

6. 100 sq.ft. - repair concrete: vertical surfaces: @ \$ _____/sq.ft. = \$ _____

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

_____ and _____/100 Dollars
Written Price

ALTERNATE BID 2 - UNIT PRICING:

Add price for providing restoration work on the underside of Level 5.

Restoration Work (Section 01 15 10 has numeric task correlations; quantities are estimated):

5. 1900 sq.ft. - repair concrete: slab bottom & beams: @ \$ _____/sq.ft. = \$ _____

6. 150 sq.ft. - repair concrete: vertical surfaces: @ \$ _____/sq.ft. = \$ _____

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

_____ and _____/100 Dollars
Written Price

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

Addendum No(s). _____ through _____

Dated _____

Dane County Public Works, Highway & Transportation Department] must have this project completed by November 21, 2014. Assuming this Work can be started by September 15, 2014, what dates can you commence and complete this job?

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

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

(Name of Corporation, Partnership or Person submitting Bid)

Select one of the following:

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

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

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

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

SIGNATURE: _____
(Bid is invalid without signature)

Print Name: _____ Date: _____

Title: _____

Address: _____

Telephone No.: _____ Fax No.: _____

Email Address: _____

Contact Person: _____

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

BID CHECK LIST:

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

Bid Form

Bid Bond

Fair Labor Practices Certification

BIDDERS SHOULD BE AWARE OF THE FOLLOWING:

DANE COUNTY VENDOR REGISTRATION PROGRAM

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

www.danepurchasing.com/registration

DANE COUNTY BEST VALUE CONTRACTING PRE-QUALIFICATION

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

www.countyofdane.com/pwht/BVC_Application.aspx

EQUAL BENEFITS REQUIREMENT

By submitting a Bid, the contractor acknowledges that a condition of this contract is to provide equal benefits as required by Dane County Code of Ordinances Chapter 25.016. Contractor shall provide equal benefits as required by that Ordinance to all required employees during the term of the contract. Equal Benefits Compliance Payment Certification shall be submitted with final pay request. For more information:

www.danepurchasing.com/partner_benefit.aspx

SECTION 01 00 00
BASIC REQUIREMENTS

PART 1 GENERAL

1.1 SECTION SUMMARY

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

1.2 SUMMARY OF THE WORK

- A. Project Description: Perform the Work as specified and detailed in Construction Documents package. Contractor to provide construction restoration & repair services primarily for cast-in-place concrete slab, beam, & columns. Work to be performed on underside of south bay of 7th floor, and underside of north bays of the 2nd and 5th floors. Top 2½” of the topside of 7th floor south bay, shall be removed by hydro-demolition. Top mats of reinforcing steel shall be replaced with epoxy coated reinforcing bars. Additional construction services include replacement of an expansion joint and trench drain.
- B. Work by Owner:
 - 1. Third-party testing for concrete used in restoration.
- C. Permits: Prior to commencement of the Work, Contractor to secure any and all necessary permits for completion of the Work and facility occupancy.
- D. The Capitol Square South Parking Ramp (CSS), formally known as the Dane County Parking Ramp, is owned and operated by Dane County. The structure was originally constructed with a basement and four elevated levels in 1957. Two levels added in 1963. In plan, the CSS is a three-bay wide structure approximately 263 feet by 188 feet. The supported floor system consists of conventionally reinforced concrete two-way flat slabs supported by wide, flat-shaped conventionally reinforced concrete beams supported by interior and exterior conventionally reinforced concrete columns. There are a total of seven parking levels including the slab-on-grade level. Total parking capacity is approximately 1000 cars.

1.3 CONTRACTOR USE OF PREMISES

- A. Limit use of premises to allow work by others and work by Owner.
- B. Confine operation at the site to areas permitted by law, ordinance, permit, and construction documents.
- C. Do not unreasonably encumber site with materials and equipment.
- D. Do not load structure with weight that will endanger structure.
- E. Assume full responsibility for protection and safekeeping of products stored on the premises. Construction equipment, shoring, tools, etc. shall not be stored in areas of the Owners continued use.
- F. Move any stored products which interfere with operations of Owner or other Contractor.
- G. There is no storage for materials outside of Contractor’s work area.
- H. Contractor provide phasing of work to maintain traffic flow through the structure, all drive lane work to be divided in half so cars may pass at all times.

1.4 APPLICATIONS FOR PAYMENT

- A. Submit two (2) original copies with “wet” signatures of each application on AIA G702™ and G703™ forms or approved contractors invoice form.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Payment Period: Monthly.
- D. Submit Applications for Payment to Engineer for initial approval. Engineer will forward approved copies to Owner who will also approve & process for payment.

1.5 CHANGE PROCEDURES

- A. Contractor's costs for Products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from the contingency allowance.

1.6 ALTERNATES

- A. Alternates quoted on Bid Form shall be reviewed and accepted or rejected at the Owner's option.
- B. Coordinate related work and modify surrounding work as required.
- C. Schedule of Alternates:
 - 1. See Bid Form

1.7 COORDINATION

- A. Coordinate scheduling, submittals, and work of various sections of Specifications to assure efficient and orderly sequence of installation of interdependent construction elements.
- B. Commence work on date to be specified in written Notice to Proceed and to fully complete all work as specified on Bid Form. Completion shall include all construction as outlined in drawings and specifications as well as removal of all materials, debris, barricades, and other construction related items from the site.
- C. Final project closeout shall be completed within 30 days of construction completion date for all work addressed above. Final project closeout shall include, but not be limited to, submittal of warranties, lien waivers, wage rate compliance affidavits, documents of completed work, and proper pay applications.
- D. Restoration will be completed in phases to allow for continued operation of CSS during the Work. Phasing shall consist of concrete removal from centerline of drive lane to parapet along slab edge allowing traffic flow on other half of bay. Phasing may also consist of concrete removal along drive lane while allowing traffic flow on either side

along parking lanes. Contractor shall produce phasing plans which will be submitted at pre-construction meeting.

- E. Contractor at Contractor's expense is responsible for removing and reinstalling or protecting in place electrical conduits, light fixtures, water pipes, and anything else that may be in the way of the Work. If Contractor damages any of these items, Contractor shall be responsible to report these to the Owner and replace them to the Owner's satisfaction.
- F. Contractor shall be allowed approximately 100 parking stalls to be out of service for their work area from Monday through Friday. Additional stalls maybe available by pre-arrangement with Owner. This shall consist of top of slab area directly below area being restored for bottom of slab restoration, adjacent area closed for traffic flow and parking and drive lane areas directly above restoration. Similarly, for top of slab removal, area being restored and slab area adjacent to restoration for drive lane shall be included in Contractor's area as well as floor area directly below restoration.
- G. Contractor will be asked to reduce number and type of parking spaces out of service for Special Events dates. Owner will provide Contractor with a schedule of dates.
- H. Dust protection, required along full length of work area, shall be in place prior to concrete removal.
- I. Steel plates shall be used to cover top of slab removal areas in locations of public access during evening and weekend hours when flag persons are not present.
- J. Contractor shall maintain access to undisturbed parking areas throughout restoration. Owner shall accommodate traffic rerouting and shifting of construction occupancy as required. Contractor will provide traffic barriers.
- K. Provide appropriate signage warning public of construction area and directing them to exits.
- L. Owner will occupy all but work areas during construction. Coordinate with Engineer in scheduling work.

1.8 CUTTING AND PATCHING

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

1.9 CONFERENCES

- A. Owner will schedule a preconstruction conference after Award of Contract for all affected parties.
- B. Contractor shall submit Construction Schedule at the pre-construction meeting.
- C. When required in individual Specification section, convene a pre-installation conference at project site prior to commencing work of the section.

1.10 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work, bi-weekly at minimum. Meetings shall be at project site by with Engineer's representative and Owner's representative for coordinating and expediting progress.
- B. Preside at meetings, record minutes, and distribute copies within two (2) days to those affected by decisions made.
- C. Attendance at progress meetings by all Prime Contractors, subcontractors, or their authorized representative, is mandatory.
- D. Contractors shall give verbal reports of progress on the Work, discuss schedule for coming period and present all conflicts, discrepancies or other difficulties for resolution.
- E. Day and time of progress meetings to be determined at pre-construction meeting.

1.11 JOB SITE ADMINISTRATION

- A. Contractor shall have project superintendent on site minimum of 4 hours per day during progress of the Work.
- B. Engineer will have representative on site 8 hours per week on average during progress of the Work.

1.12 SUBMITTAL PROCEDURES

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

- D. Revise and resubmit submittals as required; identify all changes made since previous submittal.
- 1.13 PROPOSED PRODUCTS LIST
- A. Within fifteen (15) days after date of Award of Contract, submit complete list of major Products proposed for use, with name of manufacturer, trade name, and model number of each Product.
- 1.14 SHOP DRAWINGS
- A. Submit number of copies that Contractor requires, plus three (3) copies that shall be retained by Public Works Project Manager.
- 1.15 PRODUCT DATA
- A. Submit number of copies that Contractor requires, plus two (2) copies that shall be retained by Public Works Project Manager.
 - B. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturer's standard data to provide information unique to this Project.
- 1.16 SAMPLES
- A. Submit samples to illustrate functional and aesthetic characteristics of the Product.
 - B. Submit samples of finishes from the full range of manufacturers' standard colors, textures, and patterns for Public Works Project Manager's selection.
- 1.17 MANUFACTURERS' INSTRUCTIONS
- A. When specified in individual Specification sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.
- 1.18 MANUFACTURERS' CERTIFICATES
- A. When specified in individual Specification sections, submit manufacturers' certificate to Public Works Project Manager for review, in quantities specified for Product Data.
 - B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- 1.19 QUALITY ASSURANCE / QUALITY CONTROL OF INSTALLATION
- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce work of specified quality.
 - B. Comply fully with manufacturers' instructions.

- C. Comply with specified standards as minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

1.20 REFERENCES

- A. Conform to reference standard by date of issue current as of date for receiving bids.
- B. Should specified reference standard conflict with Construction Documents, request clarification from Public Works Project Manager before proceeding.

1.21 INTERIOR ENCLOSURES

- A. Provide temporary partitions as required to separate work areas from Owner occupied areas, to prevent distribution of dust and moisture into Owner occupied areas, and to prevent damage to existing materials and equipment.

1.22 PROTECTION OF INSTALLED WORK

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

1.23 PARKING

- A. Parking of vehicles and equipment required for construction purposes shall be in Contractor's designated work areas. Any vehicle in Parking Ramp other than Contractor's designated for this project will be charged for parking.
- B. All Contractors and their employees shall cooperate with General Contractor and others in parking of vehicles to avoid interference with normal operations and construction activities.
- C. Do not obstruct existing service drives and parking lots with equipment, materials and/or vehicles. Keep accessible for Owner's use at all times.

1.24 STAGING AREAS

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

1.25 OCCUPANCY DURING CONSTRUCTION AND CONDUCT OF WORK

- A. Areas of existing facility will be occupied during period when the Work is in progress. Work may be done during normal business hours, Monday through Friday (7:00 a.m. to 7:00 p.m., as City of Madison Noise Ordinance will allow), but confer with Owner,

schedule work and store materials so as to interfere as little as possible with normal use of premises. Work performed on Saturday shall be by permission of Owner. Notify Owner when coring or similar noise making work is to be done and obtain Owner's written approval of schedule. If schedule is not convenient for Owner, reschedule and resubmit new times for Owner approval.

- B. Work shall be done and temporary facilities furnished so as not to interfere with access to any occupied area and so as to cause least possible interference with normal operation of facility or any essential service thereof.
- C. Contractor shall, at all times, provide approved, safe walkways and facility entrances for use by Owner, employees and public.
- D. Contractor shall provide adequate protection for all parts of facility, its contents and occupants wherever the Work under this Contract is to be performed.
- E. Each Contractor shall arrange with Owner to make necessary alterations, do new work, make connections to all utilities, etc., at such times as will not cause interruption of utility services to facility. Contractor doing this work shall protect, cap, cut off and / or replace and relocate existing pipes, electrical work and other active utilities encountered which may interfere with new construction work.
- F. New work in extension of existing work shall correspond in all respects with that to which it connects or similar existing work unless otherwise indicated or specified.
 - 1. Existing work shall be cut, altered, removed or replaced as necessary for performance of Contract obligations.
 - 2. Work remaining in place, damaged or defaced by reason of work done under this Contract shall be restored equal to its condition at time of Award of Contract.
 - 3. If removal of work exposes discolored or unfinished surfaces or work out of alignment, such surfaces shall be refinished or materials replaced as necessary to make continuous work uniform and harmonious.

1.26 PROTECTION

- A. Contractor shall protect from injury all trees, shrubs, hedges, walks and driveways and pay for any damage to same resulting from insufficient or improper protection.
- B. Contractor shall provide and maintain barricades & signage to prohibit public access to construction site.
- C. Contractor shall provide and maintain guard lights at all barricades, railings, obstructions in streets, roads or sidewalks and at all trenches adjacent to public walks or roads.

1.27 PROGRESS CLEANING

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

1.28 PRODUCTS

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

1.29 TRANSPORTATION, HANDLING, STORAGE AND PROTECTION

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

1.30 PRODUCT OPTIONS

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

1.31 SUBSTITUTIONS

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

1.32 STARTING SYSTEMS

- A. Provide written notification prior to start-up of each equipment item or system.
- B. Ensure that each piece of equipment or system is ready for operation.

- C. Execute start-up under supervision of responsible persons in accordance with manufacturers' instructions.
- D. Submit written report that equipment or system has been properly installed and is functioning correctly.

1.33 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of Products to Owner's personnel prior to date of final inspection.
- B. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed-upon times, at designated location.
- C. Owner may choose to videotape demonstration session; demonstration and demonstrator shall be to level of satisfaction of Owner.

1.34 CONTRACT CLOSEOUT PROCEDURES

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

1.35 FINAL CLEANING

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

1.36 ADJUSTING

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

1.37 OPERATION AND MAINTENANCE MANUAL

- A. Provide operation and maintenance manual for all mechanical and electrical equipment special systems and materials supplied and installed in the Work.

1.38 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide Products, spare parts, maintenance and extra materials in quantities specified in individual Specification Sections.

B. Deliver to the Work site and place in location as directed.

1.39 AS-BUILT AND RECORD DRAWINGS AND SPECIFICATIONS

- A. Contractor-produced Drawings and Specifications shall remain property of Contractor whether Project for which they are made is executed or not. Contractor shall furnish Engineer with original marked up redlines of Construction Documents' drawings and specifications that shall include all Addendums, Change Orders, Construction Bulletins, on-site changes, field corrections, etc. These are the project As-Built Drawings & Specifications.
- B. Engineer shall update the original Construction Documents to include all Addendums & any other changes including those provided by the Contractor in the As-Built Drawings & Specifications. These updates are the project Record Drawings & Specifications.
- C. Engineer shall furnish the Public Works Project Manager with Record Drawings as detailed in the Professional Services Agreement.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

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SECTION 03 31 45

REPAIR OF STRUCTURAL CONCRETE

PART 1 GENERAL

1.1 RELATED WORK

- A. Applicable provisions of Division 01 shall govern work of this section.
- B. Related work specified elsewhere:
 - 1. Section 02 41 17 - Removal of Existing Concrete and Surface Preparation
 - 2. Section 03 30 00 - Cast-in-Place Concrete
 - 3. Section 03 37 12 - Guniting
 - 4. Section 03 37 13 - Shotcrete

1.2 SUMMARY

- A. Include materials, labor, services and incidentals necessary for completion of this Section of Work.
- B. Work includes supplying, placing, finishing, and curing concrete over properly prepared existing concrete surfaces as indicated on Drawings and as specified.

1.3 QUALITY ASSURANCE

- A. Pre-Construction Meeting
 - 1. A pre-construction meeting is required with Contractor in order to coordinate work schedule and inspection required by Engineer.
- B. Guarantee
 - 1. Contractor shall assume Total Responsibility Guarantee for Material and Labor.
- C. Installer Qualifications
 - 1. Concrete patching repair work shall be performed under the immediate control of a person experienced in this type of work. The system installer's superintendent assigned to this project shall have a minimum of 5 years experience on projects of similar magnitude and scope and shall be present during system installation.
- D. Inspection
 - 1. Installer must examine substrate and conditions under which work is to be performed and must notify Contractor in writing of unsatisfactory conditions. Do not proceed with work until unsatisfactory conditions have been corrected.

1.4 SUBMITTALS

- A. Manufacturers Data

1. Submit manufacturer's product data for concrete repair materials, indicating physical and chemical characteristics, technical specifications, limitations, installation instructions and general recommendations regarding each material.

PART 2 PRODUCTS

2.1 ACCEPTABLE PRODUCTS

- A. Overhead and Vertical Repair Mortar
 1. "Emaco S88 CI" by BASF
 2. "SikaTop 123 Plus" by Sika
 3. "Duraltop Gel" by The Euclid Chemical Company
 4. Or approved equal with corrosion inhibitor.
- B. Horizontal Repair Mortar
 1. "Emaco S66 CI" by BASF
 2. "SikaTop 111 Plus" by Sika
 3. "Eucocrete Supreme" by The Euclid Chemical Company
 4. Or approved equal
- C. Rebar Coating
 1. "Emaco P24" by BASF
 2. "Sika Armatec 110 EpoCem" by Sika
 3. "Duralprep AC" by The Euclid Chemical Company
 4. Or approved equal.
- D. Consult with manufacturers for product limitations.

PART 3 EXECUTION

3.1 PREPARATION OF SURFACES TO RECEIVE PATCHING CONCRETE

- A. Refer to Specification Section 02 41 17 "Removal of Existing Concrete and Surface Preparation" for requirements.
- B. Remove unsound material, dirt, oil, grease and other bond inhibiting materials.
- C. Remove rust and loose concrete on exposed reinforcing steel by sandblasting.
- D. Concrete substrate shall be saturated surface dry with no standing water prior to application and shall be saturated for a minimum of two hours prior to application.
- E. Conform to additional specific preparation requirements specified by manufacturer or ACI Standard for each patching product as applicable.
- F. Cavities will be examined prior to commencement of patching operations. Sounding the surface shall be part of the examination. Delamination noted during the sounding shall be removed as specified.

- G. Airblasting is required as a final step to remove sand and debris. Debris shall be removed from the site prior to the start of patching.
- H. Coat exposed reinforcing steel with rebar primer. Apply per manufacturer's instructions.

3.2 MIXING, APPLICATION, AND FINISHING

- A. Conform to manufacturer's specifications or ACI Standard for each patching product, as applicable.
- B. Install repair mortar over the patch area and work into the substrate with proper finishing tools.
- C. 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 7 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. 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. 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

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