

CONTRACT CONDITIONS
FOR
COOLING TOWER REFURBISHMENT
AT
WALNUT GROVE MIDDLE SCHOOL
MIDLOTHIAN, TEXAS
MIDLOTHIAN
INDEPENDENT SCHOOL DISTRICT
Project Manual



ENGINEER
REED, WELLS, BENSON AND COMPANY
12001 NORTH CENTRAL EXPRESSWAY, SUITE 1100
DALLAS, TEXAS 75243

RWB Project No. 21054.00
April 14, 2021

REQUEST FOR COMPETITIVE SEALED PROPOSALS

Competitive Sealed Proposals for the work identified below in accordance with Proposal Documents, and addenda as may be issued prior to date of proposal opening, will be received by the Midlothian Independent School District until proposal closing date and time, as identified below. Proposals from Offerors will then be opened in public and read aloud.

OWNER: **Midlothian Independent School District**
100 Walter Stephenson Road
Midlothian, TX 76065

Engineer: **Reed Wells Benson and Company**
12001 North Central Expressway Suite 1100
Dallas, Texas 75243
(972) 788-4222

PROJECT: **CSP 2021-019 Walnut Grove Cooling Tower Refurbishment**
Midlothian Independent School District
Midlothian, Texas

PROPOSAL DATE AND TIME: Proposal Due: **Tuesday, May 04, 2021, 2:00 PM**

LOCATION OF PROPOSAL OPENING: **Midlothian Independent School District Administration Building**
100 Walter Stephenson Rd
Midlothian, TX 76065

Proposal Documents will be available on **April 15, 2021**. Qualified Offerors (General Contractors) may obtain an electronic copy of this proposal by contacting Shana Volentine, shana_volentine@misd.gs or visiting the Midlothian ISD Website (linked below): to the digital copy of the addenda will be e-mailed to the current list of plan holders.

Midlothian ISD Website
<https://www.misd.gs/departments/finance/purchasing/bids-rfps-csps-rfqs>

All proposals must be in the hands of the Owner no later than the time specified above. Proposals received in the District's Business Office after the date and time specified will not be considered. The District is not responsible for lateness or non-delivery of mail carrier, etc., and the date/time stamp in the Business Office shall be the official time of receipt. Proposals shall not be submitted by facsimile or email. Please seal all proposals in duplicate in an envelope with the following information on the submittal envelope.

Name of Offeror (General Contractor)
CSP 2021-019 Walnut Grove Cooling Tower Refurbishment
Midlothian Independent School District

Proposals shall be hand delivered or mailed to:

Midlothian ISD
Business Office
100 Walter Stephenson Rd.
Midlothian, TX 76065
Attn: Shana Volentine, Purchasing Agent

CSP 2021-019 Walnut Grove Cooling Tower Refurbishment
Midlothian ISD
Midlothian, Texas

The General Contractor Proposers must submit two fully executed copies of "AIA Document A305, Contractor's Qualification Statement" with their Proposal.

The Owner reserves the right to reject any and all proposals and to waive any irregularities in the Competitive Sealed Proposal process. No proposal shall be withdrawn within 30 days after the proposal opening without the specific consent of the Owner.

PAYMENT BOND AND PERFORMANCE BOND: A Payment Bond and Performance Bond, each in an amount equal to 100 percent (100%) of the Contract Sum conditioned upon the faithful performance of the Contract will be required. Please note that all bonding companies presented must be acceptable to the Owner.

The prevailing rates of wages are the minimums that must be paid in conformance with all applicable laws of the State of Texas.

All Offerors submitting a proposal are encouraged to attend the proposal opening. Subcontractors and suppliers intending to submit proposals to Construction Offerors are required to prepare their proposals based on a complete set of proposal documents

All Offerors submitting a proposal are encouraged to visit the site.

END OF DOCUMENT



CSP 2021-019
Walnut Grove Cooling Tower
Refurbishment

Company Name

Address

City/State/Zip

Area Code & Phone Number

Fax Number

E-mail Address

Federal Tax Identification Number

I, the undersigned, as the owner or legally authorized representative of the above named company, by signing the following statement, agree that I have READ and UNDERSTAND all of the Instructions and Specifications contained herein, and that if accepted by the Midlothian Independent School District, all of the provisions are part of a binding contract between MISD and our company. I also certify that this bid is made without previous understanding, agreement, or connection with any person, firm or cooperation making a proposal for the same contract, and is in all ways fair and without collusion or fraud.

Owner or Legally Authorized Representative

Signature

Title

Date



CSP 2021-019
Walnut Grove Cooling Tower
Refurbishment

Remittance Address

Address

City/State/Zip

Local Representative

E-mail Address

Phone and Fax Numbers

ALL PURCHASES MUST OCCUR WITH AN APPROVED DISTRICT PURCHASE ORDER

1) Our firm will accept orders using district purchase orders. YES ____ NO ____

2) Is your company an MWBE, SBE or HUB enterprise? YES ____ NO ____
Other _____

DEBARMENT OR SUSPENSION CERTIFICATION FORM

Debarment and Suspension (Executive Orders 12549 and 12689)—A contract award (see 2 CFR 180.220) must not be made to parties listed on the government wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), “Debarment and Suspension.” SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

By submitting this offer and signing this certificate, this Proposer:

- (1) Certifies that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

Firm's Name: _____

Address: _____

City/State/Zip: _____

Telephone: _____

Authorized Company Official's Name: _____
(Typed or printed)

Title of Authorized Representative: _____
(Typed or printed)

Signature of Authorized Company Official: _____

Date Signed: _____



Felony Conviction Notice

Statutory citation covering notification of criminal history of contractor is found in the Texas Education Code

#44.034. Following is an example of a felony conviction notice:

FELONY CONVICTION NOTICE

Senate Bill 1, passed by the State of Texas Legislators, Section 44.034, Notification of Criminal History, Subsection (a) states, “a person or business entity that enters into a contract with a school district must give advance notice to the district if the person or owner or operator of the business entity has been convicted of a felony.” The notice must include a general description of the conduct resulting in the conviction of a felony.

Subsection (b) states, “A school district may terminate a contract with a person or business entity if the district determines that the person or business entity failed to give notice as required by Subsection (a) or misrepresented the conduct resulting in the conviction. The district must compensate the person or business entity for services performed before the termination of the contract.

This notice is not required of a publicly held corporation.

I, the undersigned agent for the firm named below certify that the information concerning notification of felony conviction has been reviewed by me and the following furnished information is true to the best of my knowledge.

Vendor’s Name: _____

Authorized Company Official’s Name: (please print)

A. My firm is a publicly held corporation; therefore, this reporting requirement is not applicable.

Signature of Company Official: _____

B. My firm is not owned nor operated by anyone who has been convicted of a felony.

Signature of Company Official: _____

C. My firm is owned or operated by the following individual(s) who has/have been convicted of a felony: Name

of Felon(s): _____

Details of Conviction: _____

Signature of Company Official: _____

THIS COMPLETED FORM MUST BE RETURNED WITH PROPOSAL

CONFLICT OF INTEREST QUESTIONNAIRE

FORM CIQ

For vendor doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 Name of vendor who has a business relationship with local governmental entity.

2 Check this box if you are filing an update to a previously filed questionnaire. (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 Name of local government officer about whom the information is being disclosed.

Name of Officer

4 Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐ Yes

☐ No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes

☐ No

5 Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7

Signature of vendor doing business with the governmental entity _____

Date _____

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at <http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm>. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

- (A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;
- (B) a transaction conducted at a price and subject to terms available to the public; or
- (C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed;
or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that:

- (i) a contract between the local governmental entity and vendor has been executed; or
- (ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

(2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

(3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties. Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

4	Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
			Controlling	Intermediary

5 Check only if there is NO interested Party.

☐

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____ (street) _____ (city) _____ (state) _____ (zip code) _____ (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____, 20_____.
(month) (year)

Signature of authorized agent of contracting business entity
(Declarant)

ADD ADDITIONAL PAGES AS NECESSARY



CERTIFICATIONS REQUIRED AS OF SEPTEMBER 1, 2017

**CERTIFICATION REGARDING TERRORIST ORGANIZATIONS
& BOYCOTTING OF ISRAEL
[Govt Code 808 (HB89) and Govt Code 2252 (SB252)]**

Vendor hereby certifies that it is not a company identified on the Texas Comptroller's list of companies known to have contracts with, or provide supplies or services to, a foreign organization designated as a Foreign Terrorist Organization by the U.S. Secretary of State.

Vendor further certifies and verifies that neither Vendor, nor any affiliate, subsidiary, or parent company of Vendor, if any (the "Vendor Companies"), boycotts Israel, and Vendor agrees that Vendor and Vendor Companies will not boycott Israel during the term of this Agreement. For purposes of this Agreement, the term "boycott" shall mean and include terminating business activities or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory.

Initials of Authorized Representative of Vendor

Vendor's Name/Company Name: _____

Address, City, State, and Zip Code: _____

Phone Number: _____ Fax Number: _____

Printed Name and Title of Authorized Representative: _____

Email Address: _____

Signature of Authorized Representative: _____

Date: _____ Federal Tax ID # _____

MISD PURCHASING OFFICE (INTERNAL REVIEW): SB 2252 Certification

Comptroller List was reviewed and The Vendor (IS) (IS NOT) on the lists (Circle one).

Verified by: _____



STATEMENT OF NON-COLLUSION AND NON-DISCRIMINATION

My signature certifies that the accompanying Proposal:

1. Is not the result of, or affected by, an unlawful act of collusion with another person or company engaged in the same line of business or commerce, or any act of fraud punishable under current local, state, and/or federal ordinances, statutes, regulations and/or policies. Furthermore, I understand that fraud and unlawful collusion are crimes under Federal Law, and can result in fines, prison sentences, and civil damage awards.
2. During the performance of any contract awarded, the Seller will not discriminate against any employee or applicant for employment because of race, religion, color, sex or national origin, or handicaps, except where religion, sex or national origin is a bona fide occupation qualification reasonably necessary to the normal operations of the Seller, The Seller agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause.
3. The Seller, in all solicitations or advertisements for employees placed by or on behalf of the Seller, will state that such Seller is an equal opportunity employer.
4. Notices, advertisements and solicitations placed in accordance with Federal Law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.
5. The Seller shall include the provisions of the foregoing paragraphs 2, 3 and 4 in every subcontract or purchase order over \$10,000.00 so that the provisions will be binding upon each subcontractor or vendor.

I hereby certify that I am authorized to sign as a Representative for the Seller:

NAME OF SELLER:

ADDRESS:

CITY & STATE:

NAME: (Print)

Signature:

TITLE: _____ DATE: _____

TELEPHONE: _____ FAX: _____

EMAIL ADDRESS: _____

RESIDENT/NONRESIDENT CERTIFICATION

Texas Government Code Chapter 2252 relates to bids by nonresident contractors. The pertinent portions of the Act are as follows:

Section 2252.001(3)

“Nonresident bidder” means a bidder who is not a resident (of the State of Texas).

Section 2252.001(4)

“Resident bidder” means a bidder whose principal place of business is in this state, including a contractor whose ultimate parent company or majority owner has its principal place of business in this state.

Section 2252.002

A governmental entity may not award a governmental contract to a nonresident bidder unless the nonresident underbids the lowest bid submitted by a responsible resident bidder by an amount that is not less than the amount by which a resident bidder would be required to underbid the nonresident bidder to obtain a comparable contract in the state in which the nonresident’s principal place of business is located.

I certify that _____ is a

Resident Bidder of Texas as defined in Texas Government Code Section 2252.001(4).

Signature: _____

Printed Name: _____

.....

I certify that _____ is a

Nonresident Bidder of Texas as defined in Texas Government Code Section 2252.001(3) and our principal place of business is:

City and State: _____

Signature: _____

Printed Name: _____

If the Bidder is a Nonresident Bidder of Texas, please answer the following:

Does the vendor’s ultimate parent company or majority owner employ at least 500 persons in Texas?

Yes _____ No _____



REFERENCES

Please list your references

1. Business Name: _____

Contact: _____

Address: _____

Phone Number: _____

Email: _____

Scope of Work/Project: _____

2. Business Name: _____

Contact: _____

Address: _____

Phone Number: _____

Email: _____

Scope of Work/Project: _____

3. Business Name: _____

Contact: _____

Address: _____

Phone Number: _____

Email: _____

Scope of Work/Project: _____

Request for Taxpayer Identification Number and Certification

► Go to www.irs.gov/FormW9 for instructions and the latest information.

Give Form to the
requester. Do not
send to the IRS.

Print or type.
See Specific Instructions on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
2 Business name/disregarded entity name, if different from above	
3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes. <input type="checkbox"/> Individual/sole proprietor or single-member LLC <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ► _____ Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner. <input type="checkbox"/> Other (see instructions) ► _____	4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____ <small>(Applies to accounts maintained outside the U.S.)</small>
5 Address (number, street, and apt. or suite no.) See instructions.	Requester's name and address (optional)
6 City, state, and ZIP code	
7 List account number(s) here (optional)	

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number									
				-				-	
or									
Employer identification number									
				-					

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here	Signature of U.S. person ►	Date ►
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General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to www.irs.gov/FormW9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, later.



CHECKLIST

CSP 2021-019
Walnut Grove Cooling Tower
Refurbishment

- _____ Response Form Pg 1
- _____ Response Form Pg 2
- _____ Felony Conviction Notice
- _____ Conflict of Interest
- _____ Form 1295 - Cert of Interested Parties (processed online, printed and signed)
- _____ Certification Form HB 89/SB252
- _____ Non-Collusion/Non-Discrimination Form
- _____ Resident/NonResident Certification
- _____ References
- _____ W9
- _____ Proposal Form

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SECTION 00 30 00**PROPOSAL FORM**

SUBMITTED BY:

(Name of Proposer)_____
(Address)

Dear Sir:

The undersigned, having examined the specifications, related documents, and the site of the proposed work, and being familiar with all of the conditions surrounding the work, including the availability of materials and labor, hereby proposes to furnish all labor, materials, and equipment required for the Cooling Tower Refurbishment at Walnut Grove Middle School located in Midlothian, Texas, in accordance with the drawings and project manual prepared by RWB Consulting Engineers for the lump sum of:

BASE PROPOSAL amount of:

Dollars (\$_____).**ALTERNATE BID No. 1**

Provide the added cost to replace the existing hot deck water distribution nozzles in all four (4) hot decks. Refer to specifications.

The added cost is as follows:

Dollars (\$_____).**ALTERNATE BID No. 2**

Provide the added cost to provide new shaft kits for the fan in each cell (two total) and replace the belts on each fan assembly (two total). Refer to specifications.

The added cost is as follows:

Dollars (\$_____).

List approximate lead time refurbishment Parts (i.e. longest part lead-time) _____ weeks.

Notes:

1. Amount shall be shown in both words and figures. In case of discrepancy, the amount shown in words shall govern.

2. Prices listed on Bid Form acknowledge that work for Walnut Grove Middle School cannot begin until Summer Break.
3. The above amount does not include State of Texas Sales Tax.
4. The Base Proposal Work is intended to be performed during normal working hours, except for activities that create excessive noise or causes a disruption in building services. In these instances, work shall be performed only when scheduled by the Owner, after hours, or on weekends.
5. Buildings will not be available to contractors until summer. Summer Break starts Friday May 28, 2021. Phased work will need to be coordinated with the district.
6. All Base and Alternate Proposal work shall be substantially completed by 11:00 p.m., August 06, 2021.
7. Contractor shall include cost to work double shifts and/or weekends as required to complete project by required substantial completion date.
8. Contractor shall include any required equipment expediting cost and charges to complete the work within the timeline established based on the associated notice to proceed listed, site availability, and substantial completion date.

The undersigned affirms that the above stipulated base Proposal sum represents the entire cost per drawings, specifications, and addenda and that no claim will be made on account of any increase in wage scales, material prices, taxes, insurance, cost indexes, or any other rates affecting the construction industry and/or this project.

The undersigned Proposer agrees that this Proposal shall be good and may not be withdrawn for a period of 45 calendar days after the scheduled closing time for receiving Proposals.

The undersigned Proposer understands that the Owner reserves the right to reject any or all Proposals and to waive any informalities in the Proposal.

The Owner reserves the right to require Bonds of the successful Proposer. If written notice of acceptance of this Proposal is received within 45 days after date designated for opening of Proposals, the undersigned, within 10 days of receipt of the Contract, will sign and deliver to the Owner the contract and any required Performance Bond, Labor and Material Payment Bond and properly executed Insurance Verification Form required by the Owner.

Should the undersigned fail to deliver the signed Contract or the required Bonds or Insurance Form within the 10 day period, the Owner reserves the right to terminate the relationship.

TIME OF COMPLETION AND LIQUIDATED DAMAGES

1. The contract date will be established as the number of consecutive calendar days as set out on the proposal form from the "Notice-to-proceed" date issued by the Owner.
2. Failure of the Contractor to complete the Work by the contract date will result in damages being sustained by the Owner. Such damages are, and will continue to be, impracticable and extremely difficult to determine. Due consideration will be given to delays falling within agreed terms of the contract.

3. The Contractor will pay the Owner Five Hundred Dollars (\$500.00) for each calendar day of delay in finishing the Work in excess of time specified for completion, plus authorized time extensions. Execution of the Contract under these specifications shall constitute agreement by the Owner and Contractor that the amount indicated is the minimum value of the costs and actual damage caused by failure of the Contractor to Substantially Complete the Work within the allotted time, that such sum is Liquidated Damages and shall not be construed as a penalty, and that such sum may be deducted from payments due the Contractor if such delay occurs.

Addenda: The undersigned hereby acknowledges receipt of the following addenda to the Specifications, all of the provisions and requirements of which addenda have been taken into consideration in the preparation of this Proposal.

Addendum No. _____ dated _____ Addendum No. _____ dated _____

Addendum No. _____ dated _____ Addendum No. _____ dated _____

Addendum No. _____ dated _____ Addendum No. _____ dated _____

Date: _____

Signed _____

Title _____

Name of Firm _____

Organized as a: (Mark one)

Proprietorship _____

Partnership _____

Corporation _____

Under the law of the State Of:

(Date)

Legal Address:

Telephone No. _____

Fax No. _____

E-mail _____

If Proposal is by a corporation, affix seal above address.

END OF PROPOSAL FORM

SECTION 23 00 00

HEATING, VENTILATING, AND AIR CONDITIONING (HVAC) WORK

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. The work in this Division covers all HVAC work specified in all Division 23 Specification Sections. Comply with other Division 23 Specification Sections as applicable. Refer to other Divisions for coordination of work with other trades.
- B. Provide all labor, materials, equipment, transportation, tools and services, and perform all operations required for, and reasonably incidental to, the providing of mechanical system work described in this Division.
- C. Contractor shall include providing instructions and demonstrations of the operation of each installed system in its totality to the Owner. Refer to Division 23 specifications for specific Owner training requirements. As a minimum include training of the Owner's Operating Personnel on:
 - 1. Safety Shut-Down of HVAC Equipment.
 - 2. Sequence of HVAC Equipment Operation.
- D. Operation and Maintenance of all HVAC Equipment.
- E. The Conditions of the Contract, including the General Conditions and Supplementary Conditions, and Division 1 - General Requirements, apply to work covered by this section.

1.2 DESCRIPTION OF HVAC DEMOLITION WORK

- A. Contractor shall remove several items associated with the existing cooling towers. Materials to be removed shall be as indicated and noted on the scope document and as required to facilitate the new installations.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 INSTRUCTION OF OWNER'S PERSONNEL

- A. Prior to Substantial Completion, fully instruct the Owner in the operation, adjustment, and maintenance of products, equipment, and systems; including, but not limited to all HVAC equipment, related accessories and components. Owner shall operate all

systems in cooperation with Contractor for a period of at least five (5) working days prior to, or shortly after, Substantial Completion.

- B. Arrange for services of qualified manufacturer's representatives to fully instruct Owner on specialized portions of installations.
- C. Arrange for each installer of equipment that requires regular maintenance to meet with Owner to provide instruction in proper operation and maintenance. If installers are not experienced in procedures, provide instruction by trained manufacturer's representatives. Include detailed review of the following items:
 - 1. Operating and Maintenance Manuals.
 - 2. Record Documents.
 - 3. Spare Parts and Materials.
 - 4. Lubricants.
 - 5. Cleaning.
 - 6. Standard and Extended Warranties.
 - 7. Maintenance Requirements, Agreements, and similar continuing commitments.
- D. As a part of these instructions for operating equipment, demonstrate the following procedures:
 - 1. General System Operating Instructions.
 - 2. Safety Procedures.
 - 3. Economy and Efficiency Adjustments.
- E. Submit a complete record of instructions as a part of maintenance instructions and the data book (Operations and Maintenance Manual) given to Owner. For each instructional period, supply the following data:
 - 1. Date of Instruction.
 - 2. System or Equipment Involved.
 - 3. Names of Persons Giving Instructions.
 - 4. Other Persons Present.
 - 5. Time Period (in hours/minutes) Instruction Provided.
- F. Amount of time to be devoted to instructional sessions shall be reasonable and consistent with the size and complexity of equipment and systems installed and as specified in other sections of these specifications.

3.2 DISRUPTION OF EXISTING FUNCTIONS

- A. Access: Access to and use of the existing facilities and site will be restricted, and shall be under the direction and control of the Owner.
- B. Disruptions: Maintain existing mechanical, and other existing systems, and maintain all existing functions in service except for those specific portions scheduled for disruption. Where existing functions to remain in use are disrupted, they shall be fully restored after disruption, in full compliance with this Division of the Specifications for new work, as quickly and as reasonably possible.
- C. Scheduling of Disruptions: Seek and obtain approval by the Owner two (2) weeks in advance of each event. Failure to schedule such disruptions in advance will result in the Contractor being stopped or rescheduled by the Owner without added cost to the Owner.
- D. Notice of Disruption: Date, time and duration of each disruption shall be subject to the Owner's prior written approval and shall include the following information in the form of a memorandum submitted by the Contractor to the Owner's Representative for approval by the Owner:

Facility/System	Date	Starting Time	Duration
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- E. Emergency Disruptions: When circumstances preclude obtaining advance approval as specified above; make request immediately on knowledge of the requirement, and perform the work so as to cause the minimum amount of disruption, for the minimum duration.
- F. Notification: Notify the Owner's Representative and the Owner immediately, by telephone and then in writing, as changes and additions to the scheduled disruption requirements become known.
- G. Duration:
 - 1. Complete as large a portion of the work as possible before initiating disruption.
 - 2. Maintain adequate personnel, supplies, materials, equipment, tools, and other resources at job site to avoid unnecessary delay in resumption of normal services.
 - 3. Keep duration of disruption as short as possible.
 - 4. During the disruption, perform only the amount of work that requires the disruption, so as to minimize duration of disruption.

3.3 SCHEDULE OF WORK

- A. Contractor and all system installers for each Section of these Specifications shall realize that the present building houses a completely functioning facility that must continue in full operation 12 hours per day during the school year. Outages of any kind cannot occur, except only when and as the Owner's Representative or Owner may direct

otherwise. Under no conditions shall any work be done in the present building that would interfere with its natural or intended use unless special permission is granted by the Owner.

- B. Work under the various specification sections must be expedited and close coordination will be required in executing this work. Various system installers shall perform their portion of the work at such times as directed so as to insure meeting scheduled dates, and to avoid delaying the work of other trades. Owner's Representative will verify scheduled times of work in the various areas involved, each system installer shall cooperate in establishing these times and locations and the system installers shall process their work so as to insure proper execution and completion.
- C. Under no conditions shall any work be done in the present building that would interfere with its natural or intended use, unless special permission is granted by the Owner. This is particularly applicable where new connections are to be made to existing lines, services, or items of equipment in the present building or where existing equipment items or services in that building are to be replaced or modified in any way.
- D. All other modifications to existing equipment, shall be accomplished at times scheduled so as not to interfere with the normal use of the building and the existing systems to which connection is to be made.
- E. The use of any type of fastening or hanging device which requires the use of shots or explosives of any nature shall not be used. Explosives shall also not be used for any excavation inside an existing building.
- F. Where required by conditions at the site, Contractor shall perform portions of work at night or at other such times as may be required to insure completion of work on schedule. No additional compensation to the Contractor will be paid for such work or required utilities.
- G. Contractor shall be available, as deemed necessary for job progress by the Owner, for weekly progress and coordination meetings with the Engineer and other Owner's Representatives, when required. These meetings shall be used to monitor progress of submittals, receipt of materials, construction progress, cooperation of trades, field coordination by the Contractor, and to resolve unforeseen conditions in an expeditious manner. Failure to attend meetings, to respond in a timely manner to requests for information, or to progress at an acceptable pace to maintain the construction schedule shall constitute a delay by the Contractor and may be cause for assessment of fees to the Contractor as outlined in the front-end documents.

3.4 CLEAN UP

- A. Remove all debris, rubbish, and materials resulting from cutting, demolition, or patching operations from the work area on a daily basis.
- B. Where such work generates dust and debris take all precautions necessary to prevent dust and debris from accumulating in or on other mechanical and electrical equipment. This may require adding temporary filter media over ventilation air openings of certain types of equipment.
- C. At the conclusion of this work clean all building materials, mechanical equipment and electrical equipment so that all items are dust free and operating properly. Where dust causes damage to equipment the Contractor shall make repairs to this equipment at no cost to the Owner.
- D. Transport all demolished materials and equipment indicated above in approved containers and legally dispose of all debris off site in a manner approved by the Engineer and Owner.

END OF SECTION

SECTION 23 05 00

COMMON WORK RESULTS FOR HVAC

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The Conditions of the Contract including the General Conditions, Supplementary Conditions, and Division One, shall apply to work of this Division, whether attached or not.
- B. The requirements specified in this Section shall be applicable to work specified in other Sections within this Division.

1.2 SCOPE OF WORK

- A. All Division 23 sections of these specifications shall include all labor and material to complete the entire mechanical systems as specified and shown on the Drawings.
- B. All work shown and specified shall be completely installed and connected by mechanics properly qualified to perform the work required. All work shall be left in a satisfactory operating condition as determined by the Owner and Owner's Representative.
- C. Provide all services and perform all operations required in connection with, or properly incidental to, the construction of complete and fully operating systems with all accessories as herein specified and shown on the Drawings.

1.3 GENERAL

- A. The specifications are intended to describe and illustrate systems which will fit into available spaces, and which will insure complete and satisfactorily operating installations. Contractor shall coordinate the proper fitting of all material and apparatus into the existing cooling towers. Interferences with other portions of work, or the building structure, shall be corrected before any work proceeds. Should changes become necessary on account of the failure of the Contractor to comply with these stipulations, Contractor shall make all necessary changes at no expense to the Owner.
- B. It is the intent of the Contract Documents to provide an installation complete and operational in every respect. In the event that additional details or special construction may be required for work indicated or specified in this section, or work specified in other sections, it shall be the responsibility of the Contractor to provide same as well as

to provide material and equipment usually furnished with such systems and required to complete the installation.

- C. Contractor sets forth that all personnel have the necessary technical training and ability; and that all work specified in this Division will be installed to the best standard of each trade, and will be complete and in good working order. If any of the requirements of the Drawings and specifications are impossible to perform, or if the installation when made in accordance with such requirements will not perform satisfactorily, report same to the Engineer promptly after discovery of the discrepancy.
- D. No extra compensation will be allowed for extra work or changes caused by failure to comply with the above requirements.

1.4 EXAMINATION OF THE SITE

- A. Contractor shall visit the site, verify all items indicated on the Drawings or specified, and familiarize himself with the work conditions, hazards, grades, actual formations, soil conditions, points of connection, utility locations, and local requirements.
- B. Contractor shall take these conditions into consideration, and the lack of specific information on the Drawings shall not relieve the Contractor of any responsibility.
- C. All site visits shall be coordinated and scheduled with the Owner.

1.5 CUTTING AND PATCHING

- A. Excessive cutting of the building structure, walls, floors, ceilings, roof, etc., will not be permitted. No structural member shall be notched or cut unless specifically shown on the Drawings, or unless such cutting is authorized by the Engineer.
- B. Provide for all holes or openings of proper size and shape as may be necessary for the proper installation of work specified in Division 23, consulting with the Engineer regarding proper locations and sizes.

1.6 CODE REQUIREMENTS

- A. Contractor is required to comply with the requirements of all National, State, and local codes and utility companies having jurisdiction. In no case does this relieve the Contractor of the responsibility of complying with the requirements of these specifications and Drawings where specified conditions are of higher quality than the requirements of the above specified offices. Where requirements of the specifications and Drawings are below the requirements of the above offices having jurisdiction, the Contractor shall make installations in compliance with the requirements of the above offices and shall notify the Engineer promptly.

- B. Contractor shall comply with the requirements and standards set forth by, but not limited to, the following:
1. (NFPA) National Fire Protection Association.
 2. (OSHA) Occupational Safety and Health Administration.
 3. (NEC) National Electric Code.
 4. (IECC) International Energy Conservation Code.
 5. Local Plumbing Code.
 6. Local Building Code.
 7. Local Mechanical Code.
 8. Local Fire Code.
 9. Local Energy Code.
- C. Contractor shall obtain all permits, inspections, and approvals as required by all authorities having jurisdiction. Fees and costs incidental to these permits, inspections, and approvals must be assumed and paid by the Contractor.

1.7 RECORD DRAWINGS

- A. Contractor shall, during the execution of work, maintain a complete set of "Record Drawings" upon which all locations of equipment, ductwork, piping, and all deviations and changes in the work shall be neatly recorded for use in producing "As Builts" at Project Close- Out. This shall include the incorporation of all Supplemental Drawings issued during the Construction Period.
- B. All "Record Drawings" shall be reviewed monthly during the Construction Period, along with the monthly Pay Application Request.

1.8 RECORDS AND INSTRUCTIONS FOR OWNER

- A. Accumulate during the job's progress the following set:
1. Warranties and guarantees and manufacturer's directions on equipment and material covered by the Contractor.
 2. Equipment and fixture brochures, wiring diagrams, and control diagrams.
 3. Copies of reviewed Shop Drawings, and material and equipment submittals. Copies of rejected submittals and Shop Drawings are not to be provided.
 4. Operating instructions for heating and cooling and other mechanical systems. Operating instructions shall include recommended maintenance and seasonal change-over procedures.
 5. Other data and drawings required during construction.
 6. Repair parts lists of all major items and equipment including name, address, and telephone number of local supplier or agent.
 7. Information shall be provided in PDF format on a USB drive provided to the Owner.
 8. Provide copies of all City Inspection Certificates of Approval.

9. Provide Contractor's Certification Statement that all equipment furnished and all work performed is in compliance with all applicable codes referenced in these specifications, or those which are currently in effect.
- B. Provide not less than one (1) day of operating instructions, during the adjustment and testing period, to the Owner's operating personnel in order to familiarize them with the proper care and operation of all equipment.
- C. All of the above data should be submitted to the Engineer for approval at such time as the Contractor asks for his last payment request, just prior to his final payment request. In no case will any portion of retainage be released until these documents are submitted and accepted.
- D. Refer to related portions of Division 1 for Project Close-Out requirements, Operation and Maintenance Data, Warranties, and other related certificates.

1.9 SHOP DRAWINGS AND SUBMITTALS

- A. Contractor shall submit to the Engineer shop drawings, product submittals, and catalog data on all ductwork, equipment, and materials designated on the Drawings and specified herein. A minimum of one electronic copy of each shall be submitted. Additional copies will be required when indicated by the Engineer and as required for project coordination.
- B. Each submittal will be reviewed for compliance with general requirements of design and arrangement only; it is not a contract document and acknowledgement of compliance does not relieve the Contractor from responsibilities for performance of the work in compliance with all provisions and requirements of the Contract Documents. Job measurements and the coordination of all dimensions for proper fit of all parts of the work and performance of all equipment supplied to meet specification requirements are, and remain, specific responsibilities of the Contractor.
- C. Shop Drawings shall be furnished by the Contractor for the work involved after receiving approval on the make and type of material and in sufficient time so that no delay or changes will be caused. This is done in order to facilitate progress on the job, and failure on the part of the Contractor to comply shall render him liable to stand the expense of any and all delays, changes in construction, etc., occasioned by his failure to provide the necessary detailed drawings. Also, if the Contractor fails to comply with this provision, the Engineer reserves the right to go directly to the manufacturer he selects and secure any details he might deem necessary; and, should there be any charges in connection with this, they shall be borne by the Contractor.
- D. Shop Drawings submitted shall not consist of manufacturers' catalogues or tear sheets therefrom that contain no indication of the exact item offered. Rather, the submission on individual items shall designate the exact item offered and accessories as specified.

- E. Shop Drawings are not intended to cover detailed quantitative lists of heating specialties, valves, air distribution devices, fixtures, and similar items, as the Drawings and specifications illustrate those items; and it is the Contractor's responsibility to procure the proper quantities required to comply with the established requirements.
- F. Various material submissions of such items shall be assembled in brochures or in other suitable package form and shall not be submitted in a multiplicity of loose sheets. Cover sheets for each item submitted shall have sufficient bare space to allow for shop drawing review stamps.
- G. Contractor shall process his submitted data to insure that it conforms to the requirements of the Drawings and specifications, and there are no omissions and/or duplications.
- H. Shop Drawings and Submittals shall be accompanied by certification from the Contractor, and firm preparing such, that Shop Drawings have been checked for, and are in compliance with, the Contract Documents.
- I. All Submittals and Shop Drawings shall have been submitted for review by the Engineer and Engineer within 90 days after Contract Award Date.

1.10 COOPERATION

- A. Coordinate all work indicated in Division 23 with work specified in other Divisions to assure proper and adequate interface with other portions of the work.
- B. Maintain contact and be familiar with the progress of the general construction and the timely installation of sleeves and inserts, etc., before concrete is placed. Install the required systems in their several stages, at the proper time to expedite the work and avoid unnecessary delays in the progress of other portions of the work.
- C. Should any questions arise between work specified in Division 23 with respect to other portions of work specified in other Divisions of the Specifications, reference shall be made to the Engineer for instructions.

1.11 MATERIALS AND EQUIPMENT

- A. All materials and equipment purchased shall be new. No used or reconditioned equipment will be allowed.
- B. Substitutions: The products of other manufacturers will be acceptable; only if, in the opinion of the Engineer, the substitute material is of a quality as good or better than the material specified, and will serve with equal efficiency, maintainability, and dependability, the purpose for which the items specified were intended.

C. Listed Manufacturers:

1. Manufacturers listed in a product or system specification are those manufacturers considered capable of manufacturing products conforming to the specification requirements, and are listed therein to establish a standard.
2. The "listing" of a manufacturer does not imply "acceptance" or "approval" of any standard product of that manufacturer.
3. Products offered by listed manufacturers shall be equal to, or superior in all respects to, that specified by named products; and shall meet or exceed specification requirements.
4. The description of specific qualities takes precedence over the reference standards and the description of qualities and reference standards together take precedence over the named product of listed manufacturers.

D. Product Options:

1. Products specified only by Reference Standards or by Description only means that any product meeting those standards or descriptions, by any manufacturer, will be considered.
2. Products specified by naming several products or manufacturers means that only the manufacturers named will be considered.
3. Products specified by naming only one product and manufacturer means that no option exists unless a substitution is accepted. Submit a request for substitution for any product or manufacturer not specifically named.
4. Products specified by Description, Reference Standard, and naming several products or manufacturers means that any product and manufacturer named meeting those descriptions and standards will be considered. Submit a request for substitution for any product or manufacturer not specifically named.

E. Limitations or Substitutions:

1. During Bidding Period, Instructions to Bidders, in Division 1, will govern times for submitting requests for substitutions under requirements specified in this Section.
2. No later than ten (10) days prior to the bid date, Contractor shall notify the Engineer in writing of any desired substitutions of products in place of those specified. These requests will be considered; and, if a favorable response is determined, this will be documented in the form of an Addenda.
3. Substitutions will not be considered when indicated or implied on Shop Drawings or product data submittals without separate formal request, when requested directly by subcontractor or supplier, or when acceptance will require substantial revision of Contract Documents.
4. Substitute products shall not be ordered or installed without written acceptance.
5. Only one request for substitution for each product will be considered. If substitution is not accepted, Contractor shall provide specified product.
6. Engineer will determine acceptability of any and all substitutions.

- F. It is fully the Contractor's responsibility to assemble and submit sufficient technical information to fully illustrate that the material or equipment proposed for substitution is equal or superior, as the Engineer is under no obligation to perform the service for the

Contractor. The proposal shall be accompanied by manufacturer's engineering data, specification sheet, and a sample, if practical or if requested or specified. In no event shall a proposal for substitution be cause for delay of work. This shall include a detailed comparison to each product specification paragraph.

- G. Should a substitution be accepted under the above provisions, and should the substitution prove defective or otherwise unsatisfactory for the intended service, within the warranty period, the Contractor shall replace the substitution with the equipment or material specified, and on which the specifications required him to base his proposal.
- H. No substitutions will be considered contingent upon pending certification and rating agency approvals. Such certifications and ratings shall be in effect at the time of bidding.

1.12 EQUIPMENT SIZES AND REQUIREMENTS

- A. Space allocations in machinery and mechanical equipment spaces are based on equipment scheduled in each case. Should the Contractor request a substitution for equipment of another make that requires more space in any critical dimension, the Contractor shall submit, together with other submittal data on the equipment, prints of drawings indicating how the equipment may be installed, indicating room for servicing and revisions in piping or ducting and any other details necessary for the Engineer to form a judgment as to the suitability of the substitute material, as to performance, suitability for the space and other variables.

1.13 STORAGE AND PROTECTION OF MATERIALS

- A. Store and protect materials and equipment.
- B. Contractor shall provide storage space for protection and storage of his materials and assume complete responsibility for all losses due to any cause whatsoever. All storage shall be within the property lines of the building site, and as directed by the Engineer. In no case, shall storage interfere with traffic conditions in any public or project thoroughfare.
- C. All work and material shall be protected at all times. Contractor shall make good any damage caused, either directly or indirectly, by his workmen. He shall be responsible for safe handling of all mechanical equipment and shall replace, without charge, all items damaged prior to acceptance by the Owner.
- D. On site storage shall not be inside the building during construction progress, but shall be in approved trailers or as specifically approved otherwise by the Engineer. Storage inside the building shall only be allowed when so allowed by the Engineer.

1.14 EQUIPMENT STANDARDS

- A. All basic materials and equipment shall be standard catalog products of a reputable manufacturer and shall essentially duplicate equipment which has been in satisfactory service for at least one (1) year.
- B. First of a kind new technology devices will not be considered.
- C. Accessory equipment that is required to make a complete and functioning system that is not of the same manufacturer furnishing the basic materials or equipment shall carry the guarantee of the basic material or equipment manufacturer and repair and replacement parts shall be available through normal trade channels locally.

1.15 CLEAN UP

- A. Contractor shall be responsible for cleaning up after and during all work performed under this Division of the Specifications.
- B. Contractor shall, on a daily basis, remove construction trash and debris accumulation to minimize the entrance of dust, dirt, and debris in piping, ductwork, and mechanical equipment.
- C. At the completion of construction, just prior to Substantial Completion and sustained operation of equipment, thoroughly clean the inside of piping, ductwork, and equipment.
- D. Refer to Division 1.

1.16 FINAL CONSTRUCTION REVIEW

- A. Schedule: Upon completion of the work specified in Division 23, there shall be a final construction review of the completed mechanical systems installations. Prior to this walk-thru, all work specified in this Division shall have been completed, tested, adjusted, and balanced in its final operating condition and the preliminary test report shall have been submitted to and approved by the Engineer.
- B. Personnel: A qualified person representing the Contractor must be present at this final construction review to demonstrate the system and prove the performance of the equipment.
- C. Building mechanical systems shall have been in operation for a minimum of 15 days and Test and Balance work shall be substantially complete prior to this review.
- D. Exceptions to the aforementioned requirements will be considered on a case-by-case basis dependent on the size and type of project, as well as construction schedule limitations.

1.17 CERTIFICATIONS

- A. Before receiving final payment, the Contractor shall certify that all equipment furnished and all work done is in compliance with all applicable codes mentioned in these Specifications.
- B. Provide copies of all applicable approved notices and inspection certifications from the various inspections conducted by the Local Code Enforcement Authorities.

1.18 GUARANTEE

- A. The guarantee provision of this specification requires prompt replacement of all defective workmanship and materials occurring within one year of final job acceptance, Substantial Completion, or as defined by Extended Warranty Contracts. This includes all work required to remove and replace the defective item and to make all necessary adjustments to restore the entire installation to its original specified operating condition and finish at the time of acceptance.
- B. The Contractor shall also guarantee that the performance of all equipment furnished and installed under this Division of the Specifications shall be at least equal to the performance as called for in the specifications and as stated in the equipment submittals. Should there be indication that the equipment and installation is not producing the intended conditions, the Contractor shall make further tests as the Owner's Representative may direct to demonstrate that the equipment installed meets the specifications and is delivering the capacity specified or called for on the Drawings.
- C. If there is any indication that the equipment does not meet the specified quantities, the Contractor shall, at his expense, institute a program to demonstrate the adequacy of the installation. This program shall include all necessary testing and testing equipment. Should the Contractor not have the equipment or technical skill to perform the tests, it shall be his responsibility to employ recognized experts to perform the tests and shall provide certified laboratory tests, certified factory reports and work sheets, or other certified data to support results of any tests required.

END OF SECTION

SECTION 23 65 00**INDUCED DRAFT CROSSFLOW COOLING TOWERS****SCOPE OF WORK****PART 1 - GENERAL****1.1 RELATED REQUIREMENTS**

- A. Comply with General Front-End Requirements, and all referenced documents.

1.2 SCOPE CLARIFICATION

- A. The existing cooling towers consist of two (2) factory-assembled, twin-cell, induced draft, crossflow type towers with double side entry and vertical air discharge as manufactured by Baltimore Aircoil Company. Twin cell tower assembly consists of two cells which are a Baltimore Model No. 3240-2, Series 3000, packaged galvanized steel tower with stainless steel basins capable of cooling 1410 GPM from 95 Deg. F. to 85 Deg. F. with 78 Deg. F. wet bulb temperature. This results in a total cooling effect of 470 tons at 3 GPM per ton. They have outlet basin sumps per tower, one (1) bottom bypass connection on the far tower cell, and each cell has two (2) hot deck connections on the top of the tower. Each cell has Stainless Steel Hot and Cold basins, FRP side panels, and galvanized structural and all internal members.
- B. The following scope of work is intended to give an overview of the parts and pieces of the tower that need to be refurbished or replaced. The contractor is responsible for providing associated fasteners, bolt kits, or other items as needed to provide a comprehensive replacement and refurbishment scope of work.
- C. The scope of work listed is intended to detail the items that are observable or appear to need refurbishment or replacement. Other items that may not be specifically listed that are required to accommodate the replacement or refurbishment of the parts and pieces noted shall be included by the installing contractor to allow for associated scope to be accomplished.

1.3 SCOPE SUMMARY (BOTH CELLS)

- A. Demolition Scope:
 - 1. Remove existing galvanized screen from inlet side of all towers and store for re-use and re-installation at conclusion of project.
 - 2. Remove existing FRP inlet louvers and all associated sheet fill and sheet fill support hangers and structure.

3. Remove existing internal walkways and walkway supports.
4. Remove existing make-up water valve in Cell closest to building (Cell 1).
5. Remove existing lower and middle horizontal and vertical support members that have failed.
6. Remove horizontal members at center motor support that have failed.
7. Remove galvanized hot water basin girt supports.
8. Remove galvanized water baffles located at the top of the fill media and mounted to the underside of the hot water basin.

B. Replacement Scope:

1. Provide new internal walkway and associated supports.
2. Replace or clean and epoxy coat corner support columns and associated bolts.
3. Provide new make-up water valve assembly in tower closest to building (Cell 1).
4. Provide new support structure members:
 - a. Horizontal mechanical screen support pipes.
 - b. Lower fill support channels
 - c. Vertical end frame supports
 - d. Middle channel long girt eliminators
 - e. Middle channel long girt louver
 - f. Middle channel column support.
5. Provide new wiring harness and conduit throughout interior of tower.
6. Provide new fill with integral inlet louvers, fill and drift eliminators. Fill shall be one of the following:
 - a. Block type fill similar to EVAPCO Cross-Pak, supported from cold deck basin.
 - b. Sheet type fill similar to BAC BACross or VersaCross, supported from a new fill support structure and hanger system below the hot deck basin.

C. Refurbishment Scope:

1. Epoxy coat the bottom flange for Cell 2 that is available for bottom bypass connection.
2. Clean basins, outlet sumps, and hot deck free of all debris.
3. Provide a new angle iron support for condenser water supply lines exiting tower. Current support is bowing.
4. Brush and epoxy coat the make-up water valve plates in both cells.

D. Alternate No. 1 Scope:

1. Provide new nozzles in all four (4) hot decks equal to BAC XF nozzles.

E. Alternate No. 2 Scope:

1. Provide new shaft kits for both cells.
2. Provide new belts for both fans.

PART 2 - PRODUCTS

2.1 PRODUCTS

- A. Refer to Specification Section 23 65 01 for all Products to be used.

PART 3 - EXECUTION

3.1 DELIVERY AND PROTECTION

- A. Include delivery of all equipment specified to the site.
- B. All equipment shall be handled carefully to avoid damage and be protected from exposure to the weather and dirt. All equipment shall be examined upon delivery to the site and evidence of abuse, damage, or exposure to weather and dirt shall be grounds for refusal to accept individual pieces of equipment. Rejected items shall be replaced promptly at no cost.

3.2 INSTALLATION

- A. Refer to Specification Section 23 65 01.

END OF SECTION

SECTION 23 65 01**INDUCED DRAFT CROSSFLOW COOLING TOWERS****(STAINLESS STEEL BASINS/REFURBISHMENT)****PART 1 - GENERAL****1.1 RELATED REQUIREMENTS**

- A. Comply with General Front-End Requirements, and all referenced documents.

1.2 SCOPE

- A. Refer to separate Cooling Tower Refurbishment Scope document for scope of refurbishment. The items listed in this specification are provided to establish the minimum requirements of the parts and pieces required for the refurbishment items listed.
- B. All items shall be installed in the field by the refurbishment contractor.

1.3 QUALITY ASSURANCE

- A. All equipment and materials shall be new and of the best quality.

1.4 SUBMITTALS

- A. Product Data: Submit complete manufacturer's descriptive literature and installation instructions indicating all accessories and items furnished.
- B. Shop Drawings:
 - 1. Provide cut sheets on all specified components and accessories.
 - 2. Provide wiring diagrams for motors or other accessories requiring electrical power supply and control wiring modifications.

1.5 PRODUCT HANDLING

- A. Cover and protect material in transit and at site. Material not properly protected and stored and which is damaged or defaced during transit or storage shall be rejected and replaced at no cost.
- B. Storage and protection of materials shall be in accordance with General Requirements.

PART 2 - PRODUCTS

2.1 PRODUCTS

- A. The existing cooling towers consist of two (2) factory-assembled, twin-cell, induced draft, crossflow type towers with double side entry and vertical air discharge as manufactured by Baltimore Aircoil Company. Twin cell tower assembly consists of two cells which are a Baltimore Model No. 3240-2, Series 3000, packaged galvanized steel tower with stainless steel basins capable of cooling 1410 GPM from 95 Deg. F. to 85 Deg. F. with 78 Deg. F. wet bulb temperature. This results in a total cooling effect of 470 tons at 3 GPM per ton.
- B. General Construction of all structural steel angles, channels, and all bolts, nuts and washers shall be of all heavy gauge ASTM G-235 galvanized steel. Additional zinc rich compound shall be applied over edges of structural steel. All steel panels and surface elements shall be made of heavy gauge G-235 galvanized steel. The casing panels are made of non-combustible corrosion resistant fiberglass-reinforced polyester (FRP) for the sides. FRP panels shall be treated with ultra-violet ray inhibitors to prevent U.V. degradation.
- C. The cold water collection basin floor and sides are constructed of heavy gauge Type 304 stainless steel panels and structural members. Basin has a depressed center section with drain and clean out fittings. There is a depressed bottom, side outlet sump with anti-vortexing device and large area, lift out, hot dip galvanized perforated steel strainers for each cell. There is one (1) brass float operated make-up valve with large diameter plastic float for each tower cell, total of two (2). There is a bottom outlet in Cell 1 for the bypass valve piping with internal baffling to eliminate turbulence of the operating water level.
- D. The Hot water distribution basin is an open gravity type constructed of Type 304 stainless steel finished with corrosion resistant latex coating. Distribution weirs and plastic metering orifices are provided to assure even flow of water over the wet deck surfaces. Sliding warm water distribution basin covers with full size grip handle made of Type 304 stainless steel are provided to prevent debris and algae build-up in the basin. The hot deck service area appears to be designed for a 50 PSF line load, or a 200 pound concentrated load to include for deck and hot water basins. Replacement metering orifices shall be equal to BAC XF and shall match existing orifice size.
- E. The wet deck (fill), drift eliminators and air inlet louvers shall be one of the following:
 - 1. Sheet Fill: Waveformed sheets of polyvinylchloride which shall be impervious to rot, decay, fungus, or biological attack. Drift loss shall be limited to less than 0.2% of the total water circulated. Eliminators shall be three pass design. PVC shall be listed by the Factory Mutual Approval Guide. Fill shall incorporate a combination

- louver, fill, and drift eliminator design. Sheet fill shall be supported from the top portion of the tower below the hot deck. Sheet fill shall be equal to BACross Replacement Fill Kits or VersaCross Replacement Fill Kits.
2. Block Fill: Waveformed blocks of polyvinylchloride which shall be impervious to rot, decay, fungus, or biological attack. Drift loss shall be limited to less than 0.2% of the total water circulated. Eliminators shall be three pass design. PVC shall be listed by the Factory Mutual Approval Guide. Fill shall incorporate a combination louver, fill, and drift eliminator design through three separate blocks if needed (louver/fill, fill, and fill/drift eliminator). Block fill shall be supported from the bottom portion of the tower and shall be supported from the cold deck basin. Block fill shall be equal to EVAPCO CROSS-PAK.
- F. Air inlet louvers shall be fiberglass reinforced polyester (FRP) treated with UV inhibitors, or be UV inhibited FM approved heavy duty PVC and shall be integral with the new replacement fill (block or sheet type). Inlet louvers and fill are currently protected by heavy gauge, 1" x 1", galvanized steel screen with U-Shaped border secured to inlet of tower, which shall be re-installed.
 - G. Fans are fixed pitch, axial flow, heavy duty, cast aluminum alloy with a minimum of six blades.
 - H. The fan motor drive assembly shall consist of a cast aluminum fan sheave and a motor sheave in a vented enclosure protected from moist air discharge. Provide a one piece solid backed multi-grooved neoprene/polyester belt. Belt tension shall be adjusted from the motor base support assembly. The fan motors are 3 phase, 60 Hertz, 460 volts, two speed, 1800/900 RPM, single winding, variable torque, totally enclosed, premium efficiency motors. Motors are totally enclosed air-over type (TEAO) with special moisture protection on the windings, shafts, and bearings.
 - I. Two (2) warm water basin flange connections with balancing valves are currently installed per cell.
 - J. Each cell has existing basin heaters.
 - K. Access and Safety equipment:
 1. There are existing hinged access doors on both end walls for personnel access and entry into the fan plenum section.
 2. There are existing vibration cutout switches, one (1) for each fan.
 3. Provide new galvanized steel internal walkway between access doors for ease of maintenance of all internal tower components.
 - L. There are existing galvanized steel flumes for flow and equalization between cells to include weir gates to allow isolation of individual cold water basins.

PART 3 - EXECUTION

3.1 DELIVERY AND PROTECTION

- A. Include delivery of all equipment specified to the site.
- B. All equipment shall be handled carefully to avoid damage and be protected from exposure to the weather and dirt. All equipment shall be examined upon delivery to the site and evidence of abuse, damage, or exposure to weather and dirt shall be grounds for refusal to accept individual pieces of equipment. Rejected items shall be replaced promptly at no cost.

3.2 INSTALLATION

- A. Install all associated replacement parts and pieces.
- B. Install new fan inlet guards.
- C. Adjust belts for tension, and add oil as needed. Lubricate all bearings.
- D. Clean hot and cold water basins and any debris from fill.
- E. Connect any piping removed from tower, each connection to be made by use of a union or companion flange.
- F. Connect fan to electrical power supply where wiring harness is replaced. Operate fan and make any other necessary drive adjustments.
- G. Fill basin with water and adjust operating level with pumps and towers energized.
- H. Verify sequence of operation on tower bypass control.
- I. Verify correct setting of vibration cut-out switches.
- J. Verify correct operation of low water cut-out switches.
- K. Verify correct operation of basin heaters and thermostat.
- L. Verify correct operation of make-up water valves.
- M. Balance flow of water to each hot water distribution pan.

END OF SECTION