



Ahead of the Curve
in creative parking solutions

DESIGN BUILD CRITERIA DOCUMENTS
PROJECT MANUAL, VOLUME I

**DOWNTOWN PARKING
GARAGE, CITY OF
WINTER GARDEN,
FLORIDA**

WINTER GARDEN, FLORIDA

RFP #AS15-13012

MARCH 2015



WALKER
PARKING CONSULTANTS

CITY OF WINTER GARDEN
BID NOTICE / REQUEST FOR PROPOSALS
RFP # AS15-13012

Notice is hereby given that Sealed Proposals, one (1) original, six (6) copies and one (1) digital copy will be received by the City of Winter Garden located at 300 W. Plant Street, Winter Garden, FL 34787 up to **2:00 p.m. on Wednesday, April 29, 2015** from Design-Builders/Project Teams for the design and construction of a downtown parking garage as specified, and to be opened shortly thereafter on the same day and publicly read in the City Commission Chambers, Winter Garden City Hall, 300 West Plant Street, Florida 34787. Bid documents may be obtained at the City of Winter Garden's website at www.cwgd.com/garage or by contacting Amy Martello in writing at amartello@cwgd.com.

The intent of the project is for the design and construction of a parking garage to be located on an existing surface parking lot south of Tremaine Street and bound by S. Boyd Street on the east side and S. Lakeview Avenue on the west side. The scope of work includes all requirements for a complete, fully operational multi-story parking garage in downtown Winter Garden with a capacity of approximately 500 parking spaces.

All proposals/bids must be sealed and marked "AS15-13012 Downtown Parking Garage" and mailed or delivered to Amy Martello, City of Winter Garden, 300 W. Plant Street, Winter Garden, FL 34787. The City of Winter Garden will not be responsible for bids opened before the specified time due to envelopes not being properly addressed and/or marked as instructed in this notice. The City of Winter Garden reserves the right to reject any or all bids in whole or part and/or to accept or reject any items in the bid and waive any informalities. Intended proposers/bidders shall carefully read all instructions of the Request for Proposals and comply with all registration, pre-bid meeting and all other requirements.

The City of Winter Garden is an Equal Employment Opportunity Employer; all qualified applicants will receive consideration for employment without regard to race, color, creed, religion, sex, age, handicap, disability, ancestry, national origin, marital status, or any other basis prohibited by applicable law. Small business including minority, woman and service-disabled veterans are encouraged to participate.

Downtown Parking Garage
Per Criteria Package/Specifications
FOB Winter Garden, FL

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SECTION 001116 - INVITATION TO BID AND INSTRUCTIONS TO BIDDER

PROJECT IDENTIFICATION AND DEFINITIONS

- A. Owner will receive sealed Bids for:

The Development of a Design/Build Proposal for the complete Functional, Architectural, Structural, Mechanical and Electrical systems design and construction of a 500+ car parking structure for the City of Winter Garden, Florida, and associated site improvements as specified in scope of work, Section 011100. The term project refers to the New Parking Facility including the parking structure and associated sitework.

- B. Owner is: City of Winter Garden, 300 West Plant Street, Winter Garden, FL 34787.

- C. Design Criteria Professional (DCP) is: WALKER Parking Consultants/Engineers, Inc.
Address: 4904 Eisenhower Boulevard, Suite 150, Tampa, FL 33634.

- D. Project:

1. "AS15-13012 Downtown Parking Garage"
2. Project consists of providing all materials, labor, equipment, supervision and services required to build a ground plus two supported levels parking structure in accordance with these Contract Documents.

- E. Proposals will be received for single Design/Build contract including:

1. Professional design, general contract, excavations, site work and demolition, cast-in-place and/or precast concrete, steel, masonry, glass and glazing, thermal and moisture protection, painting, elevator, plumbing, electrical and all else as indicated in the Design/Build Specifications.

- F. Owner will receive Proposals as follows:

1. Proposals and design information, as required in Section 011100-1.6, Summary of Work, shall be submitted to:

Amy Martello
Office of the City Manager
City of Winter Garden
300 West Plant Street
Winter Garden, FL 34787

On or before 2:00 p.m. Friday, April 29, 2015.

Proposals and design information shall be submitted as follows:

Bind or package each set separately in opaque sealed envelopes and marked "AS15-13012 Downtown Parking Garage".

10.2 DOCUMENTS

- A. Contract between Owner and Contractor: Contract Documents listed in Agreement. Also see Section "Agreement Form."
- B. Design Criteria/Bid documents may be examined at the following places:
 - 1. Office of the City Manager
City of Winter Garden
300 West Plant Street
Winter Garden, FL 34787
 - 2. Walker Parking Consultants/Engineers, Inc.
4904 Eisenhower Boulevard, Suite 150
Tampa, FL 33634
- C. Design Criteria/Bid documents will be available for downloading from the City's website on or after March 18, 2015 to each potential Design/Builder providing a written request to the City of Winter Garden Contact as noted above.
- D. Complete sets of Bidding Documents shall be used in preparing Bids. Neither Owner nor DCP assume any responsibility for errors or misinterpretations resulting from use of incomplete sets of Bidding Documents.
- E. Owner and DCP in making copies of Bidding Documents available on above terms do so only for purpose of obtaining Bids on Work and do not confer license or grant for any other use.

10.3 BIDDER REGISTRATION

- A. All interested Bidders shall complete the 'Bidder Registration Form' attached at the end of this section and email, fax or deliver it to:
Amy Martello
Office of the City Manager.
amartello@cwgd.com
Fax 407-656-1073

10.4 QUALIFICATIONS OF BIDDERS

- A. To demonstrate qualifications to perform Work, each bidder must be prepared to submit within 7 days of Owner's request written evidence of types set forth in Supplementary Conditions, such as financial data, previous experience and evidence of authority to conduct business in jurisdiction where Project is located.
- B. Owner may make such investigation as it deems necessary to determine ability of Bidder to perform Work, and Bidder shall furnish to Owner all such information and data for this purpose as Owner may request. Owner reserves right to reject any Bid if evidence submitted by, or investigation of, such Bidder fails to satisfy Owner that such

Bidder is properly qualified to carry out obligations of Contract and to complete Work contemplated therein. Conditional Bids and voluntary alternates will not be accepted.

C. Bidding firms will not be considered qualified if:

1. Firm, or principals thereof, have defaulted on any contract, bid or bond within preceding 36 months, or;
2. Firm has had no previous experience in performance of Work being bid, or;
3. Firm, as name entitled, has not been in operation in this type of Work for period of 24 months prior to this bid date, or;
4. Firm has not been awarded any prior contracts of similar amount and kind, or;
5. Firm, or principals thereof, have failed in faithful performance during warranty or guarantee period on previous Work.
6. Firm is found to have misstated or omitted any material fact in this prequalification statement.

D. Each Bidder may be called upon to provide Owner with following information:

1. Comprehensive financial statement showing current balance of unencumbered net worth equal to at least 10% of value of anticipated bid price.
2. Comprehensive list of personnel and equipment available for performance of Work to be bid.
3. Complete list of all contract work performed, or under construction if contract(s) awarded within previous 5 yr period prior to bidding.

10.5 EXAMINATION OF CONTRACT DOCUMENTS AND SITE

A. Bidders shall carefully examine contract documents and site to obtain first-hand knowledge of existing conditions. No subsequent extras will be allowed due to any claim of lack of knowledge for conditions which can be determined by examining site and contract documents.

B. Submission of Bid shall constitute warranty that:

1. Bidder and all Subcontractors it intends to use have carefully and thoroughly reviewed Contract Documents and have found them complete and free from ambiguities and sufficient for purposes intended; further that,
2. Bidder and all workers, employees and Subcontractors it intends to use are skilled and experienced in type of construction represented by Contract Documents bid upon; further that,
3. Neither Bidder nor any of its employees, agents, suppliers or Subcontractors have relied on any verbal representations from Owner, DCP, or any of their employees, agents, or consultant, in assembling Bid figure; and further that,
4. Bid figure is based solely on Contract Documents, including properly issued written addenda, and not upon any other written representation.
5. Reference is made to Supplementary Conditions for identification of those reports of investigations and tests of subsurface and latent physical conditions at site or otherwise affecting cost, progress or performance of Work which have been relied upon by the DCP preparing Drawings and Specifications. These

reports are not guaranteed as to accuracy or completeness, nor are they part of Contract Documents. Before submitting its Bid, each bidder may, at its own expense, make such additional investigations and tests as it may deem necessary to determine its Bid for performance of Work in accordance with time, price and other terms and conditions of Contract Documents.

- C. Bidder shall identify, prior to bid, all errors and/or discrepancies in Contract Documents that would be apparent to reasonably diligent Bidder. In no case shall Bidder, if selected as Contractor, be permitted any extra amount of time or money to complete project, or expenses incurred as result of such errors or discrepancies.

10.6 RESOLUTION OF DISCREPANCIES AND AMBIGUITIES

- A. All questions about meaning or intent of Contract Documents shall be submitted to the City in writing. Address written inquiries to: Amy Martello at the City Manager's office.

Replies will be issued by Addenda mailed or delivered to all parties recorded by the City as having received Contract Documents for Bidding. Questions received less than 5 days prior to date for opening of Bids will not be answered. Only answers contained in formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

- B. Any Addendum issued during pre-bid period shall be included in Bid, shall become part of Contract Documents, and shall be acknowledged on Bid Form.

10.7 SUBSTITUTED MATERIAL AND EQUIPMENT

- A. Contract, if awarded, will be on basis of material and equipment described in Drawings or specified in Specifications without consideration of possible substitute or "or-equal" items. Whenever it is indicated in Drawings or specified in the Specifications that substitute or "or-equal" item of material or equipment may be furnished or used by Contractor if acceptable to Engineer/Architect, application for such acceptance will not be considered by Engineer/Architect until after "effective date of Agreement."
- B. In advance of notice of Award, apparent successful Bidder, and any other Bidder so requested, will within seven days after day of Bid Opening submit to Owner list of substitutions proposed for products or materials specified for Project. After Award of Contract, procedure for submittal of any such application by Contractor and consideration by DCP is set forth in Division 1 Sections, "Product Requirements" and "Product Substitution Procedures."

10.8 BASIS FOR BIDS

- A. Bids are based on lump sum contract.

10.9 PREPARATION OF BIDS

- A. Bid Form is bound herewith. Bid Forms must be completed in ink or by typewriter.
- B. Bids must be made in form given in this Project Manual. No oral, telephonic or telegraphic Bids will be considered. Bids shall be signed by Bidder giving full name and business address. State whether Bidder is individual, partnership or corporation.
- C. Each Bidder shall fill in all blanks on Bid Forms and quote on all alternates required. State all quotations in words and figures. In case of discrepancy between amount stated in words and amount stated in figures, amount stated in words shall govern. Entire Bid shall be without interlineation, alteration or erasure.
- D. Bids by corporations shall be executed in corporate name by president, vice-president or other corporate officer (accompanied by evidence of authority to sign) and corporate seal shall be affixed and attested by secretary or assistant secretary. Corporate address and state of incorporation shall be shown below signature.
- E. Bids by partnerships shall be executed in partnership name and signed by partner. Partner's title must appear under partner's signature and official address of partnership must be shown below signature.
- F. Bids not signed by individuals making them shall have attached thereto power of attorney evidencing authority to sign Bid in name of person for whom it is signed.
- G. All names must be typed or printed legibly below signature.

10.10 BID SECURITY

- A. Each Bid shall be accompanied by certified check or Bid Bond in amount of 5% of base Bid, made payable to Owner. Bid Bond must be issued by surety licensed to conduct business in state where Project is located. Bid Security shall insure execution of Agreement and furnishing of Performance and Payment Bonds by successful bidder.
- B. In event successful Bidder fails or refuses to execute Agreement and furnish required Bonds within 15 days after receiving Notice of Award, Bid Security of that Bidder may be retained by Owner as liquidated damages, but not as penalty.
- C. Bid Security will be returned to all Bidders except 3 lowest Bidders within 7 days after Bid opening. Bid Security of 3 lowest Bidders will be returned within 7 days after Owner and accepted Bidder have executed Agreement and Performance and Payment Bonds have been approved by Owner. If required Agreement has not been executed within 60 days after Bid opening, Bid Security of any Bidder will be returned upon its request, provided it has not been notified of acceptance of its Bid prior to date of such request.
- D. Therefore, Owner reserves right to hold Bids of 3 lowest Bidders for period of 60 days, during which time above designated Bidders may not withdraw their Bids and Bid securities.

10.11 PERFORMANCE BOND, LABOR AND MATERIAL PAYMENT BOND AND INSURANCE

- A. Bidder to whom award is made will be required to furnish Performance and Labor and Material Payment Bonds in accordance with General Conditions. Bidder shall deliver said Bonds to Owner within 15 days after Notice of Award.
- B. Bidder shall include premiums for Bonds in its Bid. See Section "Bonds and Certificates" for bond form information. Bonds shall be dated same date as Agreement.
- C. Bidder to whom award is made shall be required to furnish Owner with insurance coverages as set forth in General and Supplementary Conditions. Bidder shall include all premiums for insurance in its Bid.

10.12 SUBCONTRACTOR LISTING

- A. If Supplementary Conditions require identity of certain Subcontractors and other persons and organizations to be submitted to Owner in advance of Notice of Award, apparent successful Bidder, and any other Bidder so requested, shall within seven days after day of Bid opening submit to Owner list of all Subcontractors and other persons and organizations (including those who are to furnish principal items of material and equipment) proposed for those portions of Work as to which such identification is so required. Such list shall be accompanied by experience statement with pertinent information as to similar projects and other evidence of qualification for each such Subcontractor, person and organization if requested by Owner.
- B. If Owner or DCP after due investigation has reasonable objection to any proposed Subcontractor, other person or organization, either may request apparent Successful Bidder to submit acceptable substitute before giving Notice of Award. If apparent successful Bidder declines to make any such substitution, contract shall not be awarded to such Bidder, but Bidder's declining to make any such substitution will not constitute grounds for sacrificing its Bid Security. Any Subcontractor, other person or organization so listed and to whom Owner or DCP does not make written objection prior to the giving of Notice of Award will be deemed acceptable to Owner and DCP.
- C. In contracts where Contract Price is on basis of Cost-of-the-Work Plus a Fee, apparent Successful Bidder, prior to Notice of Award, shall identify in writing to Owner those portions of Work that such Bidder proposes to subcontract and after Notice of Award may only subcontract other portions of Work with Owner's written consent.
- D. No Contractor shall be required to employ any Subcontractor, other person or organization against whom it has reasonable objection.

10.13 IDENTIFICATION AND SUBMISSION OF BIDS

- A. Bids shall be submitted at time and place indicated in Invitation to Bid and shall be placed in opaque sealed envelope, marked with Project title, and name and address of Bidder, and accompanied by Bid Security and other required documents.

10.14 MODIFICATION OR WITHDRAWAL OF BIDS

- A. Bids may be withdrawn by written or telegraphic request dispatched by Bidder in time for delivery, in normal course of business, prior to time fixed for opening of Bids, provided that written confirmation of any telegraphic withdrawal, over signature of Bidder, is placed in mail and postmarked prior to time set for opening Bids.

10.15 GOVERNING LAWS AND REGULATIONS

- A. No Contractor shall discriminate against any employee or applicant for employment, to be employed in performance of contract, with respect to their hire, tenure, terms, conditions or privileges of employment, because of their race, color, religion, gender, national origin or age pursuant to requirements of all applicable federal and state statutes.
- B. Each Bidder shall make affidavit that its Bid is genuine and not sham or collusive or made in interests or on behalf of any person not therein named and that Bidder has not directly or indirectly induced or solicited any Bidder to put in sham Bid or any other person or corporation to refrain from Bidding, and that Bidder has not in any manner sought by collusion to secure itself an advantage over other Bidders.

10.16 CONTRACT TIME

- A. Time is of essence in performance of Work under this Contract. Available time for Work under this Contract is indicated in Bid Form and will be include in executed Agreement. If these time requirements cannot be met, Bidder is requested to stipulate in Bid schedule for performance of Work. Consideration will be given to time in evaluating Bids.

10.17 LIQUIDATED DAMAGES

- A. Provisions for liquidated damages, if any, are set forth in section "Supplementary Conditions."

10.18 PRE-BID CONFERENCE

- A. A mandatory pre-bid conference will be held at the Winter Garden City Hall at a time and date as listed in the Milestone Table. All General Contract bidders shall be present. All other Bidders are encouraged to attend.

10.19 DISQUALIFICATION OF BIDDERS

- A. Prior to opening of Bids Owner reserves right to conduct investigations into qualifications and experience of any or all persons or organizations wishing to submit Bid for Project.
- B. Based upon findings of such investigations, Owner reserves right to deny any or all persons or organizations opportunity to submit Bid for Project.
- C. In evaluating Bids after Bids are opened and prior to Award of Contract, Owner shall consider qualifications of Bidders, whether or not Bids comply with prescribed requirements, and alternates and unit prices if requested in Bid Forms.
- D. Owner may consider qualifications and experience of Subcontractors and other persons and organizations (including those who are to furnish principal items of material or equipment) proposed for those portions of Work as to which identity of Subcontractors and other persons and organizations must be submitted as provided in Section "Supplementary Conditions." Operating costs, and maintenance considerations, performance data and guarantees of materials and equipment may also be considered by Owner.
- E. Owner may conduct such investigations as it deems necessary to assist in evaluation of any Bid and to establish responsibility, qualifications and financial ability of Bidders, proposed Subcontractors and other persons and organizations to do Work in accordance with Contract Documents to Owner's satisfaction within prescribed time.
- F. Owner reserves right to reject Bid of any Bidder who does not pass any such evaluation to Owner's satisfaction.
- G. Owner reserves right to disqualify Bids before or after opening, upon evidence of collusion with intent to defraud or other illegal practices upon part of Bidder.
- H. For the duration of this process (RFP Response /bidding process and for duration of the awarded contract), contact with any and all elected officials is strictly prohibited and could be grounds for disqualification or contract termination.

10.20 BIDS TO REMAIN OPEN

- A. All Bids shall remain open for 60 days after Bid opening, but Owner will release all except 3 best qualified Bids within 7 days after Bid opening.

10.21 AWARD OF CONTRACT

- A. Owner reserves right to reject any and all Bids, to waive any and all informalities and to negotiate contract terms with Successful Bidder, and right to disregard all nonconforming, nonresponsive or conditional Bids and to make award in any manner deemed in best interest of Owner. Discrepancies between words and figures will be resolved in favor of words. Discrepancies between indicated sum of any column of figures and correct sum thereof will be resolved in favor of correct sum.
- B. In evaluating Bids, Owner shall consider qualifications of Bidders, whether or not Bids comply with prescribed requirements, and alternates and unit prices if requested in Bid Forms.
- C. If contract is to be awarded it will be awarded to Bidder whose evaluation by Owner indicates to Owner that award will be in best interests of Project.
- D. If contract is to be awarded, Owner will give Successful Bidder Notice of Award within 60 days after day of Bid opening.

10.22 EXECUTION OF CONTRACT

- A. When Owner gives Notice of Award to Successful Bidder, it will be accompanied by at least 3 unsigned counterparts of Agreement and all other Contract Documents. Within 15 days thereafter Contractor shall sign and deliver at least 3 counterparts of Agreement to Owner with all other Contract Documents attached. Within 10 days thereafter Owner will deliver all fully signed counterparts to Contractor. DCP will identify those portions of Contract Documents not fully signed by Owner and Contractor and such identification shall be binding on all parties.

10.23 UNIT PRICE

- A. If required by section "Supplementary Conditions" and various Divisions of Specification, apparent Successful Bidder, and any other Bidder so requested, will within 7 days after day of Bid opening submit to Owner list of Unit Prices upon forms bound with Section "List of Unit Prices."
- B. If Owner or DCP after due investigation has reasonable objection to any unit price, either may request apparent Successful Bidder to submit acceptable revision without increase in Bid price before giving Notice of Award. If apparent Successful Bidder declines to make any such revision, Contract shall not be awarded to such Bidder, but Bidder's declining to make any such revision will not constitute grounds for sacrificing Bid Security. Any unit price so listed and to which Owner or DCP does not make written objection prior to giving of Notice of Award will be deemed acceptable to Owner and DCP.

10.24 CONTRACT PRICE

- A. Proposals are solicited on basis of unit prices and/or lump sum prices which are to be clearly set forth in Bid Form. Final Contract price on accepted Proposal will be determined by multiplying number, or fraction thereof, units of Work actually performed, or labor, material or appliances actually supplied, by price designated for such item in Proposal. Total Bid figure on Proposal Form is merely for purposes of estimating and comparing costs and under no circumstances on unit price contracts does it constitute or imply total Contract price. Refer to Section "Supplementary Conditions" for adjustments due to increases or decreases in actual quantities constructed.

END OF SECTION 001116

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RFP REGISTRATION

Bidders **MUST** register using this form to receive notification of any addenda to the RFP/Criteria Package or any updates regarding the below Project. It is the Bidder's responsibility to verify if addenda have been issued.

TO REGISTER, complete this form and submit to Amy Martello as soon as possible by either
fax to: 407-656-1073
or email to: amartello@cwgd.com

RFP # AS15-13012 - Downtown Parking Garage for the City of Winter Garden, Florida.

PROJECT - Bids are requested for the design and construction of a downtown parking garage as specified. The intent of the project is for the design and construction of a parking garage to be located on an existing surface parking lot south of Tremaine Street and bound by S. Boyd Street on the east side and S. Lakeview Avenue on the west side. The scope of work includes all requirements for a complete, fully operational multi-story parking garage in downtown Winter Garden with a capacity of approximately 500 parking spaces.

BID DOCUMENTS - May be downloaded by visiting www.cwgd.com/garage, or by contacting Amy Martello in writing by fax or email listed above.

MANDATORY PRE-BID MEETING - 10:00 a.m. on Friday, March 27, 2015 at the Winter Garden City Hall, 300 West Plant Street, Winter Garden, Florida 34787.

QUESTIONS - Must be submitted in writing to Amy Martello by fax or email listed above no later than Wednesday, April 22, 2015.

BIDS DUE / BID OPENING - 2:00 p.m. on Wednesday, April 29, 2015 in the City Hall Commission Chambers at City Hall, 300 West Plant Street, Winter Garden, Florida 34787.

Company Name _____

Contact Person _____

Contact Title _____

Mailing Address _____

Phone _____ Fax _____

email _____

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Name of Bidder _____

SECTION 004100 - BID FORMS

INSTRUCTIONS

Submit Bids on this Bid Form in accordance with Instructions to Bidders.

30.2 BID FORM

PART 1 - TERMS OF BID

PROJECT IDENTIFICATION: Downtown Parking Garage, City of Winter Garden.

CONTRACT IDENTIFICATION AND NUMBER: AS15-13012

THIS BID IS SUBMITTED TO:

- A. The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an Agreement with OWNER in form included in Contract Documents to complete all Work as specified or indicated in Contract Documents for Contract Price and within Contract Time indicated in this Bid and in accordance with Contract Documents.
- B. BIDDER accepts all of terms and conditions of Instructions to Bidders, including without limitation those dealing with disposition of Bid Security. BIDDER will sign Agreement and submit Contract Security and other documents required by Contract Documents within 15 days after date of OWNER's Notice of Award. This Bid will remain open for 60 days after day of Bid opening.
- C. In submitting this Bid, BIDDER represents, as more fully set forth in Agreement, that:

- 1. BIDDER has examined copies of all Contract Documents and of following addenda:

Date	Number
_____	_____
_____	_____
_____	_____
_____	_____

(receipt of all of which is hereby acknowledged) and also copies of Advertisement or Invitation to Bid or Instructions to Bidders.

- 2. BIDDER has examined site and locality where Work is to be performed, legal requirements (federal, state and local laws, ordinances, rules and regulations)

Name of Bidder _____

and conditions affecting cost, progress or performance of Work and has made such independent investigations as BIDDER deems necessary.

3. This Bid is genuine and not made in interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; BIDDER has not directly induced or solicited any other Bidder to submit false or sham Bid; BIDDER has not solicited or induced any person, firm or corporation to refrain from bidding; and BIDDER has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER; and
4. BIDDER agrees that Work Item quantities are estimates and that OWNER may increase or decrease these quantities at unit prices stated, so long as increases or decreases in Base Bid do not exceed 25% of Base Bid price. Increases or decreases beyond these limits shall be in accordance with Supplementary Conditions, Section 007300.
5. BIDDER agrees that all alterations or additions to Work shall be performed in accordance with paragraph "Changes" and/or "Construction Change Directives" under Section "Supplementary Conditions."
6. OWNER reserves right to delete any section of Work.

- D. BIDDER agrees that Work shall be substantially completed and fully completed on or before dates or within number of calendar days indicated in Agreement.

shall be substantially completed within 168 calendar days after date when Construction Contract Time commences to run, and fully completed within 28 calendar days after substantial completion.

- E. BIDDER will complete Work for following price:

LUMP SUM CONTRACT PRICE _____
(use words)

_____ DOLLARS \$ _____
(figures)

- F. BIDDER will complete Work for the prices shown in Section "List of Unit Prices."

- G. Communications concerning this Bid shall be addressed to: (BIDDER to provide bidder's name, address, telephone number and name of individual familiar with this Bid and able and authorized to answer questions regarding this Bid.)

Name of Bidder _____

- H. Terms used in this Bid which are defined in General Conditions of Construction Contract included as part of Contract Documents have meanings assigned to them in General Conditions.

SUBMITTED ON _____ , 20 ____

PART 2 - MATERIAL AND EQUIPMENT ALTERNATES

Base Bid proposal price shall include materials and equipment selected from designated items and manufacturers listed. The purpose of this requirement is to establish uniformity in bidding and to establish standards of quality for items named.

If BIDDER wishes to quote alternate items for consideration by Owner, it may do so under this Section. Complete description of item and proposed price differential must be provided. Unless approved at time of award, substitutions where items are specifically named will be considered only as negotiated change in Contract Sum.

<u>WORK ITEM</u>	<u>DESCRIPTION OF ALTERNATE ITEM(S)</u>	<u>ADD/DEDUCT AMOUNT</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

PART 3 - TIME ALTERNATE

If BIDDER takes exception to time stipulated in Part 1, Terms of Bid, it shall stipulate below its proposed time for performance of Work. Consideration will be given to time in evaluating Bids.

BIDDER agrees that Work shall be substantially completed within ___ calendar days after date when Contract Time commences to run, and fully completed within ___ calendar days after date when Contract Time commences to run.

Name of Bidder _____

PART 4 - ATTACHMENTS

Following documents are attached to and made condition of this Bid, unless noted otherwise:

- A. Required Bid Security in form of:
- B. Substitution listing per the requirements of the Instructions to Bidders within 7 days after the day of the Bid opening.
- C. Equipment Suppliers' Listing.
- D. List of alternates/alternatives.
- E. List of Unit Prices.
- F. Non-Collusion Affidavit.
- G. A list of Subcontractors and other persons and organizations required to be identified, if so requested, per the requirements of the Instructions to Bidders within 7 days after the day of the Bid opening.
- H. Required Bidders Qualification Statement for Structural Restoration Work with supporting data per requirements of Instructions to Bidders within 7 days after day of Bid opening. Use form attached to Section "Instructions to Bidders." Copies of previously prepared statements on this form which are less than 12 months old will be acceptable.
- I. Bid breakdown on AIA Documents G702, Application and Certificate of Payment. This form is available from the American Institute of Architects, 1735 New York Avenue, N.W., Washington, D.C. 20006.
- J. State the Unit Prices in Section "List of Unit Prices" per the requirements of Article "Execution of Contract" of the Instructions to Bidders, within 7 days after the Bid opening.

Name of Bidder _____

PART 5 - SIGNATURES

If BIDDER is:

An Individual

By _____ (SEAL)
(Individual's Name)

doing business as _____

Business Address: _____

Phone Number: _____

A Partnership

By _____ (SEAL)
(Firm Name)

(General Partner)

Business Address: _____

Phone Number: _____

A Corporation

By _____
(Corporation Name)

(State of Incorporation)

By _____
(Name of Person Authorized to Sign)

Name of Bidder _____

(Title)

(Corporate Seal)

Attest _____
(Secretary)

Business Address: _____

Phone Number: _____

A Joint Venture

By _____
(Name)

(Address)

By _____
(Name)

(Address)

Each joint venture member must sign. The manner of signing for each individual partnership and corporation that is party to joint venture should be in manner indicated above.

END OF SECTION 004100

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CONTRACT REQUIREMENTS

SECTION 005200 - AGREEMENT FORM

GENERAL

- 1.1 Written Agreement will be executed on AIA Document A191, "STANDARD FORM OF AGREEMENT BETWEEN OWNER AND DESIGN/BUILDER, PART I AND II" as may be modified by the Owner prior to execution.
- 1.2 Copies of Sample Agreement Form are available for examination at office of the DCP.
- 1.3 Contractor may purchase copies of Agreement Form from The American Institute of Architects, 1735 New York Avenue, N.W., Washington, DC 20006.
- 1.4 Liquidated damages will not be included in Article 3 of Agreement.

END OF SECTION 005200

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SECTION 006113 – PERFORMANCE AND PAYMENT BOND

PART 1 - GENERAL

- 1.1 Performance Bond and payment Bonds shall be executed on the attached “PUBLIC CONSTRUCTION PAYMENT AND PERFORMANCE BOND” form provided by the Owner in accordance with Florida Statute Section 255.05.

END OF SECTION 006113

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(Space above reserved for recording information)

PUBLIC CONSTRUCTION PAYMENT AND PERFORMANCE BOND
(Section 255.05, Fla. Stat.)

CONTRACTOR (the "Principal"): _____
(Name of Contractor)

a _____
(Corporation, Partnership or Individual)

(Principal Business Address of Contractor)

(Telephone Number of Contractor)

SURETY: _____
(Name of Surety)

(Principal Business Address of Surety)

(Telephone Number of Surety)

CONTRACTING PUBLIC ENTITY (the "CITY"):

City of Winter Garden
300 West Plant Street
Winter Garden, Florida 34787
(407) 656-4111

Contract or Project number and/or reference: _____

Legal Description or street address of property being improved:

Description of Improvements:

BY THIS PUBLIC CONSTRUCTION PAYMENT AND PERFORMANCE BOND (the "Bond"), and pursuant to those provisions set forth within § 255.05, Florida Statutes, We _____, as Principal and _____, a corporation, as Surety, are bound to the CITY OF WINTER GARDEN, a Florida municipal corporation (the "CITY"), in the sum of \$_____, for payment of which we bind ourselves, our heirs, personal representatives, successors, and assigns, jointly and severally.

THE CONDITION OF THIS BOND is that if Principal:

1. Promptly and properly performs the contract including all its incorporated documents (the "Contract Documents") dated _____, between Principal and CITY for construction of _____, the Contract Documents being made a part of this Bond by reference, at the times and in the manner prescribed in the Contract Documents; and
2. Promptly makes payments to all claimants, as defined in Section 255.05(1), Florida Statutes, furnishing labor, materials, or supplies, used directly or indirectly by Principal in the prosecution of the work provided for in the Contract Documents; and
3. Pays CITY all losses, damages, expenses, costs, and attorneys' fees, experts' fees and other litigation expenses including at all trial and appellate proceedings, that CITY sustains because of a default by Principal under the Contract Documents; and
4. Performs the guarantee and warranty of all work and materials furnished under the Contract Documents for the time specified in the Contract Documents, then this bond is void; otherwise it remains in full force.

Any action instituted by a claimant under this Bond for payment must be in accordance with the notice and time limitation provisions contained within Section 255.05, Florida Statutes.

Any changes in or under the Contract Documents (which include, by way of example, but not a limitation, unilateral or directive change orders and bilateral change orders, changes to the plans, drawings and specifications, and increases or decreases in quantity of units or the scope of work) and compliance or noncompliance with any formalities connected with the Contract Documents or the changes therein shall not affect Surety's obligations under this Bond and Surety hereby waives notice of any such changes. Further, Principal and Surety acknowledge that the Penal Sum of this Bond shall increase or decrease in accordance with changes or other modifications to the Contract Documents so that the Penal Sum shall at all times represents a sum equal to 120% of the Contract Sum (or Contract Price).

The performance bond and the payment bond portions of this Bond are each covered separate and distinct from each other so that claims or sums paid by Surety under the payment bond portion does not affect the Penal Sum for the performance bond portion and vice versa. This Bond is intended to comply with the requirements of Section 255.05, Florida Statutes, as amended, and additionally, to provide common law rights to the CITY more expansive than as required by statute.

In the event that the Principal shall fail to perform any of the terms, covenants and conditions of the Contract Documents during the period in which this Bond is in effect, the Surety shall remain liable to the CITY for all such loss or damage (including reasonable attorneys' fees, experts' fees and other litigation expenses at all trial and appellate levels) resulting from any failure to perform up to

the amount of the Penal Sum. This paragraph shall survive the termination or cancellation of this Bond.

In the event that the Surety fails to fulfill its obligations under this Bond, then the Surety shall also indemnify and hold the CITY harmless from any and all loss, damage, cost and expense, including reasonable attorneys' fees and costs and experts' fees for all trial and appellate proceedings, resulting directly or indirectly from the Surety's failure to fulfill its obligations hereunder. This paragraph shall survive the termination or cancellation of this Bond.

The Surety, for value received, hereby stipulates and agrees that its obligations hereunder shall be direct and immediate and not conditional or contingent upon CITY's pursuit of its remedies against Principal, shall remain in full force and effect notwithstanding (i) amendments or modifications to the Contract Documents entered into by CITY and Principal without the Surety's knowledge or consent (ii) waivers of compliance with or any default under the Contract Documents granted by CITY to Principal without the Surety's knowledge or consent, or (iii) the discharge of Principal from its obligations under the Contract Documents as a result of any proceeding initiated under the federal bankruptcy laws, or any similar state or federal law, or any limitation of the liability of Principal or its estate as a result of any such proceeding.

IN WITNESS WHEREOF, this instrument is executed in _____(number) counterparts, each of which shall be deemed an original, this the _____ day of _____, 2015.

ATTEST:

Principal

By: _____
(Principal) Secretary

By: _____

Name: _____
(Print or Type)

Name: _____
(Print or Type)

Title: _____

Address: _____

City/State/Zip _____

Witness to Principal

Name: _____
(Print or Type)

(CORPORATE SEAL)

Witness to Principal

Name: _____
(Print or Type)

Witness as to Surety

By: _____
Surety
Attorney-in-Fact

Name: _____ (Print or Type)

Name: _____ (Print or Type)

Witness as to Surety

Address: _____

Name: _____ (Print or Type)

City/State/Zip _____

(CORPORATE SEAL)

NOTE: Date of the Bond must not be prior to the date of the Contract. If CONTRACTOR is a partnership, all partners should execute the BOND. As set forth in Section 255.05, Florida Statutes, the Principal shall record this Bond in the public records of Orange County, Florida, and provide the CITY with a certified copy of the recorded version; however, Principal's failure to do so shall not invalidate the City's protections under this Bond.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in Florida, unless otherwise specifically approved in writing by the CITY.

ATTACH a certified copy of Power-of-Attorney appointing individual Attorney-in-Fact for execution of Performance Bond on behalf of "Surety."

CONDITIONS OF THE CONTRACT

SECTION 007200 - GENERAL CONDITIONS

PART 1 - GENERAL

- 1.1 AIA Document A201-2007, "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION," Articles 1 through 15 inclusive, is hereby made part of Contract Documents.
- 1.2 Sample copies of General Conditions are available for examination at office of Engineer.
- 1.3 Contractor may purchase copies of Agreement Form from The American Institute of Architects, 1735 New York Avenue, N.W., Washington, DC 20006.
- 1.4 Supplementary Conditions, Section 007300, shall amend or supplement General Conditions. All provisions of General Conditions not amended or supplemented by Supplementary Conditions remain in full force and effect.

END OF SECTION 007200

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SECTION 007300 - SUPPLEMENTARY CONDITIONS

GENERAL

1.1 The following supplements modify AIA Document A201–2007, General Conditions of the Contract for Construction. Where a portion of the General Conditions is modified or deleted by these Supplementary Conditions, the unaltered portions of the General Conditions shall remain in effect.

1.2 SC-1.1 BASIC DEFINITIONS

A. Add the following to 1.1.1. - THE CONTRACT DOCUMENTS

B. Add the following to 1.1.4 - THE PROJECT

The Term Project as used herein shall mean:

Downtown Parking Garage, City of Winter Garden, Winter Garden, Florida

And all associated site-work including the pedestrian plaza on the north side of the parking structure, relocation of the transformers, back flow preventers and trash compactor.

Add the following subparagraphs 1.1.8 and 1.1.9 to 1.1

C. Add the following to 1.1.7 – INSTRUMENTS OF SERVICE

The Term Project Manual as used herein shall mean: A volume assembled for the Work which may include the bidding requirements, sample forms, Conditions of the Contract and Specifications.

D. 1.1.9 ENGINEER

Terms Engineer and Architect as used herein shall be synonymous. Term Engineer as used herein shall mean: The Engineer or Architect acting as the Designer of the Design-Build Team

E. 1.1.10 Design Criteria Professional [DCP]

Walker Parking Consultants, 4904 Eisenhower Boulevard, Suite 150, Tampa, Florida-33634

F. 1.1.10 UNIT PRICE WORK

Unit Price Work is Work to be paid for on basis of unit prices.

1.3 SC-1.2. CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

Add following subparagraphs 1.2.4 and 1.2.5 to 1.2:

1.2.4 - In preparation of Drawings and Specifications, DCP has relied upon:

1. Report of explorations and tests of subsurface conditions at site Work dated December 22, 2014 prepared by Ardman & Associates entitled: Geotechnical Engineering Evaluation.
2. Site "as-built" drawings of physical conditions in or relating to existing surface and subsurface structures (except utilities) which are at or contiguous to site of Work. All information in Drawings constitutes technical data upon which Contractor may rely.

Copies of these reports and Drawings may be examined at during regular business hours. These reports and Drawings are not part of Contract Documents, but technical data contained therein upon which Contractor is entitled to rely as identified and established above, are incorporated therein by reference.

1.2.5 - Reference to standard specifications, manuals, or codes of any technical society, organization, or association, or to laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean latest standard specification, manual, code, laws, or regulations in effect at time of opening of Bids (or, on Effective Date of Agreement if no Bids), except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual, or code (whether or not specifically incorporated by reference in Contract Documents) shall be effective to change duties and responsibilities of Owner, Contractor, or Architect, or any of their consultants, agents, or employees from those set forth in Contract Documents, nor shall be effective to assign to Architect, or any of Architect's consultants, agents, or employees, any duty or authority to supervise or direct furnishing or performance of Work, or any duty or authority to undertake responsibility contrary to General Conditions.

1.4 SC-2.1 GENERAL

Add following to 2.1.1:

Term Owner as used herein shall mean: City of Winter Garden, 300 W. Plant Street, Winter Garden, Florida 34787.

1.5 SC-2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

Delete subparagraph 2.2.5 and substitute following:

2.2.5 – The Contractor can download the Bid Documents from the Owner's web-site.

1.6 SC-3.4 LABOR AND MATERIALS

Add following to 3.4.1:

All materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with instructions of applicable supplier except as otherwise provided in Contract Documents; but no provisions of any such instructions will be effective to assign to Architect, or any of Architect's consultants, agents, or employees any duty or authority to undertake responsibility contrary to General Conditions.

Add following subparagraphs 3.4.4, 3.4.5, and 3.4.6 to 3.4:

3.4.4 - After Contract has been executed, Owner and DCP will consider formal request for substitution of products in place of those specified only under conditions set forth in General Requirements (Division 1 of Specifications).

3.4.5 - By making requests for substitutions based on subparagraph 3.4.3 above, Contractor:

1. Represents that Contractor has personally investigated proposed substitute product and determined that it is equal or superior in all respects to that specified.
2. Represents that Contractor will provide same warranty for substitution that Contractor would for that specified.
3. Certifies that cost data presented is complete and includes all related costs under this Contract except Architect's redesign costs, and waives all claims for additional costs related to substitution which subsequently become apparent, and
4. Will coordinate installation of accepted substitute, making such changes as may be required for Work to be complete in all respects.

3.4.6 - DCPs decision of approval or disapproval of proposed substitution shall be final.

1.7 SC-3.7 PERMITS, FEES AND NOTICES

Add following to 3.7.2:

Except where otherwise expressly required by applicable laws, ordinances, rules, regulations and lawful orders of public authorities, neither Owner nor DCP shall be responsible for monitoring Contractor's compliance with any applicable law, ordinance, rule, regulation and lawful order of public authorities.

1.8 SC-3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

Add following to 3.10.2:

If required by DCP, schedule of submittals shall be adjusted to provide workable arrangement for processing submittals.

1.9 SC-3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

Add the following sentence to subparagraph 3.12.5:

Submittals made by Contractor which are not required by Contract Documents will be returned immediately with notation "Submittal Not Required No Review Performed".

Add following subparagraphs 3.12.11 through 3.12.17 to 3.12:

3.12.11 - Submission to DCP of Shop Drawings and samples approved by Contractor and review of said Shop Drawings and samples by DCP shall not constitute submission in writing or approval in writing of any deviation from requirements of Contract Documents unless the Contractor has specifically informed the DCP in writing of such deviation at the time of the submittal and the Contractor has received written approval or authorization in accordance with 3.12.8.

3.12.12 - Changes to Drawings and Specifications by means of Shop Drawings become responsibility of party initiating such changes.

3.12.13 - Submission to DCP of Shop Drawings and samples approved by Contractor and review of said Shop Drawings and samples by DCP shall not imply that any requirements of Contract Documents have been waived or superseded.

3.12.14 - No delay or omission to exercise any right or remedy accruing to DCP upon any breach or event of default of Contractor shall impair any such right or remedy to be construed to be waiver of any such breach or default; nor shall any waiver of any single breach or default be deemed waiver of any other, prior, or subsequent breach or default. Any waiver, permit, consent, or approval on part of DCP of any breach or default, or of any provision or condition hereof, must be in writing and shall be effective only to extent that such writing specifically sets forth.

3.12.15 - DCP's stamp on Shop Drawing shall not imply approval of quantities, dimensions, fabrication processes and techniques of construction, all of which shall remain responsibility of Contractor.

3.12.16 - DCP's stamp on Shop Drawing shall not relieve Contractor from responsibility for errors or omissions in Shop Drawing and shall not imply that Contractor may proceed in error.

3.12.17 - Shop Drawings and samples shall be submitted in accordance with procedures of Section 013300.

1.10 SC-3.18 INDEMNIFICATION

Add following subparagraph 3.18.3 to 3.18:

3.18.3 - Contractor shall agree that total aggregate liability for consequential and incidental damages (but not direct damages) suffered with respect to professional negligence associated or connected with Drawings and Specifications from which Contractor prepared Contract Bid Price and for which Owner, DCP, and their agents or consultants may be liable, shall be limited to amount not to exceed \$100,000. Contractor shall further agree that with respect to each subcontractor, Contractor will obtain as condition precedent to subcontractor's performance, agreement that foregoing limitation of liability for consequential and incidental damages (but not direct damages) shall not in aggregate exceed \$100,000 for all Contractor's subcontractors. It is understood and agreed between parties hereto that this provision shall be confined in application to only those matters affecting Contract Bid Price and shall not affect any party's liability for personal injury or property damage arising or resulting from sole negligence of any party, its agents or employees.

1.11 SC-4.1 DCP

Delete first sentence of subparagraph 4.1.1 and replace with following:

DCP is person or entity identified as such in Agreement and is referred to throughout Contract Documents as if singular in number.

1.12 SC-4.2 ADMINISTRATION OF THE CONTRACT

Add following subparagraph 4.2.15 through 4.2.20 to 4.2:

4.2.15 – DCP's terminology on Shop Drawing review stamp of "NO EXCEPTION TAKEN" shall mean that Architect has reviewed and approved Shop Drawing so stamped only for conformance with design concept of Project as given in Contract Documents.

4.2.16 – DCP's terminology on Shop Drawing review stamp of "MAKE CORRECTIONS NOTED – RESUBMITTAL NOT REQUIRED" shall mean that Architect has reviewed and approved Shop Drawing so stamped, subject to corrections made on Shop Drawing, only for conformance with design concept of Project as given in Contract Documents.

4.2.17 – DCP's terminology on Shop Drawing review stamp of "REJECTED" shall mean that Architect has not approved the Shop Drawing so stamped, subject to corrections made on Shop drawing and resubmittal is required.

4.2.18 – DCP's terminology on Shop Drawing review stamp of "REVISE AND RESUBMIT" shall mean that Architect has reviewed and not approved Shop Drawing, only for conformance with design concept of Project as given in Contract Documents and resubmittal is required.

4.2.19 – DCP's terminology in Shop Drawing review stamp of "SUBMITTAL NOT REQUIRED NO REVIEW PERFORMED" shall mean that submittal is not required by

specification or resubmittal was not required and Architect has not reviewed the shop drawings.

4.2.20 - Unit Prices: DCP will review and approve actual quantities and determine classification of Unit Price Work performed by Contractor. Architect will review Contractor's preliminary determinations on such matters before rendering written decision thereon (by recommendation of Application for Payment or otherwise). DCP's written decisions thereon will be final and binding upon Owner and Contractor, unless, within ten days after date of any such decision, either Owner or Contractor delivers to other party to Agreement and to Architect written notice of intention to appeal from such decision.

1.13 SC-5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

Add following to 5.2.1:

In accordance with Supplementary Instructions to Bidders, submit names of following subcontractors, suppliers, persons and organizations for approval by Owner and Architect before award of Contract:

TRADE	COMPANY	LOCATION
Demolition		
Underpinning		
Piling		
Drilled Piers		
Landscaping		
Paving		
Ready-Mixed Concrete		
Concrete Reinforcement		
Post-Tensioning		
Structural Precast		
Concrete		
Architectural Precast		
Concrete		
Precast Concrete Erector		
Masonry		

TRADE	COMPANY	LOCATION
Structural Steel		
Protective Sealer		
Roofing		
Traffic Topping		
Expansion Joints		
Sealants and Caulking		
Control Joint Sealant		
Doors and Windows		
Graphics		
Parking Equipment		
Elevators		
Plumbing		
Fire Protection		
HVAC		
Controls and Instrumentation		
Electrical		

1.14 SC-7.1 GENERAL

Add the following subparagraphs 7.1.4 to 7.1:

7.1.4 INCREASED OR DECREASED WORK ITEM QUANTITIES

DCP shall have right under contract to make increases and decreases in quantities and changes in plans, as may be necessary to ensure completion of contemplated work subject to following qualifications:

As used herein, major item is defined as any item whose total cost, determined by multiplying constructed quantity and contract unit price, is equal to or greater than 5% of original total contract price. All other items are considered minor items and are not subject to unit price adjustment.

Where cost of final work prior to consideration of adjustment is within 5% of original total contract price, or if amount of adjustment is less than \$100, or if item is exempted

from such adjustment elsewhere in contract, no adjustment in contract unit prices will be considered for any increased or decreased quantities.

Where cost of final work has increased more than 5% of original total contract price prior to consideration of any adjustment, requests for adjustments will be considered on following basis:

1. Where quantity of an item of work required to complete project is not increased nor decreased from original estimate by more than 25%, payment for quantity of said item will be made at contract unit price.
2. Where quantity of any major item of work is increased by more than 25%, then unit price for quantity of that item of work over 125% of original contract quantity will be decreased by 10% of unit price bid.
3. Where quantity of any major item of work is decreased by more than 25%, then adjusted unit price will be obtained by multiplying contract unit price for that item of work by factor obtained as follows:

$$\text{Factor} = 1 + (0.10 (P-C))/C$$

Where:

P = Contract Quantity

C = Constructed Quantity

In no case shall product of adjusted unit price and number of units of work performed exceed product of contract unit price and 75% of original contract quantity. Neither will unit price be adjusted to more than twice original contract unit price.

4. In special cases where adjustments provided by previous paragraphs in this subsection do not provide equitable remuneration for work required by change in quantities, Engineer may adjust contract unit prices prior to Notice of Award for portion of item affected, if justified by evidence presented by successful Bidder.

1.15 SC-7.3 CONSTRUCTION CHANGE DIRECTIVES

In first sentence of subparagraph 7.3.7, delete words "including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount."

Delete Clauses 7.3.7.1 through 7.37.5 and replace with following:

1. Cost of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' or workmen's compensation insurance, plus 20% of sum thereof;

2. Cost of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed, plus 15% of sum thereof;
3. Rental costs of machinery and equipment, exclusive of hand tools, whether rented from Contractor or others, plus 15%;
4. Cost of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to Work, plus 15% of sum thereof;
5. Compensation as herein provided shall be accepted by Contractor as payment in full for extra Work done on this basis and said percentages shall cover profit, superintendence, general expense, overhead, and use of small tools and equipment for which no rental is allowed.

1.16 SC-9.2 SCHEDULE OF VALUES

Add following subparagraph 9.2.2 to 9.2:

9.2.2 - Progress payments on account of Unit Price Work will be based on number of units completed.

1.17 SC-9.3 APPLICATIONS FOR PAYMENT

Add following sentence to subparagraph 9.3.1:

Form of Application for Payment shall be notarized AIA Document G702, Application and Certification for Payment, supported by AIA Document G703, Continuation Sheet.

Add following clause 9.3.1.3 to 9.3.1:

9.3.1.3 - Until Work is 50% complete, Owner shall pay **90%** of amount due Contractor on account of progress payments. At time Work is 50% complete and thereafter, DCP will authorize remaining partial payments to be paid in full.

Add following clause 9.3.1.3 to 9.3.1:

9.3.1.3 - Until final payment, Owner shall pay 90% of amount due Contractor on account of progress payments. For each Work category shown to be 50% or more complete in Application for Payment, DCP will, without reduction of previous retainage, certify any remaining progress payments for each Work category to be paid in full.

Add following clause 9.3.1.3 to 9.3.1:

9.3.1.3 - Until Substantial Completion, Owner shall pay 95% of amount due Contractor on account of progress payments.

1.18 SC-9.8 SUBSTANTIAL COMPLETION

Add following sentence to subparagraph 9.8.5:

Payment shall be sufficient to increase total payments to 100% of Contract Sum, less such amounts as DCP shall determine for incomplete Work and unsettled claims.

1.19 SC-9.11 LIQUIDATED DAMAGES

None

1.20 SC-11.1 CONTRACTOR'S LIABILITY INSURANCE

Add following subparagraphs 11.1.5, 11.1.6, and 11.1.7 to 11.1:

11.1.5 - Contractor shall purchase insurance as follows:

1. Workers' Compensation insurance including Employer's liability to cover employee injuries or disease compensable under Worker's Compensation Statutes of states in which Work is conducted under this Contract; disability benefit laws, if any; or Federal compensation acts such as U.S. Longshoremen or Harbor Workers' Maritime Employment, or Railroad Compensation Act(s), if applicable. Self-insurance plans approved by regulatory authorities in state in which Work on this Project is performed are acceptable.
2. Comprehensive General Liability policy to cover bodily injury to persons other than employees and for damage to tangible property, including loss of use thereof, including following exposures:
 - a. All premises and operations.
 - b. Explosion, collapse and underground damage.
 - c. Contractor's Protective coverage for independent contractors or subcontractors employed by him.
 - d. Contractual Liability as required by General Conditions, Clause 11.1.1.7.
 - e. Usual Personal Injury Liability endorsement with no exclusions pertaining to employment.
 - f. Products and Completed Operations coverage.
3. Comprehensive Automobile Liability policy to cover bodily injury and property damage arising out of ownership, maintenance, or use of any motor vehicle, including owned, non-owned, and hired vehicles. In light of standard policy provisions concerning (1) loading and unloading and (2) definitions pertaining to motor vehicles licensed for road use versus unlicensed or self-propelled construction equipment, it is strongly recommended that Comprehensive General Liability and Comprehensive Auto Liability be written by same insurance carrier, though not necessarily in one policy.
4. Contractor shall purchase for Owner, Owner's Protective Liability policy to protect Owner, Architect, their consultants, agents, employees and such public

corporations in whose jurisdiction Work is located for their contingent liability for Work performed by Contractor and subcontractor(s) under this Contract.

5. Contractor shall purchase Builder's Risk-Installation Floater in form acceptable to Owner covering property of Project for full cost of replacement as of time of any loss which shall include, as named insureds, (1) Contractor, (2) all subcontractors, (3) Owner, and Architect, as their respective interests may prove to be at time of loss, covering insurable property which is subject of this Contract, whether in place, stored at job site, stored elsewhere, or in transit at risk of insured(s). Coverage shall be effected on "All Risk" form including, but not limited to, perils of fire, wind, vandalism, collapse, theft, and earthquake, with exclusions normal to cover. Contractor may arrange for such deductibles as it deems to be within its ability to self-assume, but it will be held solely responsible for amount of such deductible and for any coinsurance penalties. Any insured loss shall be adjusted with Owner and Contractor and paid to Owner and Contractor as Trustee for other Insureds.
6. Umbrella or Excess Liability: Owner or its representative may, for certain projects, require limits higher than those stated under "Limits of Liability" below. Contractor is granted option of arranging coverage under single policy for full limit required or by combination of underlying policies with balance provided by Excess or Umbrella Liability policy equal to total limit(s) requested. Umbrella or Excess policy wording shall be at least as broad as primary or underlying policy(ies) and shall apply both to Contractor's general liability and to its automobile liability insurance.
7. Railroad Protective Liability: Where such exposure exists, Contractor will provide coverage in name of each railroad company having jurisdiction over rights-of-way across which Work under Contract is to be performed. Form of policy and limits of liability shall be determined by railroad company(ies) involved.

11.1.6 - Limits of Liability: Required limits of liability for insurance coverages required above shall be not less than following:

1. Workers Compensation:

Coverage A: Compensation	<u>Statutory</u>
Coverage B: Employer's Liability	\$ 1,000,000
2. Comprehensive General Liability:

Bodily Injury: Each Occurrence	\$ 2,000,000
Bodily Injury: Aggregate (Completed Operations)	\$ 2,000,000
Property Damage: Each Occurrence	\$ 2,000,000
Property Damage: Aggregate	\$ 2,000,000

Comprehensive Automobile Liability:	
Bodily Injury: Each Person	\$ 2,000,000
Bodily Injury: Each Occurrence	\$ 2,000,000
Property Damage: Each Occurrence	\$ 2,000,000

- | | | |
|----|---|------------------------------------|
| 3. | Owner's Protective Liability: | |
| | Bodily Injury: Each Occurrence | \$ 2,000,000 |
| | Property Damage: Each Occurrence | \$ 2,000,000 |
| | Property Damage: Aggregate | \$ 2,000,000 |
| 4. | Builder's Risk -
Installation Floater: | Cost to Replace
At Time of Loss |
| 5. | Professional Liability: | \$ 2,000,000 |

11.1.7 - Other Requirements:

1. Owner reserves right to request complete copies of policies if deemed necessary to ascertain details of coverage not provided by certificates. Such policy copies shall be "Originally Signed Copies," and so designated.
2. Qualification of Insurers: In order to determine financial strength and reputation of insurance carriers, all companies providing coverages required shall have financial rating not lower than XII and policyholder's service rating no lower than A as listed in A.M. Best's Key Rating Guide, current edition. Companies with ratings lower than A: XII will be acceptable only upon written consent of Owner.
3. Subrogation Clause: Following subrogation clause shall appear in all policies of insurance, "Subrogation Clause": It is hereby stipulated that this insurance shall not be invalidated should insured waive in writing prior to loss any or all right of recovery against any party for loss occurring to property described herein.

1.21 SC-11.3 PROPERTY INSURANCE

Delete subparagraph 11.3.1 from 11.3.

Delete Clauses 11.3.1.1 through 11.3.1.4 from 11.3.1.

Delete subparagraphs 11.3.4 and 11.3.6 from 11.3.

Modify subparagraph 11.3.7 by substituting "Contractor" for "Owner" at end of first sentence.

Modify subparagraph 11.3.8 by substituting "Contractor" for "Owner" as fiduciary; except that at first reference to "Owner" in first sentence, word "this" should be substituted for "Owner's."

Modify subparagraph 11.3.9 by substituting "Contractor" for "Owner" each time latter word appears.

Modify subparagraph 11.3.10 by substituting "Contractor" for "Owner" each time latter word appears.

1.22 SC-11.4 PERFORMANCE BOND AND PAYMENT BOND

Delete subparagraph 11.4.1 and substitute following:

11.4.1 - Contractor shall furnish bonds covering faithful performance of Contract and payment of obligations arising thereunder. Bonds may be obtained through Contractor's usual source and cost thereof shall be included in Contract Sum. Amount of each bond shall be equal to 100% of Contract Sum.

11.4.1.1 - Contractor shall deliver required bonds to Owner not later than 3 days following date Agreement is entered into, or if Work is to be commenced prior thereto in response to letter of intent, Contractor shall, prior to commencement of Work, submit evidence satisfactory to Owner that such bonds will be furnished.

11.4.1.2 - Contractor shall require attorney-in-fact who executes required bonds on behalf of surety to affix thereto certified and current copy of power of attorney.

END OF SECTION 007300

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SECTION 011100 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. The Work contemplated by the Contract Documents includes the Work of all trades required and all the labor, materials and equipment necessary and incidental to the design, construction and completion of:

Parking Garage
City of Winter Garden
Winter Garden, Florida

& all associated site-work including the pedestrian plaza on the north side of the parking structure, relocation of the transformers, back-flow preventers and trash compactor.

Any requirements stated herein refer to the entire project.

- B. Parking Structure System Design - An integral part of this Project is the preparation of final design drawings and specifications necessary for the fabrication and construction of all architectural, civil, structural, mechanical, fire protection and electrical components required. The Contractor will be required to employ a qualified Designer to perform such design. Such design shall meet the criteria established in these documents. It shall be the responsibility of the Designer to prepare and seal final architectural, civil, landscape/hardscape, structural, mechanical, fire protection, lightning protection and electrical design drawings and specifications, submit these drawings to the governing agencies including the Fire Marshall's Office, City Building Department, and other applicable agencies for approval, review Shop Drawings prepared by the Contractor, and make necessary field observations to insure that the Project is being constructed in accordance with his prepared design drawings and specifications. The Design Criteria Professional (DCP) will be the Owner's technical representative for the Project and the Owner will be responsible for general Project administration. The Designer will be responsible for all design including architectural, civil, landscape/hardscape, structural, mechanical, fire protection, lightning protection and electrical design for the Project, and shall be required to submit his final drawings, specifications, and calculations for such design to the Owner and DCP for review prior to any fabrication and construction for the Project.

1.2 SITE REVIEW

- A. Before submitting Proposals, prospective Design/Build Contractors shall carefully examine the entire site of the proposed work and adjacent premises and the various means of approach and access to the site, and make all necessary investigations to inform themselves thoroughly as to all difficulties involved in the completion of all the work in accordance with the Contract Documents.

- B. The Contractor shall immediately, upon entering the project site for the purpose of beginning work, review project site with the Owner for the purpose of selecting area(s) to place materials for storage and staging.
- C. The Contractor must exercise proper precaution to verify all figures shown or indicated on the Drawings. All existing trees, paved areas; utilities, etc. shall be located before beginning any work, and he shall be held responsible for any error resulting from his failure to exercise such precaution. The Contractor shall be responsible for verification or relocation of any utilities.

1.3 WORK BY OTHERS

- A. The Contractor shall allow access to the site and coordination for installation of any Owner-furnished equipment including CCTV Equipment.

1.4 FUTURE WORK

- A. The parking deck will not be designed for any future expansion.

1.5 CONTRACTOR USE OF PREMISES

- A. Area indicated on Construction Site Plan is set aside for Contractor's use. Any remaining area of the existing parking lot outside these limits shall not be used without written permission from the Owner. Access for all construction traffic including equipment and materials shall be coordinated with the City of Winter Garden.

1.6 DESIGN INFORMATION TO BE SUBMITTED WITH PROPOSAL

- A. Each Contractor shall submit with his Proposal seven (7) sets of "design information", along with one (1) copy in electronic format on CD/DVD, addressed to Amy Martello, Office of the City Manager, City of Winter Garden, 300 West Plant Street, Winter Garden, FL 34787. Bind or package each set separately in opaque envelopes. All documents shall be free of name, letterheads, logos or any other identifying marks to ensure anonymity. Any identifying mark or qualification on any of the submitted documents shall be considered grounds for disqualification of the bid. Each set of "design information" shall contain the following:
 - 1. Preliminary design drawings consisting of: Floor plans, (street level, typical level, and top level), at 1/16" = 1' - 0" scale showing traffic flow, parking spaces, column locations, guard rail locations, lighting layout, floor drain locations and mechanical ventilation, ramp slopes, stair and elevator locations, typical and overall dimensions. East, west, north and south elevations, at 1/16" = 1' - 0" scale, showing façade treatment, typical and overall dimensions, and column spacing. Longitudinal and transverse through building sections, showing structural system and basic details. Perspective or other model/drawing showing

- three-dimensional view of structure from the northwest and northeast. Any other drawing or details that the Bidder may wish to submit to clarify his design.
2. "Short form" specifications conforming to the specific requirements of this Request for Proposals and descriptions to include the following: Structural, mechanical and electrical system description and components, waterproofing, exterior treatment description, any other information which may aid in evaluating the proposed design.
 3. A Quality Plan describing the design and construction phase quality assurance measures.
 4. Rendering or any other information that may aid in evaluating the design.
 5. Estimated design and construction progress schedule, showing the proposed dates of commencement and completion of the various subdivisions of the Work (both design and construction) and critical path. See Milestone Table for required dates.
 6. A Site Mobilization plan.

1.7 SUBMISSION OF FINAL DESIGN DRAWINGS, CALCULATIONS AND SPECIFICATIONS

- A. The selected Design/Build Contractor shall submit design drawings, calculations and specifications to the Owner and DCP at 50% and 100% completion stages for review in accordance with the Milestone Table. The final (100%) design drawings, calculations and specifications shall be submitted to the Owner and DCP for review in ample time (10 working days, minimum) to allow such review before proceeding with any fabrication or construction. Drawings shall include complete set of construction documents including landscape/hardscape, civil, architectural, structural, mechanical, electrical, plumbing, and fire protection design drawings. These Design drawings, calculations prepared and sealed by the designer, and specifications shall be complete in every detail necessary for fabrication and construction of the Project, complying with the design intent and requirements contained in this Request for Proposals. Submission in "stages" or phased construction is not acceptable.
- B. All drawings, calculations and specifications prepared by the Designer shall be certified (bear the seal and signature of an architect/engineer registered in the State of Florida) before they are submitted for review.

1.8 GENERAL DESIGN CRITERIA

- A. General: See Invitation for Proposals.
- B. Design Requirements:
 1. General: The criteria set out in this Section of this Request for Proposals and in the Technical Specifications are the minimum acceptable design requirements, which shall apply for this project. Those submitting Proposals should review both this section and all other Technical Specification sections before preparing a Proposal. Any proposed design based on criteria which does not equal or exceed the following requirements shall be rejected.

2. General Description:
 - a. This project shall consist of the design and complete construction of a permanent three (3) level (ground and two supported), open type parking structure which shall accommodate up to 500+/- parking spaces . The structure shall include concrete slab on grade and necessary supported floor slabs (top slab open) with appropriate up and down ramps.
 - b. The structure shall be complete with pedestrian stairs, elevators, guard rails, drainage system, striping and markings, waterproofing, exterior treatment, fire protection system, lightning protection system, lighting, empty conduits for future CCTV and audio surveillance systems, hereafter specified and as necessary to provide a complete, functional, relatively maintenance free, aesthetically pleasing structure conforming with the architectural criteria included in the Criteria Documents, conforming to applicable codes, ready for operation.
 - c. Stair and stair/elevator towers to have modified bituminous roofing with minimum 20-year warranty.
 - d. Maximum dimensions for the parking structure footprint with preferred vehicular circulation and location of alternate walkway are indicated on the plans.
3. Usage: Primary use of this structure will be to provide an "unattended" self-parking area for general public.
4. Design Capacity:
 - a. The Designer shall design a "permanent", open type, three (3) level parking structure which shall accommodate up to 500+/- parking spaces. In this context, "permanent" shall mean that the parking structure shall be designed and constructed to have an expected functional life of sixty (60) years, and shall be expected to perform satisfactorily during that time span.
 - b. At completion of construction, provide the Owner with four (4) copies of a complete maintenance manual containing a description and schedule of maintenance tasks, which will maintain a satisfactory performance level for the above-expected functional life.
5. Parking Geometrics and Traffic Flow: The parking layout and design of the traffic flow patterns shall be governed by the following requirements:
 - a. Minimum two entrance and two exit lanes shall be provided at the ground level as shown.
 - b. 90° angle parking with two-way traffic and/or 70° angle parking with one-way traffic shall be used.
 - c. Minimum width and length of parking spaces shall be 9'-0"x 18'- 0".
 - d. Ramp Slopes shall be held to a minimum throughout with smooth transitions at both ends. Ramps without parking shall not have slopes greater than 12% and ramps with parking shall not have slopes greater than 5.9% unless indicated otherwise.
 - e. Buried Spaces (i.e., a space which can be blocked from ingress or egress by another space as "end to end spaces" or "corner spaces") shall not be permitted.

- f. Turning Radii shall not be less than 30' to the outside curb of an inside lane.
 - g. Parking Layout dimensions are shown on plans.
 - h. Curbs shall be used only at entrance and exit lanes on which to place any future parking equipment. Curbs will not be permitted in any other locations except as noted on drawings.
 - i. Dividers shall be used to direct vehicle and pedestrian traffic. Minimum clear height under structural beams or tee stems shall be 8'-2", except it shall be 7'-2" at second level. This minimum clearance shall be maintained at all locations including at slope changes.
 - j. Minimum floor-to-floor heights shall be 11'-6" ground to second and 10'-6" above.
 - k. Schematic functional layout is included as part of the scope criteria.
6. Compliance with Americans with Disabilities Act (ADA) Guidelines: Design of the facility shall fully comply with the ADA accessibility requirements.
- C. Structural Design Requirements: The following structural components, or a combination thereof, shall be used to construct the parking structure.
1. Foundation Design Criteria: Foundation design criteria are provided by the geotechnical report for the Project. The report is part of this Request for Proposals. The Owner assumes no responsibility for the accuracy or completeness of this document. The report is provided for information only, and the designer may draw his own conclusions or conduct his own subsurface exploration as required.
 2. Entire structure and individual members shall be designed considering all vertical loads, lateral loads due to wind, temperature differentials, seismic, shrinkage, shortening and effects due to prestressing (both pre-tensioning and post-tensioning). Rigid elements including, but not limited to, stair towers, elevator towers, grade and foundation structures, shall be kept structurally free of the main body of the parking structure. Any elements, which would tend to structurally restrain the main body of the parking structure shall be accounted for in the structural design.
 3. All members shall have the fire ratings as stated in the latest edition of all applicable codes.
 4. The temperature differential used for designing the precast and post-tensioned systems shall be based on the following criteria:
 - a. Post-Tensioned System: The temperature extremes (contraction and expansion) shall be taken as the difference of the daily maximum and daily minimum with respect to the average daily temperature at the time the concrete beams and slabs are stressed. The curing temperature of the concrete must be taken into consideration. See Subsection 1.08 D for additional member design criteria.
 - b. Precast System: The temperature extremes (contraction and expansion) shall be taken as the difference of the daily maximum and daily minimum with respect to the average daily temperature at the time the concrete topping is placed. See Subsection 1.08 E for additional member design criteria.

5. Concrete Decks: All cast-in-place structural concrete decks (not toppings or slabs on grade) shall be post-tensioned to a minimum of 175 psi compression (Fe/A after losses) and tensile stresses shall not exceed $6\sqrt{f'c}$ for supported slabs and or beams. All the slabs shall be provided with a minimum top cover of 1-1/2 inches clear above steel reinforcement. Paved parking areas on grade shall be 5" (min.) concrete slab and shall be reinforced with 6" \times 6" W2.9 \times W2.9 welded wire fabric. Provide minimum 5000 psi concrete for all wearing surfaces, except slab-on-grade may be 4000 psi concrete.
 6. Safety Barrier: Sufficient barrier, minimum 42" above decks as required by code, shall be provided at the exterior edge of all decks and ramps. The barrier must consist of substantial structure (which may or may not be an integral part of the framework) capable of sustaining a concentrated load of 10,000 lbs. (ultimate) at 1'-6" and 2'-3" [not concurrently] above the drive slab. Wheel blocks mounted to decks, 6" high curbs, or stranded cable are not acceptable safety barriers. Note: The structure for the safety barrier may also be part of the exterior facade treatment.
At the interior edge of all decks and ramps (inside the building) provide a 2'-0" (min.) high barrier capable of sustaining loading given above with handrail at 42" above decks as required by code. Provide handrail or increase height of barrier to 42" at top tier. Extend foundation walls from basement areas to provide a sufficiently high barrier at the exterior between finished grade and below grade parking levels. Exterior barrier provided at grade level shall be identical to that provided at upper levels. Requirements for security barrier are noted in section 01010, 1.08 - B.5.
 7. The parking structure shall be as "open" as possible. Minimum column spacing shall not be less than 20'-0" except as required for framing around stair towers. Bearing walls above first floor are not permitted except at stair towers. Parking bays shall be clear-span (columns at ends).
 8. Prestressing, precasting, or post-tensioning shall be done under proper conditions, by experienced mechanics, using proper equipment and proven and tested procedures.
 9. All concrete decks, ramps, and slabs on grade shall be cured using two coats of a Type I curing compound conforming to ASTM C309 (clear). The first coat shall be applied immediately after the concrete is finished and a second coat the following day.
- D. Post-Tensioned System Design Criteria - refer to Section 033816 for additional information.
1. Supported Slabs
 - a. Slab design shall balance a minimum of 80% of the slab dead weight.
 - b. The minimum average compressive prestress (Fe/A) in the slab shall be 175 psi for the main tendons and 100 psi for the temperature tendons. Maximum tensile stress on slabs shall be less than $6\sqrt{f'c}$.
 - c. Minimum Fe/A between beam flanges within each bay shall be 125 psi. T beam flanges shall be per ACI 318-11 Section 8.12.

- d. Minimum mild steel reinforcement at top at supports and bottom at midspan of slab shall be per ACI 318-11 Section 18.9 or ultimate requirements, whichever is greater.
- e. Slabs shall be designed for transfer at 3000 psi concrete compressive stress. Slabs shall be stressed within 96 hours after concrete has been placed. Refer to Specifications for additional requirements.

2. Beams

- a. Beam design shall include type, number and location of tendons and mild steel reinforcement, shear reinforcement, chairs, tendon anchor plate, details, bursting reinforcement, effective prestressing force for each beam.
- b. Beam design shall balance a minimum of 80% of the beam dead load.
- c. Flange width for T beam action shall be per ACI 318-11 Section 8.10.
- d. The minimum average compressive strength (F_c/A) in the beam section shall be 300 to 350 psi, based on a T-beam section.
- e. The shear reinforcement between the end of the beam and the inflection point of the tendons shall be provided to resist total vertical shear forces due to gravity loads without using the shear capacity of the concrete and post-tensioning steel.
- f. Maximum tensile stress on beams shall be less than $6\sqrt{f'_c}$.
- g. Minimum mild steel reinforcement at top at supports and bottom at midspan of beam shall be per ACI 318-11 Section 18.9 or ultimate steel requirements.
- h. Beams shall be designed for transfer at 3000 psi concrete compressive stress. Beams shall be stressed within 96 hours after concrete has been placed. Refer to Specifications for additional requirements.

3. Columns

- a. Columns shall be conventionally reinforced, or prestressed, and shall match the round columns typically used for campus structures.
- b. Column design shall include quantity and location of vertical reinforcement, vertical reinforcement, splices, shear reinforcement and dowels at foundation.
- c. Columns shall be properly reinforced at beam-column joints for all stresses, including those due to post-tensioning (P/T) anchorages. Three additional ties at 3" centers shall be added at each of the following locations in each column: at column base and top, immediately above and below P/T anchorages, and immediately below beams.
- d. Maximum tie spacing to be 12".

E. Precast System Design Criteria - refer to Section 034100 for additional information. (Design Criteria Documents are based on this design).

1. Beams: Spandrel (Non-Load Bearing):

- a. Beam design shall include type, number and location of longitudinal reinforcement, shear and torsion reinforcement, end bearing plates and confinement reinforcement, connection requirements and ledge

reinforcement if applicable. Ledge reinforcement shall be designed per PCI Design Handbook, latest Edition. End bearing plates shall be hot dipped galvanized. Continuity shall be maintained between both faces of reinforcement at the ends of the members.

- b. Bumper impact loads to spandrel and guardrail beams shall be as noted in Section C7. Horizontal spread of bumper load shall not exceed 5'-0".
- c. If the member is to be prestressed, the maximum tensile stress at the bottom of the beam shall be $6\sqrt{f'_c}$.
- d. Where members are designed so that the torsional restraint is provided by the beam/column connection, the beam shall be designed to resist the torsional moment due to total dead and live load applied over the entire length of the beam (ACI 318-11, Section 11.5.2 shall not apply to precast concrete torsional design). Where tees or joists bear on beams, the members shall be designed for the shear due to the total dead and live loads applied over the entire length of the beam (ACI 318-11, Sections 11.1.3.1 and 11.1.3.2 shall not apply to these members). Additional reinforcement shall be provided to resist forces due to lateral and other loads. Where members are prestressed, mild steel reinforcement shall be provided to satisfy torsion and shear requirements for longitudinal and vertical stirrup reinforcement per ACI 318-11, Sections 11.5.4, 11.5.5, and 11.5.6. Design yield strength of such reinforcement shall not exceed 60,000 psi. Such design shall be based on the paper "Torsion Design of Prestressed Concrete" by Paul Zia and W. Denis McGee, published in the PCI Journal, March-April, 1974. Such design shall NOT be based on the PCI Design Handbook, Fifth Edition, Section 4.4.
- e. Skew ends of beams as required for sloping bays.
- f. Remainder of the design shall be in accordance with the governing codes and "PCI Manual on Design of Connections for Precast Prestressed Concrete" (latest edition) by the Prestressed Concrete Institute.

2. Walls

- a. Wall design shall include type, quantity, and location of horizontal and vertical reinforcement, ledge reinforcement, wall to footing connections, wall to column connections as required, wall to wall connections, and wall extension detail. Ledge plates shall be epoxy painted.
- b. Wall to footing connections shall be coordinated with the Foundation Contractor.
- c. Connections at locations within public view may be exposed.
- d. Minimum wall reinforcement shall be per ACI 318-11, Section 11.09 and per Chapter 14.
- e. Use loading combinations for ultimate loads as defined in the governing building code.

3. Connections

- a. All accessories which are not covered by concrete pour strips, and remain exposed to the elements, shall be hot-dipped galvanized, including the beam end and double tee stem bearing plates.

- b. Connections shall be designed as necessary to transfer gravity loads, lateral loads, torsion forces and forces due to volume change effects. Connections may be exposed to view.
 - c. A minimum additional load factor of 1.3 shall be used for the design of all connections (except use additional load factor of 2.0 for tension connections). Restraint developed by friction between bearing pads and connecting members shall not be considered to contribute to the connection. Positive connections shall be made by welds, bolts, or cast-in-place reinforcement. Connections shall be designed in accordance with "PCI Design Handbook - Precast Prestressed Concrete", Fourth Edition.
 - d. Bearing pads shall be provided, by Precast Subcontractor, as shown on the approved Contract Drawings. Refer to Section 034100 for additional information.
- F. Architectural Design: The design of the exterior of the garage shall blend with the buildings of downtown Winter Garden and minimize the parking structures' impact on the pedestrian character of the City. For public protection, the garage shall provide natural surveillance by providing visibility into the structure from adjacent activity and public areas. In particular the stairs are to be as visible as possible within the framework of the façade architecture.
- 1. Architectural Style References: Commercial Style, Italian Renaissance Revival Style, and Sullivanesque Style from the 1890's to the 1930's are appropriate historic references for the garage exteriors which shall integrate with the character of downtown Winter Garden. Design components and materials utilized on and compatible with existing and historic Winter Garden buildings is expected.
 - a. Building façade hierarchy:
 - 1) Primary – Tremaine Street
 - 2) Secondary – S. Lakeview Avenue & S. Boyd Street
 - 3) Tertiary - South elevation
 - b. Exterior priorities – to achieve extraordinary character in appropriate places – other places must act as back-ground. The northeast and northwest corners of the structure are to receive particular attention. Investment in detail or higher quality materials is to be concentrated at significant bays and corners. A minimum of 30ft at each corner along Tremaine St. and 40ft of the facades along S. Lakeview and S. Boyd (starting from the corners) shall be accentuated.
 - 2. Façade Rhythm: The design shall avoid long featureless stretches of facade. Vertical bay intervals should be 30 to 40 feet in width and defined by the use of vertical features like pilasters or material changes to break up the facades. The pattern of 'Window' openings shall also appear rhythmic by being coupled or organized into groupings.
 - 3. Vertical Layering:

- a. Base: The base shall support and enhance a good pedestrian experience on the primary sidewalk along Tremaine Street. The ground level should be characterized as if occupied by retail uses, as a “storefront / retail” base with openings which can follow a wider bay rhythm than the upper levels. Integration of awnings and or fixed canopy elements to provide shade along the sidewalk is desired.
 - b. Middle: Fenestration / openings – treatment of punched openings shall be detailed with window hoods and sills. Faux window frames are to be incorporated to reduce the scale of the openings. Continuous horizontal strip openings are not allowed. Window opening sill heights must mask view of cars from the street
 - c. Top: Provide articulated parapets through the use of cornices, varying cornice lines, exterior architectural moldings, trim, and materials changes. Parapets must mask view of cars from the street
4. Materials Palette: The exterior finish of the garage shall be mostly red brick to match typical downtown colors, with decorative elements in stone or stone like materials and detailing.
 5. Signage: The design of signage elements for pedestrian wayfinding and vehicular access is to be in character and scale with the architectural style of the facades.
 6. Lighting: The exterior lighting shall provide the required illumination for safe access to and from the garage as well as highlight key architectural features of the façade. Light fixtures shall compliment the architectural style of the facades.

G. Not Used.

H. Site Development

1. See plans are included in the Criteria Documents
2. Site plan shall be in accordance with the city’s zoning regulations for the C-1 central commercial district, with the minimum yard requirements as follows:
 - a. North Property Line: 40 feet.
 - b. South Property Line: 25 feet.
 - c. East Property Line: 36 feet.
 - d. West Property Line: 15 feet.
3. The Contractor shall take over the site "as is". The Contractor shall provide a construction fence around all work areas and sidewalk barriers or pedestrian shelters over all sidewalks adjacent to the construction area.
4. Demolish existing parking lot, islands, etc. within the area of construction. Demolish all perforated stormwater piping located in the parking lot and backfill as required for installation of foundation. Relocate existing utilities as shown on the civil engineering plans.
5. Site work will include site preparation, excavation and backfill as required for installation of foundations and underground utilities, as well as paving, walkways and other site work incidental to the facility. The Contractor shall be responsible for protecting adjoining properties, public and private thoroughfares and utilities

- from damage due to his operations. Excess excavation and suitable material will be disposed of off the site, designated by the Owner.
6. Stormwater system shall employ gravity conveyance, and connect to existing outfall at northeast corner of the site with no pre-treatment volume required to be retained on site (as per city direction).
 7. Curbs, drives, manholes, street paving, etc. will be in accordance with the governing standards, and any other applicable codes and regulations.
 8. Contractor shall protect existing sidewalks and replace as necessary should they be damaged during construction.
 9. Existing street located on the south property line shall be reduced in width for the garage. D/B team to demolish existing street and curbs, and design and construct new curbing. City to furnish and install street signs on each end of street.
 10. Existing garbage dumpster pad to be relocated as shown on the schematic plans.
 11. Refer to Specifications for additional information.

I. Landscape/Irrigation

1. Land clearing and tree removal shall require a permit from the building department.
2. Existing trees located along the south property line shall be protected during construction. Tree limbs will be trimmed by the city to allow for the building to be constructed without damage to the tree.
3. Perimeter landscape requirements do not need to meet city landscape standards.
4. The D/B team will propose and construct the hardscape and propose landscape, but city will handle procuring and installing the plant materials.
5. Existing on-site trees will be removed by the city for city's use either on this project or elsewhere.
6. Provide landscape irrigation system to planters along hardscape areas. Remove existing irrigation system and provide new system to connect to existing effluent re-use piping in the area. Provide new controller to be located in utility room in garage.

J. Hardscape/Lighting/Signage

1. Hardscape treatments between garage and streets to remain open and without obstructions to allow for city's periodic street festivals in which tents will be allowed to be erected in the hardscape plaza areas.
2. Contractor to remove existing brick pavers and return pavers to the city on pallets.
3. Hardscape materials may include decorative concrete (colored or plain), concrete unit pavers, concrete sidewalks, or a combination of these, all of which shall be designed to relate to the building and surrounding area hardscapes.
4. Bike racks shall be provided to allow for twelve (12) spaces, which may be in the form of two (2), six (6) space post and hitch bike racks, to be located at city's direction.
5. City will remove existing light poles and electric vehicle charging station.
6. New lighting shall be proposed and installed by the D/B team.

7. Provide outdoor electrical outlets or connectors in the plaza area in a manner that does not provide a tripping hazard and are well protected from the elements.

K. Concrete

1. Provide for:
 - a. Sealed, tooled control/construction joints shall be installed in cast-in-place concrete topping wherever there are joints in the precast concrete below. Control joints may be centered over precast joints, but shall be provided at both faces of beam.
 - b. Joints between precast tees forming floor surfaces shall be sealed.
 - c. Sealed control/construction joints shall be provided at all intersections between walls and floors, and columns and floors.
 - d. Sealed expansion joints at all locations where automobiles or pedestrians cross over structural isolation joints and at top level at all structural isolation joints.
 - e. Refer to Specifications Division 03 for additional information.

L. Masonry

1. Standard masonry units will be used for the non-load bearing partition walls of the electrical room. Concrete masonry units will conform to ASTM C90. Truss type reinforcement will be provided in every other block course. Walls will be reinforced as required by code and by design. All work will comply with the National Concrete Masonry Association and Brick Institute of America standards.
2. Refer to Specifications Division 04 for additional information.

M. Metals

1. Miscellaneous metals shall consist of steel pipe handrails, steel plates and wire strands. Materials shall conform to ASTM-A501, ASTM-A36, ASTM-A307, as applicable. Guardrail strands, if used within the parking areas, shall be 3/8" diameter galvanized cable. All exposed metal, except aluminum and hot-dip galvanized shall be given one shop coat of protective primer with field coats by finish painter.
2. Refer to Specifications Division 05 for additional information.

N. Carpentry

1. Carpentry items will generally consist of wood blocking at the stairtower roof edges. All wood shall be given a three-minute immersion in wood life preservative or equivalent. Concrete form carpentry is included in Division 3.
2. Refer to Specifications Division 06 for additional information.

O. Thermal and Moisture Protection

1. Provide sealant at control/construction joint locations noted in specifications section 011100-1.8 K and in 079233.

2. Provide expansion joint sealant at isolation joint locations noted in specifications sections 011100-1.8 K and in 079500.
3. Provide damp-proofing where required below grade.
4. Provide protective concrete surface sealer and traffic topping on surfaces noted in specification Section 071800 and 071900.
5. Provide a modified bituminous roof surface at stair and stair elevator towers.
6. Refer to Specifications Division 07 for additional information.

P. Doors and Windows

1. Provide glass curtain wall on the elevator tower at the northeast and northwest stair/elevator towers. The design intent is to provide visibility of persons using the elevator in order to enhance security. The curtain wall system will also give architectural definition to the elevator tower. See drawings and specifications for type of glass and framing system. Reflective glass will reduce visibility and should not be utilized.
2. Hollow metal doors and frames shall be provided at electrical room. Electrical room door shall be type F or FL, flush or louvered, as required by electrical room design and code requirements.
3. Refer to Specifications Division 08 for additional information.

Q. Finishes:

1. All miscellaneous metals, stair metals, and hollow metal items will be shop painted and receive two coats of two-part urethane as final finish in the field. All stair tower interior walls shall receive one coat of masonry primer and two coats masonry paint.
2. Refer to Specifications Division 09 for additional information.
3. White paint shall be used for striping in the garage. Provide glass beads in the directional arrows painted on the floor.

R. Specialties:

1. Electrified and non-electrified signs, installation and hookup, are included as part of the project by an allowance.
2. The signage program shall include directional and regulatory signs. Entry/exit directional signs shall be located at the entrance and exits of the parking structure. Internal signs shall indicate the circulation patterns, exit locations, and identify parking levels. Stair tower signs shall indicate designation A or B and floor level. Interior signs shall be "Scotchlite" reflective letters on 0.080-inch sheet aluminum 6061.T6 alloy.
3. Refer to Specifications Division 10 for additional information.

- S. Parking Equipment – Provide empty conduits in the grade slab for future parking equipment.

T. Elevators:

1. Provide one machine room-less (MRL) elevator each located in the northeast and northwest stair/elevator towers. The elevators shall serve all supported levels and grade level.
2. Hoistway doors and jambs shall be stainless steel.
3. A weatherproof enclosure or vestibule shall be provided at the top level in front of the elevator to prevent intrusion of water in the elevator shaft.
4. Refer to specifications Division 14 for additional information.
5. Include a 5 year service contract for elevators.

U. Mechanical:

1. The parking structure shall be designed as an "open air parking structure" which does not require forced mechanical ventilation, but relies on openness for natural ventilation. Mechanical ventilation, where required, shall be by exhaust fans using Andover Controls based on sensor indication of need for operation. Capacity shall meet applicable local and state codes.
2. Floor drains and leaders shall be provided within the parking structure. Roofed areas at the stair towers shall drain to the parking structure leaders. Floor slabs and roof slabs shall pitch uniformly in true planes to provide positive drainage of all areas. Use of "slot" drains or sheet metal drains is not permitted. Pitch shall be maintained at approximately 1/4" per foot, but not less than 1/8" per foot. All floor and roof slabs shall be provided with drains located in a gutter line 3'-0" inward from the edge of the slab. Provide a "wash" from the gutter line and built up 3" at edge of the slab.
3. Provide grease separators if required in storm drainage system. Backwater valves shall be included at all grade level drains.
4. A standpipe system shall be provided with minimum one fire riser, in each stair tower and additionally as required to meet coverage requirements. Provide connections as required by the Fire Department. Gravity drains shall be provided for each riser. Refer to NFPA 14.
5. Provide protection for pipes and rain leaders at all locations where they could be hit by vehicles.
6. A cold water washdown system shall be provided with minimum two risers and connections with valves at each level to facilitate washing of deck surfaces for periodic maintenance.
7. Refer to Specifications Division 21,22,23 for additional information.

V. Fire Extinguishers:

1. Provide fire extinguishers throughout the facility as required by code and NFPA 10.

W. Electrical:

1. Panel boards, contactors, time switches and other related electrical devices shall be located in an electrical equipment room within the facility.
2. Lighting within the parking structure shall be provided utilizing ceiling mounted fixtures equipped with LED lamps. Fixtures shall be provided as specified in light

fixture schedule and as on plans. Vandal resistant fixtures shall be located as specified on plans. Fixtures shall provide minimum average maintained illuminance of six foot candles with average to minimum uniformity ratio of four to one at floor level; and minimum average illuminance of six foot-candles with average to minimum uniformity ratio of three to one (with minimum of two foot-candles at bumper wall) at a plane 30" above floor. Lighting level of approximately 50 foot-candles shall be provided at entry and exit lanes and at stairs. The top level shall be lighted with pulse start metal halide or LED pole mounted fixtures providing 2 foot-candle average illumination, with average to minimum uniformity ratio of three to one at surface and minimum of one foot candle at bumper wall. Poles shall be 20 feet steel square poles mounted on top of columns extended four feet above top level and shall be hinged for maintenance of fixtures. All lights shall be circuited to provide optimum lighting levels for each area considering exterior exposure and function. Stairwell lighting shall be fluorescent. Exposed conduits shall be used under the post-tensioned or precast slabs. Emergency lights shall be provided per code requirements.

3. Refer to City of Winter Garden Ordinance Article X, Division 4 for External Site Lighting requirements
4. Provide empty conduits for future CCTV system.
5. Provide duplex electrical exterior type outlets at each stair and elevator landing. Outlets shall be waterproof and with ground fault provision.
6. Provide all systems described in Specification Sections of Division 26.

X. Emergency Phones

1. Provide two blue-light phones per floor for all floors. One each at each of the stair towers.

1.9 ALLOWANCES

- A. Refer to section 01210

1.10 AS-BUILT DRAWINGS

- A. At the project closeout, the selected Design/Build Contractor shall submit to the Owner a set of as-built drawings and specifications reflecting as-built conditions of the project. A set of as-built drawings shall consist of size "E" or "F" prints. In addition, these documents shall be provided on an IBM-PC compatible CD-ROM in AutoCAD version 2014 or higher format for drawings and PDF format for specifications.

END OF SECTION 011100

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SECTION 012100 – ALLOWANCES

GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements governing handling and processing allowances.
 - 1. Selected materials and equipment, and in some cases, their installation are shown and specified in Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. Additional requirements, if necessary, will be issued by Change Order.
- B. Types of allowances required include following:
 - 1. Lump sum allowance of \$50,000 for electrified and non-electrified signs.
- C. Procedures for submitting and handling Change Orders are included in Division 01 Section "Contract Modification Procedures."

1.3 SELECTION AND PURCHASE

- A. At earliest feasible date after Contract award, advise DCP of date when final selection and purchase of each product or system described by an allowance must be completed in order to avoid delay in performance of Work.
 - 1. When requested by DCP, obtain proposals for each allowance for use in making final selections; include recommendations that are relevant to performance of the Work.
 - 2. Purchase products and systems as selected by DCP from designated supplier.

1.4 SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.
- B. Submit invoices or delivery slips to indicate actual quantities of materials delivered to site for use in fulfillment of each allowance.

1.5 UNUSED MATERIALS

- A. Return unused materials to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
- B. Where it is not economically feasible to return unused material for credit and when requested by Engineer/Architect, prepare unused material for Owner's storage, and deliver to Owner's storage space as directed. Otherwise, disposal of excess material is Contractor's responsibility.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 INSPECTION

- A. Inspect products covered by an allowance promptly upon delivery for damage or defects.

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related construction activities.

3.3 SCHEDULE OF ALLOWANCES

- A. Allowance No. 1: Include lump sum of \$50,000.00 for purchase of pedestrian and vehicular signage, as defined by and specified in "Parking Access and Revenue Control" Section of Division 11.

END OF SECTION 012100

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SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing contract modifications.
- B. Related Sections: Following Sections contain requirements that relate to this Section:
 - 1. Division 01 Section "Allowances" for procedural requirements governing the handling and processing of allowances.
 - 2. Division 01 Section "Submittal Procedures" for requirements for Contractor's Construction Schedule.
 - 3. Division 01 Section "Payment Procedures" for administrative procedures governing applications for payment.
 - 4. Division 01 Section "Product Substitution Procedures" for administrative procedures for handling requests for substitutions made after award of Contract.

1.3 MINOR CHANGES IN WORK

- A. Supplemental instructions authorizing minor changes in Work, not involving an adjustment to Contract Sum or Contract Time, will be issued by Engineer/Architect on AIA Form G710, Architect's Supplemental Instructions.

1.4 CHANGE ORDER PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Proposed changes in Work that will require adjustment to Contract Sum or Contract Time will be issued by DCP, with detailed description of proposed change and supplemental or revised Drawings and Specifications, if necessary.
 - 1. Proposal requests issued by DCP are for information only. Do not consider them instruction either to stop work in progress, or to execute proposed change.
 - 2. Unless otherwise indicated in proposal request, within 20 days of receipt of proposal request, submit to DCP for Owner's review an estimate of cost necessary to execute proposed change.

- a. Include list of quantities of products to be purchased and unit costs, along with total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include statement indicating effect proposed change in Work will have on Contract Time.
- B. Contractor-Initiated Change Order Proposal Requests: When latent or other unforeseen conditions require modifications to Contract, Contractor may propose changes by submitting request for change to DCP.
1. Include statement outlining reasons for change and effect of change on Work. Provide complete description of proposed change. Indicate effect of proposed change on Contract Sum and Contract Time.
 2. Include list of quantities of products to be purchased and unit costs along with total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 4. Comply with requirements in Section "Product Substitutions" if proposed change in Work.
 5. Submit request no later than 10 working days after discovery of condition.
- C. Proposal Request Form: Use AIA Document G709 for Change Order Proposal Requests.

1.5 ALLOWANCES

- A. Allowance Adjustment: Base each Change Order Proposal Request for an allowance cost adjustment solely on difference between actual purchase amount and allowance, multiplied by final measurement of work-in-place, with reasonable allowances, where applicable, for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
1. Include installation costs in purchase amount only where indicated as part of the allowance.
 2. When requested, prepare explanations and documentation to substantiate margins claimed.
- B. Submit claims for increased costs because of change in scope or nature of allowance described in Contract Documents, whether for purchase order amount or Contractor's handling, labor, installation, overhead, and profit, within 20 days of receipt of Change Order or construction change directive authorizing Work to proceed. Claims submitted later than 20 days will be rejected.

1. Change Order cost amount shall not include Contractor's or Subcontractor's indirect expense except when it is clearly demonstrated that either nature or scope of Work required was changed from that which could have been foreseen from description of allowance and other information in Contract Documents.
2. No change to Contractor's indirect expense is permitted for selection of higher or lower priced materials or systems of same scope and nature as originally indicated.

1.6 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: When Owner and Contractor are not in total agreement on terms of Change Order Proposal Request, DCP may issue Construction Change Directive on AIA Form G714, instructing Contractor to proceed with change in Work, for subsequent inclusion in Change Order.
- B. Construction Change Directive will contain complete description of change in Work and designate method to be followed to determine change in Contract Sum or Contract Time.
- C. Documentation: Maintain detailed records on time and material basis of work required by Construction Change Directive.
 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to Contract.

1.7 CHANGE ORDER PROCEDURES

- A. Upon Owner's approval of Change Order Proposal Request, DCP will issue Change Order for signatures of Owner and Contractor on AIA Form G701, as provided in Conditions of Contract.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 012600

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SECTION 012900 - PAYMENT PROCEDURES

GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Sections include the following:
 - 1. Division 01 Section "Allowances" for procedural requirements governing handling and processing of allowances.
 - 2. Division 01 Section "Unit Prices" for administrative requirements governing use of unit prices.
 - 3. Division 01 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 4. Division 01 Section "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with Continuation Sheets.
 - b. Submittals Schedule.

2. Submit the Schedule of Values to DCP at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
 3. Subschedules: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values correlated with each phase of payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.
1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location.
 - b. Name of DCP.
 - c. DCP's project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of the Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value.
 - 1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
 3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.
 4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
 5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. Include evidence of insurance or bonded warehousing if required.
 6. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

7. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
8. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.
9. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Engineer and DCP, and paid for by Owner.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Times: The date for each progress payment is the 15th day of each month. The period covered by each Application for Payment starts on the day following the end of the preceding period and ends 15 days before the date for each progress payment.
- D. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheets as form for Applications for Payment.
- E. Payment Application Forms: Use forms provided by Owner for Applications for Payment. Sample copies are included at end of this Section.
- F. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. DCP will return incomplete applications without action.
 1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

- G. Transmittal: Submit 3 signed and notarized original copies of each Application for Payment to DCP by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
 - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- H. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
- I. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
 - 1. Submit partial waivers on each item for amount requested, before deduction for retainage, on each item.
 - 2. When an application shows completion of an item, submit final or full waivers.
 - 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 - 4. Waiver Delays: Submit each Application for Payment with Contractor's waiver of mechanic's lien for construction period covered by the application.
 - a. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 - 5. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.
- J. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
 - 1. List of subcontractors.
 - 2. Schedule of Values.
 - 3. Contractor's Construction Schedule (preliminary if not final).
 - 4. Products list.
 - 5. Schedule of unit prices.
 - 6. Submittals Schedule (preliminary if not final).
 - 7. List of Contractor's staff assignments.
 - 8. List of Contractor's principal consultants.
 - 9. Copies of building permits.
 - 10. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 - 11. Initial progress report.
 - 12. Report of preconstruction conference.
 - 13. Certificates of insurance and insurance policies.
 - 14. Performance and payment bonds.
 - 15. Data needed to acquire Owner's insurance.
 - 16. Initial settlement survey and damage report if required.

- K. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- L. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
 5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
 6. AIA Document G707, "Consent of Surety to Final Payment."
 7. Evidence that claims have been settled.
 8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
 9. Final, liquidated damages settlement statement.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

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SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. General project coordination procedures.
 - 2. Conservation.
 - 3. Coordination Drawings.
 - 4. Administrative and supervisory personnel.
 - 5. Project meetings.
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility will be assigned to a specific contractor.
- C. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 01 Section "Construction Progress Documentation" for preparing and submitting the Contractor's Construction Schedule.
 - 2. Division 01 Section "Closeout Procedures" for coordinating Contract closeout.

1.3 COORDINATION

- A. Coordination: Coordinate construction operations included in various Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
- B. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections, that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
- C. If necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's Construction Schedule.
 2. Preparation of the Schedule of Values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Preinstallation conferences.
 7. Project closeout activities.
- E. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.
1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work.

1.4 SUBMITTALS

- A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.
1. Indicate relationship of components shown on separate Shop Drawings.
 2. Indicate required installation sequences.
 3. Refer to Division 23 Section "Basic Mechanical Materials and Methods" and Division 26 Section "Basic Electrical Materials and Methods" for specific Coordination Drawing requirements for mechanical and electrical installations.
- B. Staff Names: Within **15** days of starting construction operations, submit a list of principal staff assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list

addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone.

1.5 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

- A. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.
 1. Include special personnel required for coordination of operations with other contractors.

1.6 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and DCP of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and DCP, within **3** days of the meeting.
- B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner, and DCP but no later than **15** days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.
 1. Attendees: Authorized representatives of Owner, DCP, Contractor and its Engineer/Architect, superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing.
 - d. Designation of responsible personnel.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for processing Applications for Payment.

- g. Distribution of the Contract Documents.
 - h. Submittal procedures.
 - i. Preparation of Record Documents.
 - j. Use of the premises.
 - k. Responsibility for temporary facilities and controls.
 - l. Parking availability.
 - m. Office, work, and storage areas.
 - n. Equipment deliveries and priorities.
 - o. First aid.
 - p. Security.
 - q. Progress cleaning.
 - r. Working hours.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.
- 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise DCP of scheduled meeting dates.
 - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related Change Orders.
 - d. Purchases.
 - e. Deliveries.
 - f. Submittals.
 - g. Review of mockups.
 - h. Possible conflicts.
 - i. Compatibility problems.
 - j. Time schedules.
 - k. Weather limitations.
 - l. Manufacturer's written recommendations.
 - m. Warranty requirements.
 - n. Compatibility of materials.
 - o. Acceptability of substrates.
 - p. Temporary facilities and controls.
 - q. Space and access limitations.
 - r. Regulations of authorities having jurisdiction.
 - s. Testing and inspecting requirements.
 - t. Required performance results.
 - u. Protection of construction and personnel.
 - 3. Record significant conference discussions, agreements, and disagreements.
 - 4. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

- D. Progress Meetings: Conduct progress meetings at regular 2 weeks intervals. Coordinate dates of meetings with preparation of payment requests.
1. Attendees: In addition to representatives of Owner and DCP, Engineer/Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Change Orders.
 - 14) Documentation of information for payment requests.
 3. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.
 - a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.
- E. Coordination Meetings: Conduct Project coordination meetings at weekly intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.

1. Attendees: In addition to representatives of Owner and Engineer/Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to Combined Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - b. Schedule Updating: Revise Combined Contractor's Construction Schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
 - c. Review present and future needs of each contractor present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Change Orders.
3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 013100

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SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Startup Construction Schedule.
 - 2. Contractor's Construction Schedule.
 - 3. Construction schedule updating reports.
 - 4. Daily construction reports.
 - 5. Material location reports.
 - 6. Field condition reports.
 - 7. Special reports.

Construction photographs.

- B. Related Sections include the following:
 - 1. Division 01 Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes.
 - 2. Division 01 Section "Submittal Procedures" for submitting schedules and reports.
 - 3. Division 01 Section "Photographic Documentation" for submitting construction photographs.
 - 4. Division 01 Section "Quality Control" for submitting a schedule of tests and inspections.

1.3 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
 - 1. Critical activities are activities on the critical path that must start and finish on the planned early start and finish times.
 - 2. Predecessor activity is an activity that precedes another activity in the network.
 - 3. Successor activity is an activity that follows another activity in the network.

- B. Cost Loading: The allocation of the schedule of values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum unless otherwise approved by Engineer.
- C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.
- D. Critical Path: The longest continuous chain of activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- E. Event: The starting or ending point of an activity.
- F. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time.
 - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the following activity.
 - 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- G. Fagnets: A partial or fragmentary network that breaks down activities into smaller activities for greater detail.
- H. Major Area: A story of construction, a separate building, or a similar significant construction element.
- I. Milestone: A key or critical point in time for reference or measurement.
- J. Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships.

1.4 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
 - 1. Working electronic copy of schedule file, where indicated.
 - 2. 3 (three) paper copies, unless otherwise indicated.
 - 3. PDF electronic file.
- B. Startup Construction Schedule.
 - 1. Approval of cost-loaded, startup construction schedule will not constitute approval of schedule of values for cost-loaded activities.
- C. Startup Network Diagram: Of size required to display entire network for entire construction period. Show logic ties for activities.

- D. Contractor's Construction Schedule: Initial schedule of size required to display entire schedule for entire construction period.
 - 1. Submit a working electronic copy of schedule, using software indicated and labeled to comply with requirements for submittals. Include type of schedule (Initial or Updated) and date on label.
- E. CPM Reports: Concurrent with CPM schedule, submit three printed copies of each of the following computer-generated reports. Format for each activity in reports shall contain activity number, activity description, cost and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.
 - 1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
 - 2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
 - 3. Total Float Report: List of all activities sorted in ascending order of total float.
 - 4. Earnings Report: Compilation of Contractor's total earnings from the Notice to Proceed until most recent Application for Payment.
- F. Construction Photographs: Submit two prints of each photographic view within seven days of taking high resolution photographs.
 - 1. Format: 8-by-10-inch (203-by-254-mm) smooth-surface matte prints on single-weight commercial-grade stock, mounted on linen or card stock to allow a 1-inch-wide margin and enclosed back to back in clear plastic sleeves that are punched for standard 3-ring binder.
 - 2. Identification: On back of each print, provide an applied label or rubber-stamped impression with the following information:
 - a. Name of Project.
 - b. Name and address of photographer.
 - c. Name of Engineer/Architect.
 - d. Name of Contractor.
 - e. Date photograph was taken.
 - f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
- G. Construction Schedule Updating Reports: Submit two copies with Application for Payment
- H. Daily Construction Reports: Submit two copies at weekly intervals.
- I. Material Location Reports: Submit two copies at monthly intervals.
- J. Field Condition Reports: Submit two copies at time of discovery of differing conditions.
- K. Special Reports: Submit two copies at time of unusual event.

- L. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of Engineers and owners, and other information specified.

1.5 QUALITY ASSURANCE

- A. Scheduling Consultant Qualifications: An experienced specialist in CPM scheduling and reporting.
- B. Photographer Qualifications: An individual of established reputation who has been regularly engaged as a professional photographer for not less than three years.
- C. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to the Startup Construction Schedule and Contractor's Construction Schedule, including, but not limited to, the following:
 - 1. Review software limitations and content and format for reports.
 - 2. Verify availability of qualified personnel needed to develop and update schedule.
 - 3. Discuss constraints, including area separations and interim milestones.
 - 4. Review delivery dates for Owner-furnished products.
 - 5. Review schedule for work of Owner's separate contracts.
 - 6. Review time required for review of submittals and resubmittals.
 - 7. Review requirements for tests and inspections by independent testing and inspecting agencies.
 - 8. Review time required for completion and startup procedures.
 - 9. Review and finalize list of construction activities to be included in schedule.
 - 10. Review submittal requirements and procedures.
 - 11. Review procedures for updating schedule.

1.6 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.
 - 1. Secure time commitments for performing critical elements of the Work from parties involved.
 - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.
- C. Auxiliary Services: Cooperate with photographer and provide auxiliary services requested, including access to Project site and use of temporary facilities including temporary lighting.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Procedures: Comply with procedures contained in AGC's "Construction Planning & Scheduling."
- B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Substantial Completion.
 - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- C. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
 - 1. Activity Duration: Define activities so no activity is longer than 20 days.
 - 2. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 - 3. Submittal Review Time: Include review and resubmittal times indicated in Division 01 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
 - 4. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Engineer's and DCP's administrative procedures necessary for certification of Substantial Completion.
- D. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
 - 1. Phasing: Arrange list of activities on schedule by phase.
 - 2. Work under More Than One Contract: Include a separate activity for each contract.
 - 3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
 - 4. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Division 01 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
 - 5. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Division 01 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
 - 6. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Limitations of continued occupancies.
 - c. Uninterruptible services.
 - d. Partial occupancy before Substantial Completion.

- e. Use of premises restrictions.
 - f. Provisions for future construction.
 - g. Seasonal variations.
 - h. Environmental control.
7. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
- a. Subcontract awards.
 - b. Submittals.
 - c. Purchases.
 - d. Mockups.
 - e. Fabrication.
 - f. Sample testing.
 - g. Deliveries.
 - h. Installation.
 - i. Tests and inspections.
 - j. Adjusting.
 - k. Curing.
 - l. Startup and placement into final use and operation.
8. Area Separations: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
- a. Structural completion.
 - b. Permanent space enclosure.
 - c. Completion of mechanical installation.
 - d. Completion of electrical installation.
 - e. Substantial Completion.
- E. Milestones: Include milestones indicated in the Contract Documents in schedule.
- F. Cost Correlation: Superimpose a cost correlation timeline, indicating planned and actual costs. On the line, show planned and actual dollar volume of the Work performed as of planned and actual dates used for preparation of payment requests.
- 1. Refer to Division 01 Section "Payment Procedures" for cost reporting and payment procedures.
- G. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using fragnets to demonstrate the effect of the proposed change on the overall project schedule.
- H. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
- 1. Unresolved issues.

2. Unanswered Requests for Information.
 3. Rejected or unreturned submittals.
 4. Notations on returned submittals.
 5. Pending modifications affecting the Work and Contract Time.
- I. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.
 - J. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

2.2 STARTUP CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule: Submit preliminary horizontal bar-chart-type construction schedule within 7 days of date established for the Notice to Proceed.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 60 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's Construction Schedule within 30 days of date established for the Notice to Proceed. Base schedule on the Preliminary Construction Schedule and whatever updating and feedback was received since the start of Project.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
 1. For construction activities that require 3 months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

2.4 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

- A. General: Prepare network diagrams using AON (activity-on-node) format.
- B. Startup Network Diagram: Submit diagram within 14 days of date established for the Notice to Proceed. Outline significant construction activities for the first 60 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

- C. CPM Schedule: Prepare Contractor's Construction Schedule using a CPM network analysis diagram.
1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than 30 days after date established for the Notice to Proceed.
 2. Conduct educational workshops to train and inform key Project personnel, including subcontractors' personnel, in proper methods of providing data and using CPM schedule information.
 3. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
 4. Use "one workday" as the unit of time.
- D. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the preliminary network diagram, prepare a skeleton network to identify probable critical paths.
1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
 - a. Preparation and processing of submittals.
 - b. Purchase of materials.
 - c. Delivery.
 - d. Fabrication.
 - e. Installation.
 2. Processing: Process data to produce output data or a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
 3. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.
 - a. Subnetworks on separate sheets are permissible for activities clearly off the critical path.
- E. Initial Issue of Schedule: Prepare initial network diagram from a list of straight "early start-total float" sort. Identify critical activities. Prepare tabulated reports showing the following:
1. Contractor or subcontractor and the Work or activity.
 2. Description of activity.
 3. Principal events of activity.
 4. Immediate preceding and succeeding activities.
 5. Early and late start dates.
 6. Early and late finish dates.
 7. Activity duration in workdays.
 8. Total float or slack time.

9. Average size of workforce.
 10. Dollar value of activity (coordinated with the Schedule of Values).
- F. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:
1. Identification of activities that have changed.
 2. Changes in early and late start dates.
 3. Changes in early and late finish dates.
 4. Changes in activity durations in workdays.
 5. Changes in the critical path.
 6. Changes in total float or slack time.
 7. Changes in the Contract Time.
- G. Value Summaries: Prepare two cumulative value lists, sorted by finish dates.
1. In first list, tabulate activity number, early finish date, dollar value, and cumulative dollar value.
 2. In second list, tabulate activity number, late finish date, dollar value, and cumulative dollar value.
 3. In subsequent issues of both lists, substitute actual finish dates for activities completed as of list date.
 4. Prepare list for ease of comparison with payment requests; coordinate timing with progress meetings.
 - a. In both value summary lists, tabulate "actual percent complete" and "cumulative value completed" with total at bottom.
 - b. Submit value summary printouts one week before each regularly scheduled progress meeting.

2.5 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
1. List of subcontractors at Project site.
 2. List of separate contractors at Project site.
 3. Approximate count of personnel at Project site.
 4. High and low temperatures and general weather conditions.
 5. Accidents.
 6. Meetings and significant decisions.
 7. Unusual events (refer to special reports).
 8. Stoppages, delays, shortages, and losses.
 9. Meter readings and similar recordings.
 10. Emergency procedures.
 11. Orders and requests of authorities having jurisdiction.
 12. Change Orders received and implemented.
 13. Construction Change Directives received.
 14. Services connected and disconnected.

15. Equipment or system tests and startups.
 16. Partial Completions and occupancies.
 17. Substantial Completions authorized.
- B. Material Location Reports: At monthly intervals, prepare a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site.
- C. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare a detailed report. Submit with a request for information on CSI Form 13.2A. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.6 SPECIAL REPORTS

- A. General: Submit special reports directly to Owner within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.
- B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Scheduling Consultant: Engage a consultant to provide planning, evaluation, and reporting using CPM scheduling.
1. In-House Option: Owner may waive the requirement to retain a consultant if Contractor employs skilled personnel with experience in CPM scheduling and reporting techniques. Submit qualifications.
 2. Meetings: Scheduling consultant shall attend all meetings related to Project progress, alleged delays, and time impact.
- B. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.

2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 3. As the Work progresses, indicate Actual Completion percentage for each activity.
- C. Distribution: Distribute copies of approved schedule to Engineer, DCP, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
1. Post copies in Project meeting rooms and temporary field offices.
 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

3.2 CONSTRUCTION PHOTOGRAPHS

- A. Photographer: Engage a qualified commercial photographer to take construction photographs.
- B. Photographic Film: Medium-format, 2-1/4 by 2-3/4 inches (60 by 70 mm).
- C. Date Stamp: Unless otherwise indicated, date and time stamp each photograph as it is being taken so stamp is integral to photograph.
- D. Preconstruction Photographs: Before starting construction, take four color photographs of Project site and surrounding properties from different vantage points. Show existing conditions adjacent to property.
- E. Periodic Construction Photographs: Take four color photographs monthly, coinciding with cutoff date associated with each Application for Payment. Photographer shall select vantage points to best show status of construction and progress since last photographs were taken.
1. Field Office Prints: Retain one set of prints of periodic photographs in field office at Project site, available at all times for reference. Identify photographs the same as for those submitted the DCP.
- F. Final Completion Construction Photographs: Take eight color photographs after date of Substantial Completion for submission as Project Record Documents.

END OF SECTION 013200

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SECTION 013300 - SUBMITTAL PROCEDURES

GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Requirements:
 - 1. Division 01 Section "Payment Procedures" For submitting Applications for Payment and the schedule of values.
 - 2. Division 01 Section "Project Management and Coordination" for submitting Coordination Drawings.
 - 3. Division 01 Section "Network Analysis Schedules" for submitting schedules and reports, including Contractor's Construction.
 - 4. Division 01 Section "Photographic Documentation" for submitting periodic construction photographs.
 - 5. Division 01 Section "Quality Control" for submitting test and inspection reports.
 - 6. Division 01 Section "Closeout Procedures" for submitting warranties, Project Record Documents and operation and maintenance manuals.
 - 7. Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
 - 8. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Engineer's responsive action.
- B. Informational Submittals: Written and graphic information and physical samples that do not require Engineer's approval. Submittals may be rejected for not complying with requirements.

- C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.
- D. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.4 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Engineer and additional time for handling and reviewing submittals required by those corrections.
 - 1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
 - 2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
 - 3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
 - a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
 - 4. Format: Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number and title.
 - c. Submittal category: Action; informational.
 - d. Name of subcontractor.
 - e. Description of the Work covered.
 - f. Scheduled date for Engineer's final release or approval.
 - g. Scheduled date of fabrication.
 - h. Scheduled dates for purchasing.
 - i. Scheduled dates for installation.
 - j. Activity or event number.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Engineer's Digital Data Files: Electronic digital data files of the Contract Drawings may be provided by Engineer for Contractor's use in preparing submittals.

1. Upon written request by the Contractor and execution of associated disclaimer forms and related documentation, the Contract Drawings will be provided to the Contractor for use in preparation of record drawings and submittals. Drawing files will be transmitted one time to the Contractor at the start of construction. This version of the drawings is provided only as a courtesy and convenience and Engineer makes no representations as to their accuracy or completeness as they relate to the Contract Documents.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. Engineer will advise Contractor when a submittal being processed must be delayed for coordination.
 2. If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Allow 15 days for processing each resubmittal.
 4. Concurrent Review: Where concurrent review of submittals by Engineer's consultants, DCP, or other parties is required, allow 21 days for initial review of each submittal.
 - a. List of Specification Sections requiring concurrent review.
 - Cast-In-Place Concrete
 - Special Concrete Finishes
 - Unbonded Post-Tensioned Concrete
 - Bonded Post-Tensioned Concrete
 - Plant-Precast Structural Concrete
 - Plant-Precast Architectural Concrete
 - Epoxy Injection Systems
 - Basic Mechanical Materials And Methods
 - Fire Protection
 - Plumbing Systems
 - Basic Electrical Materials And Methods
 - Service And Distribution

Lighting
Lighting Design Performance Specification
Lighting Control Equipment

- D. Paper Submittals: Place a permanent label or title block on each submittal for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
 2. Provide a space approximately 4 by 5 inches on label or beside title block to record Contractor's review and approval markings and action taken by Engineer and DCP where applicable.
 3. Include the following information for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name and address of Engineer.
 - d. Name and address of Contractor.
 - e. Name and address of subcontractor.
 - f. Name and address of supplier.
 - g. Name of manufacturer.
 - h. Unique identifier, including revision number.
 - i. Number and title of appropriate Specification Section.
 - j. Drawing number and detail references, as appropriate.
 - k. Location(s) where product is to be installed, as appropriate.
 - l. Other necessary identification.
 4. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Engineer observes noncompliance with provisions of the Contract Documents, initial submittal may serve as final submittal.
 - a. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Engineer.
 5. Transmittal for Paper Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Engineer will return without review submittals received from sources other than Contractor.
 - a. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Engineer on previous submittals, and deviations from requirements of the Contract Documents, including minor variations and limitations. Include the same label information as the related submittal.
 - b. Include Contractor's certification stating that information submitted complies with requirements of the Contract Documents.
 - c. Transmittal Form: Use AIA Document G810.
 - d. Transmittal Form: Provide locations on form for the following information:
 - 1) Project name.
 - 2) Date.

- 3) Destination (To:).
- 4) Source (From:).
- 5) Names of subcontractor, manufacturer, and supplier.
- 6) Category and type of submittal.
- 7) Submittal purpose and description.
- 8) Submittal and transmittal distribution record.
- 9) Remarks.
- 10) Signature of transmitter.

E. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
2. Name file with submittal number or other unique identifier, including revision identifier.
 - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).
3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Engineer.
4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner, containing the following information:
 - a. Project name.
 - b. Date.
 - c. Destination (To:).
 - d. Source (From:).
 - e. Names of subcontractor, manufacturer, and supplier.
 - f. Category and type of submittal.
 - g. Submittal purpose and description.
 - h. Submittal and transmittal distribution record.
 - i. Remarks.
 - j. Signature of transmitter.
5. Metadata: Include the following information as keywords in the electronic submittal file metadata:
 - a. Project name.
 - b. Number and title of appropriate Specification Section.
 - c. Manufacturer name.
 - d. Product name.

F. Options: Identify options requiring selection by Engineer.

- G. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals.
- H. Resubmittals: Engineer will review each of Contractor's shop drawings and/or submittal data the initial time and, should resubmittal be required, one additional time to verify that reasons for resubmittal have been addressed by Contractor and corrections made. Resubmittal changes/revisions/corrections shall be circled. Engineer will review only circled items and will not be responsible for non-circled changes/revisions/corrections and additions. Should additional resubmittals be required, Contractor shall reimburse Owner for all costs incurred, including the cost of Engineer's services made necessary to review such additional resubmittals. Owner will in turn reimburse Engineer.
- I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- J. Use for Construction: Use only final submittals that are marked with approval notation from Engineer's action stamp.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections by either of the following methods.
 - 1. Submit three copies of paper submittals unless otherwise indicated. Engineer will return two copies.
 - 2. Submit electronic submittals as PDF electronic files. Engineer will return annotated file.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 - 1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
 - 2. Mark each copy of each submittal to show which products and options are applicable.
 - 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified reference standards.
 - e. Testing by recognized testing agency.

- f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 - i. Mill reports.
 4. For equipment, include the following in addition to the above, as applicable.
 - a. Wiring diagrams showing factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 5. Submit Product Data before or concurrent with Samples.
 6. Submit Product Data in either of the following formats:
 - a. 3 paper copies of each submittal. Engineer will return two copies.
 - b. PDF electronic file.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
 1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.
 - c. Fabrication and installation drawings.
 - d. Roughing-in and setting diagrams.
 - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
 - f. Shopwork manufacturing instructions.
 - g. Templates and patterns.
 - h. Schedules.
 - i. Design calculations.
 - j. Compliance with specified standards.
 - k. Notation of coordination requirements.
 - l. Notation of dimensions established by field measurement.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 40 inches.
 3. Submit Shop Drawings in any of the following formats:
 - a. Three paper copies of each submittal. Engineer will return two copies.
 - b. PDF electronic file.

- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of applicable Specification Section.
 - e. Specification paragraph number and generic name of each item.
 3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
 4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
 5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit one full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Engineer will return submittal with options selected.
 6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit three sets of Samples. Engineer will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record sample.

- 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- E. Product Schedule: Prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
1. Type of product. Include unique identifier for each product.
 2. Manufacturer and product name, and model number if applicable.
 3. Number and name of room or space.
 4. Location within room or space.
 5. Submit product schedule in the following format:
 - a. Three paper copies of product schedule. Engineer will return two copies.
- F. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Use CSI Form 1.5A. Include the following information in tabular form:
1. Name, address, and telephone number of entity performing subcontract or supplying products.
 2. Number and title of related Specification Section(s) covered by subcontract.
 3. Drawing number and detail references, as appropriate, covered by subcontract.

2.2 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by individual Specification Sections by either of the following methods.
1. Submit two copies of paper submittals. Engineer will not return copies.
 2. Submit electronic submittals as PDF electronic files. Engineer will not return annotated file.
- B. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
1. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
 2. Provide a notarized statement on original paper copy certificates and certifications where indicated.

- C. **Qualification Data:** Prepare and submit written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of Engineers and owners, and other information specified.
- D. **Welding Certificates:** Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.
- E. **Installer Certificates:** Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- F. **Manufacturer Certificates:** Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- G. **Product Certificates:** Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- H. **Material Certificates:** Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- I. **Material Test Reports:** Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- J. **Product Test Reports:** Submit written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- K. **Research Reports:** Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 - 1. Name of evaluation organization.
 - 2. Date of evaluation.
 - 3. Time period when report is in effect.
 - 4. Product and manufacturers' names.
 - 5. Description of product.
 - 6. Test procedures and results.
 - 7. Limitations of use.
- L. **Preconstruction Test Reports:** Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

- M. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- N. Field Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during product installation or after product installation in its final location, for compliance with requirements in the Contract Documents.
- O. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.
- P. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:
1. Preparation of substrates.
 2. Required substrate tolerances.
 3. Sequence of installation or erection.
 4. Required installation tolerances.
 5. Required adjustments.
 6. Recommendations for cleaning and protection.
- Q. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:
1. Name, address, and telephone number of factory-authorized service representative making report.
 2. Statement on condition of substrates and their acceptability for installation of product.
 3. Statement that products at Project site comply with requirements.
 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 6. Statement whether conditions, products, and installation will affect warranty.
 7. Other required items indicated in individual Specification Sections.
- R. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.

- S. Material Safety Data Sheets: When requested, submit information directly to Owner. If submitted to Engineer, Engineer will not review this information but will return it with no action taken.

2.3 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Engineer.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit three paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
 - 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

2.3 REQUESTS FOR INFORMATION

- A. Engineer reserves the right to reject, unprocessed, any Request for Information (RFI) that the Engineer, at its sole discretion, deems frivolous.
- B. Engineer reserves the right to reject, unprocessed, any RFI that the Engineer, at its sole discretion, deems already answered in the Contract Documents.
- C. RFI process shall not be used for requesting substitutions. Procedures for substitutions are clearly specified elsewhere in the contract documents.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Engineer.
- B. Project Closeout and Maintenance Material Submittals: See Requirements in Section 017700 "Closeout Procedures."

- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ENGINEER'S ACTION

- A. General: Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Engineer or its subconsultant will review each submittal, make marks to indicate corrections or revisions required, and return it. Engineer will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken.
- C. Informational Submittals: Engineer will review each submittal and will not return it, or will return it if it does not comply with requirements. Engineer will forward each submittal to appropriate party.
- D. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Engineer.
- E. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- F. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

END OF SECTION 013300

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SECTION 014210 - REFERENCE STANDARDS AND DEFINITIONS

GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DEFINITIONS

- A. General: Basic contract definitions are included in the Conditions of the Contract.
- B. "Indicated": The term "indicated" refers to graphic representations, notes, or schedules on the Drawings; or to other paragraphs or schedules in the Specifications and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the user locate the reference. Location is not limited.
- C. "Directed": Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean directed by the Design Professional, requested by the Design Professional, and similar phrases.
- D. "Approved": The term "approved," when used in conjunction with the Design Professional's action on the Contractor's submittals, applications, and requests, is limited to the Design Professional's duties and responsibilities as stated in the Conditions of the Contract.
- E. "Regulations": The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": The term "furnish" means to supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": The term "install" describes operations at the Project site including the actual unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": The term "provide" means to furnish and install, complete and ready for the intended use.

- I. "Installer": An installer is the Contractor or another entity engaged by the Contractor, either as an employee, subcontractor, or contractor of lower tier, to perform a particular construction activity, including installation, erection, application, or similar operations. Installers are required to be experienced in the operations they are engaged to perform.
 1. The term "experienced," when used with the term "installer," means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with the special requirements indicated; and having complied with requirements of authorities having jurisdiction.
 2. Trades: Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.
 3. Assigning Specialists: Certain Sections of the Specifications require that specific construction activities shall be performed by specialists who are recognized experts in those operations. The specialists must be engaged for those activities, and their assignments are requirements over which the Contractor has no option. However, the ultimate responsibility for fulfilling contract requirements remains with the Contractor.
 - a. This requirement shall not be interpreted to conflict with enforcing building codes and similar regulations governing the Work. It is also not intended to interfere with local trade-union jurisdictional settlements and similar conventions.
- J. "Project site" is the space available to the Contractor for performing construction activities, either exclusively or in conjunction with others performing other work as part of the Project. The extent of the Project site is shown on the Drawings and may or may not be identical with the description of the land on which the Project is to be built.
- K. "Testing Agencies": A testing agency is an independent entity engaged to perform specific inspections or tests, either at the Project site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.

1.3 SPECIFICATION FORMAT AND CONTENT EXPLANATION

- A. Specification Format: These Specifications are organized into Divisions and Sections based on the 16-Division format and CSI/CSC's "MasterFormat" numbering system.
- B. Specification Content: These Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be interpolated as the sense requires. Singular words shall be interpreted as plural and plural words

interpreted as singular where applicable as the context of the Contract Documents indicates.

2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the Section Text, subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor or by others when so noted.
 - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

1.4 INDUSTRY STANDARDS

- A. **Applicability of Standards:** Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. **Publication Dates:** Comply with standards in effect as of the date of the Contract Documents.
- C. **Conflicting Requirements:** Where compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to the Design Professional for a decision before proceeding.
 1. **Minimum Quantity or Quality Levels:** The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to the Design Professional for a decision before proceeding.
- D. **Copies of Standards:** Each entity engaged in construction on the Project must be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 1. Where copies of standards are needed to perform a required construction activity, the Contractor shall obtain copies directly from the publication source and make them available on request.
- E. **Abbreviations and Names:** Trade association names and titles of general standards are frequently abbreviated. Where abbreviations and acronyms are used in the Specifications or other Contract Documents, they mean the recognized name of the trade association, standards-producing organization, authorities having jurisdiction, or other entity applicable to the context of the text provision. Refer to Gale Research's

"Encyclopedia of Associations" or Columbia Books' "National Trade & Professional Associations of the U.S.," which are available in most libraries.

1.5 SUBMITTALS

- A. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 014210

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SECTION 014500 - QUALITY CONTROL

GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for quality control services.
- B. Quality control services include inspections, tests and related actions including reports, performed by independent agencies, governing authorities, and the Contractor. They do not include Contract enforcement activities performed by Engineer/Architect.
- C. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve the Contractor of responsibility for compliance with Contract Document requirements.
- D. Requirements of this Section relate to customized fabrication and installation procedures, not production of standard products.
 - 1. Specific quality control requirements for individual construction activities are specified in the Sections that specify those activities. Those requirements, including inspections and tests, cover production of standard products as well as customized fabrication and installation procedures.
 - 2. Inspections, tests and related actions specified are not intended to limit the Contractor's quality control procedures that facilitate compliance with Contract Document requirements.
 - 3. Requirements for the Contractor to provide quality control services required by Engineer/Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
- E. Related Sections: Following Sections contain requirements that relate to this Section:
 - 1. Division 01 Section "Cutting and Patching" specifies requirements for repair and restoration of construction disturbed by inspection and testing activities.
 - 2. Division 01 Section "Submittal Procedures" specifies requirements for development of a schedule of required tests and inspections.

1.3 RESPONSIBILITIES

A. Contractor Responsibilities:

1. Retesting: Contractor is responsible for retesting where results of required inspections, tests or similar services prove unsatisfactory and do not indicate compliance with Contract Document requirements, regardless of whether the original test was the Contractor's responsibility.
 - a. Cost of retesting construction revised or replaced by the Contractor is the Contractor's responsibility, where required tests were performed on original construction.
2. Associated Services: Cooperate with agencies performing required inspections, tests and similar services and provide reasonable auxiliary services as requested. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include but are not limited to:
 - a. Provide access to the Work.
 - b. Furnish incidental labor and facilities necessary to facilitate inspections and tests.
 - c. Take adequate quantities of representative samples of materials that require testing or assist the agency in taking samples.
 - d. Provide facilities for storage and curing of test samples.
 - e. Deliver samples to testing laboratories.
 - f. Provide the agency with a preliminary design mix proposed for use for material mixes that require control by the testing agency.
 - g. Provide security and protection of samples and test equipment at the Project Site.

B. Owner Responsibilities: Owner will provide inspections, tests and similar quality control services specified to be performed by independent agencies and not by the Contractor, except where they are specifically indicated as the Contractor's responsibility or are provided by another identified entity. Costs for these services are not included in the Contract Sum.

1. Owner will employ and pay for the services of an independent agency, testing laboratory or other qualified firm to perform services which are the Owner's responsibility.

C. Coordination: Contractor and each agency engaged to perform inspections, tests and similar services shall coordinate the sequence of activities to accommodate required services with a minimum of delay. In addition Contractor and each agency shall coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.

1. Contractor is responsible for scheduling times for inspections, tests, taking samples and similar activities.

1.4 SUBMITTALS

- A. Testing Agency shall submit a certified written report of each inspection, test or similar service, to Engineer/Architect, in duplicate, unless Contractor is responsible for the service. If Contractor is responsible for the service, submit a certified written report of each inspection, test or similar service through the Contractor, in duplicate.
1. Submit additional copies of each written report directly to the governing authority, when the authority so directs.
 2. Report Data: Written reports of each inspection, test or similar service shall include, but not be limited to:
 - a. Date of issue.
 - b. Project title and number.
 - c. Name, address and telephone number of testing agency.
 - d. Dates and locations of samples and tests or inspections.
 - e. Names of individuals making the inspection or test.
 - f. Designation of the Work and test method.
 - g. Identification of product and Specification Section.
 - h. Complete inspection or test data.
 - i. Test results and interpretations of test results.
 - j. Comments or professional opinion as to whether inspected or tested Work complies with Contract Document requirements.
 - k. Name and signature of laboratory inspector.
 - l. Recommendations on retesting.

1.5 QUALITY ASSURANCE

- A. Qualification for Testing Agencies: Engage testing agencies, including independent testing laboratories, which are prequalified as complying with "Recommended Requirements for Independent Laboratory Qualification" by the American Council of Independent Laboratories, and which specialize in the types of inspections and tests to be performed.
1. Each independent testing agency engaged on the Project shall be authorized by authorities having jurisdiction to operate in the State in which the Project is located.

PART 2 - PRODUCTS (NOT APPLICABLE).

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: Upon completion of inspection, testing, sample-taking and similar services, repair damaged construction and restore substrates and finishes to eliminate deficiencies, including deficiencies in visual qualities of exposed finishes. Comply with Contract Document requirements for "Cutting and Patching."
- B. Protect construction exposed by or for quality control service activities, and protect repaired construction.
- C. Repair and protection is the Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing or similar services.

END OF SECTION 014500

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SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes minimum requirements for construction facilities and temporary controls, including temporary utilities, support facilities, and security and protection. The Contractor retains all responsibility for the adequacy and sufficiency of all jobsite safety precautions and programs.
- B. Temporary utilities required include but are not limited to the following:
 - 1. Water service and distribution.
 - 2. Temporary electric power and light.
 - 3. Telephone service.
 - 4. Storm and sanitary sewer.
 - 5. Temporary heat.
 - 6. Ventilation.
 - 7. Sanitary facilities, including drinking water.
 - 8. DSL/Internet service.
- C. Support facilities include, but are not limited to, the following:
 - 1. Field offices and storage sheds.
 - 2. Temporary roads and paving.
 - 3. Dewatering facilities and drains.
 - 4. Temporary enclosures.
 - 5. Hoists and temporary elevator use.
 - 6. Temporary Project identification signs and bulletin boards.
 - 7. Waste disposal services.
 - 8. Rodent and pest control.
 - 9. Construction aids and miscellaneous services and facilities.
 - 10. Soil erosion and sedimentation controls.
- D. Security and protection facilities include, but are not limited to, the following:
 - 1. Temporary fire protection.
 - 2. Barricades, warning signs, lights.
 - 3. Sidewalk bridge or enclosure fence for the site.
 - 4. Environmental protection.

5. Temporary protection and support of permanent active utilities within the work area.
6. Temporary protection and support of architectural, mechanical, electrical and other non-structural items and systems within or near the work area such as, but not limited to entrance ways, doors, elevators, escalators, machine rooms, electrical rooms, ventilation systems, revenue and access control systems, fire protection sprinkler systems, and lighting systems.

1.3 SUBMITTALS

- A. Temporary Utilities: Submit reports of tests, inspections, meter readings, permits, correspondence with governing utility agencies and similar procedures performed on temporary utilities.
- B. Implementation and Termination Schedule: Submit schedule indicating implementation and termination of each temporary utility within 15 days of date established for commencement of Work.

1.4 QUALITY ASSURANCE

- A. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction, including but not limited to, the following:
 1. Building Code requirements.
 2. Health and safety regulations.
 3. Utility company regulations.
 4. Police, Fire Department and Rescue Squad rules.
 5. Environmental protection regulations.
- B. Standards: Comply with NFPA Code 241, "Standard for Safeguarding Construction, Alterations, and Demolition Operations," ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition," and NECA Electrical Design Library "Temporary Electrical Facilities."
 1. Electrical Service: Comply with NEMA, NECA and UL standards and regulations for temporary electric service. Install service in compliance with NFPA 70, "National Electric Code."
- C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

1.5 PROJECT CONDITIONS

- A. Temporary Utilities: Prepare schedule indicating dates for implementation and termination of each temporary utility. When acceptable to Owner, change over from use of temporary service to use of permanent service.

- B. Temporary connection to existing utilities: When acceptable to Owner, Contractor may connect into existing utilities within the work area.
1. Confirm the existing utility has sufficient capacity to supply the temporary needs for construction activities. Owner does not guarantee unlimited supply.
 2. Confirm the temporary utility connection does not reduce the utility supply to below the capacity needed by active permanent systems attached to the service. Remove temporary connections found to affect permanent service at no cost to the Owner.
 3. For purposes of bidding, Contractor shall assume that no electrical (water) service is available.
 4. For purposes of bidding, Contractor shall assume following utilities exist:
 - a. Electrical supply: 60 hertz, single phase 120/240 VAC, 200 amp service.
 - b. Water supply: potable, 60 psi, 40] gallons per minute. Note that potable water shall not be provided from fire protection supply systems.
 5. All temporary connection installation, maintenance, protection, removal and associated costs shall be responsibility of Contractor and shall not be chargeable to Owner or Engineer/Architect.
 6. At each temporary connection provide following:
 - a. Operable utility shutoff device: Device shall be commercially available device such as valve or switch. Shutoff device shall not require removal of a portion of utility line or specialized skill to operate. Device shall be designed to fail in a safe manner and be clearly identified as to its purpose. Location of shutoff device shall be accessible to workers without requiring access to restricted areas.
 - b. Metering device: Device shall be commercially available, calibrated device to measure amount of utility consumed by contractor. Provided certificate showing device has been calibrated within the last three months. If no metering device is required, provide are and fixtures to permit installation of device at later date at not additional cost to Owner.
 - c. Owner will charge Contractor direct cost of utilities with no markup.
- C. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in safe and efficient manner. Relocate temporary services and facilities as Work progresses. Do not overload facilities or permit them to interfere with progress. Take necessary fire prevention measures. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on site.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Provide new materials; if acceptable to Engineer/Architect, undamaged previously used materials in serviceable condition may be used. Provide materials suitable for use intended.
- B. Lumber and Plywood: Comply with requirements in Division 06 Section "Rough Carpentry." All wood used for safety or separation barriers between the public and the work area shall be UL labeled, fire treated.
 - 1. For job-built temporary offices, shops and sheds within construction area, provide UL labeled, fire treated lumber and plywood for framing, sheathing and siding.
 - 2. For signs and directory boards, provide exterior type, Grade B-B High Density Concrete Form Overlay Plywood conforming to PS-1, of sizes and thickness indicated.
 - 3. For fences and vision barriers, provide exterior type, minimum 0.375 in. thick plywood.
 - 4. For safety barriers, sidewalk bridges and similar uses, provide minimum 0.625 in. thick exterior plywood.
- C. Gypsum Wallboard: Provide gypsum wallboard complying with requirements of ASTM C 36 on interior walls of temporary offices.
- D. Roofing Materials: Provide UL Class "A" standard weight asphalt shingles complying with ASTM D 3018, or UL Class "C" mineral surfaced roll roofing complying with ASTM D 249 on roofs of job-built temporary offices, shops and sheds.
- E. Paint: Comply with requirements of Division 09 Section "Painting."
 - 1. For job-built temporary offices, shops, sheds, fences and other exposed lumber and plywood, provide exterior grade acrylic-latex emulsion over exterior primer.
 - 2. For sign panels and applying graphics, provide exterior grade alkyd gloss enamel over exterior primer.
 - 3. For interior walls of temporary offices, provide two coats interior latex flat wall paint.
- F. Tarpaulins: Provide waterproof, fire-resistant, UL labeled tarpaulins with flame-spread rating of 15 or less. For temporary enclosures provide translucent nylon reinforced laminated polyethylene or polyvinyl chloride fire retardant tarpaulins.
- G. Water: Provide potable water approved by local health authorities.

2.2 EQUIPMENT

- A. General: Provide new equipment; if acceptable to Engineer/Architect, undamaged, previously used equipment in serviceable condition. Provide equipment suitable for use intended.
- B. Water Hoses: Provide 0.75 in. heavy-duty, abrasion-resistant, flexible rubber hoses 100 ft. long, with pressure rating greater than maximum pressure of water distribution system; provide adjustable shut-off nozzles at hose discharge.
- C. Electrical Outlets: Provide properly configured NEMA polarized outlets to prevent insertion of 110-120 volt plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button and pilot light, for connection of power tools and equipment.
- D. Electrical power cords: provide grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas where construction activities are in progress.
- E. Lamps and Light Fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered glass enclosures, where exposed to breakage. Provide exterior fixtures where exposed to moisture.
- F. Temporary Offices: Provide prefabricated or mobile units or similar job-built construction with lockable entrances, operable windows and serviceable finishes. Provide heated and air- conditioned units on foundations adequate for normal loading.
- G. Temporary Toilet Units: Provide self-contained single-occupant toilet units of the chemical, aerated recirculation, or combustion type, properly vented and fully enclosed with a glass fiber reinforced polyester shell or similar nonabsorbent material.
- H. First Aid Supplies: Comply with governing regulations.
- I. Fire Extinguishers: Provide hand-carried, portable UL-rated, class "A" fire extinguishers for temporary offices and similar spaces. In other locations provide hand-carried, portable, UL-rated, class "ABC" dry chemical extinguishers, or a combination of extinguishers of NFPA recommended classes for the exposures.
 - 1. Comply with NFPA 10 and 241 for classification, extinguishing agent and size required by location and class of fire exposure.
- J. Temporary Fuel Tanks: Comply with all applicable safety and environmental regulations for temporary surface fuel tanks. Location and installation shall be subject to review and approval of Engineer/Architect and Fire Marshall.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
- B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed, or are replaced by authorized use of completed permanent facilities.
- C. All temporary facilities shall be located within work area.
- D. Installation of temporary facilities shall not block pedestrian and vehicular traffic to adjacent non-work areas.

3.2 TEMPORARY UTILITY INSTALLATION

- A. General: Engage appropriate local utility company to install temporary service or connect to existing service. Where the company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with company recommendations.
 - 1. Arrange with company and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
 - 2. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.
 - 3. Obtain easements to bring temporary utilities to site where Owner's easements cannot be used for that purpose.
 - 4. Use Charges: Cost or use charges for temporary facilities are not chargeable to the Owner or Engineer/Architect. Neither Owner nor Engineer/Architect will accept cost or use charges as basis of claims for Change Orders.
- B. Water Service: Install water service and distribution piping of sizes and pressures adequate for construction until permanent water service is in use.
 - 1. Sterilization: Sterilize temporary water piping prior to use.
- C. Temporary Electric Power Service: Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during construction period. Include meters, transformers, overload protected disconnects, automatic ground-fault interrupters and main distribution switch gear.
 - 1. Install electric power service underground, except where overhead service must be used.

2. Power Distribution System: Install wiring overhead, and rise vertically where least exposed to damage. Where permitted, wiring circuits not exceeding 125 Volts, AC 20 ampere rating, and lighting circuits may be nonmetallic sheathed cable where overhead and exposed for surveillance.
- D. Temporary Lighting: When overhead floor or roof deck has been installed, provide temporary lighting with local switching.
1. Install and operate temporary lighting that will fulfill security and protection requirements without operating entire system. Provide temporary lighting that will fulfill security and protection requirement without operating the entire system. Provide temporary lighting that will provide adequate illumination for construction operations and traffic conditions.
- E. Temporary Heat: Provide temporary heat required by construction activities for curing or drying of completed installations or for protection of installed construction from adverse effects of low temperatures or high humidity. Select safe equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce the ambient condition required and minimize consumption of energy.
- F. Temporary Telephones: Provide temporary telephone service throughout construction period for all personnel engaged in construction activities. Install telephone on a separate line for each temporary office and first aid station.
1. Separate Telephone Lines: Provide additional telephone lines for the following:
 - a. Where an office has more than 2 occupants, install a telephone for each additional occupant or pair of occupants.
 - b. Provide a dedicated telephone line for a fax machine in the field office.
 - c. Provide a separate line for the Owner's use.
 2. At each telephone, post list of important telephone numbers.
- G. Temporary DSL / Internet Service:
1. Provide temporary Business Grade DSL / Internet service throughout construction period for all personnel engaged in construction activities. Install DSL / Internet service on a separate line for each temporary office and network to each individual workstation.
 2. Separate DSL / Internet Lines: Provide additional DSL / Internet line for Owner use.
- H. Sanitary facilities include temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for the type, number, location, operation, and maintenance of fixtures and facilities. Install where facilities will best serve the Project's needs.
1. Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Provide covered waste containers for used material.

- I. Toilets: Use of the Owner's existing toilet facilities will be permitted, so long as:
 - 1. Facilities and access routes to facilities are cleaned and maintained in a condition acceptable to Owner.
 - 2. Contractor personnel do not cause, in Owner's opinion, a significant disturbance to Owner's staff during use of facilities.
 - 3. At substantial completion, or upon notice by Owner that Contractor personnel are no longer permitted to use restrooms, restore facilities and access routes to condition existing at time of initial use.

- J. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy. Use of pit-type privies will not be permitted.
 - 1. Provide separate facilities for male and female personnel.

- K. Wash Facilities: Install wash facilities supplied with potable water at convenient locations for personnel involved in handling materials that require wash-up for a healthy and sanitary condition. Dispose of drainage properly. Supply cleaning compounds appropriate for each condition.
 - 1. Provide safety showers, eyewash fountains, and similar facilities for convenience, safety, and sanitation of personnel.

- L. Drinking-Water Fixtures: Provide drinking-water fountains where indicated, including paper cup supply.

- M. Drinking-Water Facilities: Provide containerized, tap-dispenser, bottled-water drinking-water units, including paper cup supply.
 - 1. Where power is accessible, provide electric water coolers to maintain dispensed water temperature at 45 to 55° F.

- N. Sewers and Drainage: If sewers are available, provide temporary connections to remove effluent that can be discharged lawfully. If sewers are not available or cannot be used, provide drainage ditches, dry wells, stabilization ponds and similar facilities. If neither sewers nor drainage facilities can be lawfully used for discharge of effluent, provide containers to remove and dispose of effluent off the site in a lawful manner.
 - 1. Filter out excessive amounts of soil, construction debris, chemicals, oils and similar contaminants that might clog sewers or pollute waterways before discharge.
 - 2. If discharging wastewater through existing Owner sewer systems, inspect and document with the owner the condition of lines prior to beginning discharge.
 - 3. Connect temporary sewers to municipal system as directed by the sewer department officials.
 - 4. Maintain temporary sewers and drainage facilities in clean, sanitary condition. Following heavy use, restore normal conditions promptly.

- O. Provide earthen embankments and similar barriers in and around excavations and subgrade construction, sufficient to prevent flooding by runoff of storm water from heavy rains.

3.3 SUPPORT FACILITIES INSTALLATION

- A. Locate field offices, storage sheds, sanitary facilities and other temporary construction and support facilities for easy access.
 - 1. Maintain support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Provide incombustible construction for offices, shops and sheds located within the construction area, or within 30 ft of building lines. Comply with requirements of NFPA 241.
- C. Field Offices: Provide insulated, weathertight temporary offices of sufficient size to accommodate required office personnel at Project site. Keep office clean and orderly for use for small progress meetings. Furnish and equip offices as follows:
 - 1. Furnish with a desk and chairs, 4-drawer file cabinet, plan table and plan rack and 6-shelf bookcase.
 - 2. Equip with water cooler and private toilet complete with water closet, lavatory and mirror-medicine cabinet unit.
 - 3. Provide separate, fully furnished office space with lockable door for Owner's use.
 - a. Minimum size: 8 feet by 10 feet.
 - b. Furnish with a desk, chair, plan table, hanging plan rack and 4 drawer file cabinet.
- D. Storage and Fabrication Sheds: Install storage and fabrication sheds, sized, furnished and equipped to accommodate materials and equipment involved, including temporary utility service. Sheds may be open shelters or fully enclosed spaces within the building or elsewhere on site.
- E. Temporary Paving: Construct and maintain temporary roads and paving to support indicated loading adequately and to withstand exposure to traffic during construction period. Locate temporary paving for roads, storage areas and parking where same permanent facilities will be located. Review proposed modifications to permanent paving with Engineer/Architect.
 - 1. Paving: Comply with Division 02 Section "Asphalt Paving" for construction and maintenance of temporary paving.
 - 2. Coordinate temporary paving development with subgrade grading, compaction, installation and stabilization of subbase, and installation of base and finish courses of permanent paving.

3. Install temporary paving to minimize need to rework installations and to result in permanent roads and paved areas that are without damage or deterioration when occupied by Owner.
 4. Delay installation of final course of permanent asphalt concrete paving until immediately before Substantial Completion. Coordinate with weather conditions to avoid unsatisfactory results.
 5. Extend temporary paving in and around construction area as necessary to accommodate delivery and storage of materials, equipment usage, administration and supervision.
- F. Dewatering Facilities and Drains: For temporary drainage and dewatering facilities and operations not directly associated with construction activities included under individual Sections, comply with dewatering requirements of applicable Division 02 Sections. Where feasible, utilize same facilities. Maintain site, excavations and construction free of water.
- G. Temporary Enclosures: Provide temporary enclosure for protection of construction in progress and completed, from exposure, foul weather, other construction operations and similar activities.
1. Where heat is needed and permanent building enclosure is not complete, provide temporary enclosures where there is no other provision for containment of heat. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
 2. Install tarpaulins securely, with incombustible wood framing and other materials. Close openings of 25 sq ft or less with plywood or similar materials.
 3. Close openings through floor or roof decks and horizontal surfaces with load-bearing wood-framed construction.
 4. Do not block access to emergency exits from the facility during installation of temporary enclosures unless approved by authorities having jurisdiction.
 5. Where temporary wood or plywood enclosure exceeds 100 sq ft in area, use UL-labeled fire-retardant treated material for framing and main sheathing.
- H. Temporary Lifts and Hoists: Provide facilities for hoisting materials and employees. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
- I. Temporary Elevator Use: Refer to Division 14 Sections for elevators.
- J. Project Identification and Temporary Signs: Prepare project identification and other signs of size indicated. Install signs where indicated to inform public and persons seeking entrance to Project. Support on posts or framing of preservative treated wood or steel. Do not permit installation of unauthorized signs.
1. Project Identification Signs: Engage an experienced sign painter to apply graphics. Comply with details indicated.
 2. Temporary Signs: Prepare signs to provide directional information to construction personnel and visitors.

- K. Temporary Exterior Lighting: Install exterior yard and sign lights so that signs are visible when Work is being performed.
- L. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when temperature is expected to rise above 80° F. (27° C.). Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material in lawful manner.
- M. Rodent and Pest Control: Before deep foundation Work has been completed, retain local exterminator or pest control company to recommend practices to minimize attraction and harboring of rodents, roaches and other pests. Employ this service to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Perform control operations in lawful manner using environmentally safe materials.
- N. Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate. Cover finished, permanent stairs with protective covering of plywood or similar material so finishes will be undamaged at time of acceptance.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Except for use of permanent fire protection as soon as available, do not change over from use of temporary security and protection facilities to permanent facilities until Substantial Completion, or as directed by Owner.
- B. Temporary Fire Protection: Until fire protection needs are supplied by permanent facilities, install and maintain temporary fire protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 "Standard for Portable Fire Extinguishers," and NFPA 241 "Standard for Safeguarding Construction, Alterations and Demolition Operations."
 - 1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.
 - 2. Store combustible materials in containers in fire-safe locations.
 - 3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access routes for fighting fires. Prohibit smoking in hazardous fire exposure areas.
 - 4. Provide supervision of welding operations, combustion type temporary heating units, and similar sources of fire ignition.
- C. Permanent Fire Protection: At earliest feasible date in each area of Project, complete installation of permanent fire protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities.

- D. Barricades, Warning Signs and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics and warning signs to inform personnel and public of hazard being protected against. Where appropriate and needed provide lighting, including flashing red or amber lights.
- E. Enclosure Fence: When excavation begins, install an enclosure fence with lockable entrance gates. Locate where indicated, or enclose entire site or portion determined sufficient to accommodate construction operations. Install in manner that will prevent people, dogs and other animals from easily entering site, except by entrance gates.
 - 1. Provide open-mesh, chain-link fencing with posts set in compacted mixture of gravel and earth.
 - 2. Provide plywood fence, 8 ft high, framed with four 2 in. x 4 in. rails, and preservative treated wood posts spaced not more than 8 ft apart.
- F. Covered Walkway: Erect structurally adequate, protective covered walkway for passage of persons along adjacent public street. Coordinate with entrance gates, other facilities and obstructions. Comply with regulations of authorities having jurisdiction.
 - 1. Construct covered walkways using scaffold or shoring framing. Provide wood plank overhead decking, protective plywood enclosure walls, handrails, barricades, warning signs, lights, safe and well- drained walkways and similar provisions for protection and safe passage. Extend the back wall beyond structure to complete enclosure fence. Paint and maintain in manner acceptable to Owner and Engineer/Architect.
- G. Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft and similar violations of security.
 - 1. Storage: Where materials and equipment must be stored, and are of value or attractive for theft, provide secure lockup. Enforce discipline in connection with the installation and release of material to minimize opportunity for theft and vandalism.
- H. Environmental Protection: Provide protection, operate temporary facilities and conduct construction in ways and by methods that comply with environmental regulations, and minimize possibility that air, waterways and subsoil might be contaminated or polluted, or that other undesirable effects might result. Avoid use of tools and equipment which produce harmful noise. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons or firms near site.

3.5 OPERATION, TERMINATION AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.

- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation and similar facilities on 24-hr day basis where required to achieve indicated results and to avoid possibility of damage.
 2. Protection: Prevent water filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.
- C. Termination and Removal: Unless Engineer/Architect requests that it be maintained longer, remove each temporary facility when need has ended, or when replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged Work, clean exposed surfaces and replace construction that cannot be satisfactorily repaired.
1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
 2. Remove temporary paving that is not intended for or acceptable for integration into permanent paving. Where area is intended for landscape development, remove soil and aggregate fill that does not comply with requirements for fill or subsoil in area. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances which might impair growth of plant materials or lawns. Repair or replace street paving, curbs and sidewalks at the temporary entrances, as required by governing authority.
 3. At Substantial Completion, clean and renovate permanent facilities that have been used during construction period, including but not limited to:
 - a. Replace air filters and clean inside of ductwork and housings.
 - b. Replace significantly worn parts and parts that have been subject to unusual operating conditions.
 - c. Replace lamps that are burned out or noticeably dimmed by substantial hours of use.

END OF SECTION 015000

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SECTION 016010 - PRODUCT SUBSTITUTION PROCEDURES

GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling requests for substitutions made after award of Contract.
- B. Contractor's Construction Schedule and Schedule of Submittals are included under Section "Submittal Procedures."
- C. Standards: Refer to Section "Reference Standards and Definitions" for applicability of industry standards to products specified.
- D. Procedural requirements governing Contractor's selection of products and product options are included under Section "Product Requirements."
- E. DCP's policy is to reject requests for substitution unless paragraph "Substitutions" under Article "Definitions" applies.

1.3 DEFINITIONS

- A. Definitions used in this Article are not intended to change or modify meaning of other terms used in Contract Documents.
- B. Substitutions: Requests for changes in products, materials, equipment, and methods of construction required by Contract Documents proposed by Contractor after award of Contract are considered requests for "substitutions." Following are not considered substitutions:
 - 1. Revisions to Contract Documents requested by Owner or DCP.
 - 2. Specified options of products and construction methods included in Contract Documents.
 - 3. Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

1.4 SUBMITTALS

- A. Substitution Request Submittal: Requests for substitution will be considered if received within 15 days after commencement of Work. Requests received more than 15 days after commencement of Work may be considered or rejected at discretion of DCP.
1. Submit three copies of each request for substitution for consideration. Submit requests on forms included at end of this Section and in accordance with procedures required for Change Order proposals.
 2. Identify product, or fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers. Provide complete documentation showing compliance with requirements for substitutions, and the following information, as appropriate:
 - a. Product Data, including Drawings and descriptions of products, fabrication and installation procedures.
 - b. Samples, where applicable or requested.
 - c. Detailed comparison of significant qualities of proposed substitution with those of Work specified. Significant qualities may include elements such as size, weight, durability, performance and visual effect.
 - d. Coordination information, including list of changes or modifications needed to other parts of Work and to construction performed by Owner and separate Contractors, that will become necessary to accommodate proposed substitution.
 - e. Statement indicating substitution's effect on Contractor's Construction Schedule compared to schedule without approval of substitution. Indicate effect of proposed substitution on overall Contract Time.
 - f. Cost information, including proposal of net change, if any in Contract Sum.
 - g. Certification by Contractor that substitution proposed is equal-to or better in every significant respect to that required by Contract Documents, and that it will perform adequately in application indicated. Include Contractor's waiver of rights to additional payment or time, that may subsequently become necessary because of failure of substitution to perform adequately.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

- A. Conditions: Contractor's substitution request will be received and considered by DCP when one or more of following conditions are satisfied, as determined by DCP; otherwise requests will be returned without action except to record noncompliance with these requirements.
1. Extensive revisions to Contract Documents are not required.
 2. Proposed changes are in keeping with general intent of Contract Documents.
 3. Request is timely, fully documented and properly submitted.
 4. Request is directly related to an "or equal" clause or similar language in Contract Documents.

5. Specified product or method of construction cannot be provided within Contract Time. Request will not be considered if product or method cannot be provided as result of failure to pursue Work promptly or coordinate activities properly.
 6. Specified product or method of construction cannot receive necessary approval by governing authority, and requested substitution can be approved.
 7. Substantial advantage is offered the Owner, in terms of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities Owner may be required to bear. Additional responsibilities for Owner may include additional compensation to Engineer/Architect for redesign and evaluation services, increased cost of other construction by Owner or separate Contractors, and similar considerations.
 8. Specified product or method of construction cannot be provided in manner that is compatible with other materials, and where Contractor certifies that substitution will overcome incompatibility.
 9. Specified product or method of construction cannot be coordinated with other materials, and where Contractor certifies that proposed substitution can be coordinated.
 10. Specified product or method of construction cannot provide warranty required by Contract Documents and where Contractor certifies that proposed substitution provide required warranty.
- B. Contractor's submittal and Engineer/Architect's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with Contract Documents does not constitute an acceptable or valid request for substitution, nor does it constitute approval.

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 016010

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REQUEST FOR SUBSTITUTION

To:

Attention:

From:

Name of Company

Address

City, State, Zip Code

Phone

Fully answer all information requested below. Failure to answer any item may cause rejection of request for substitution. If requested by DCP, submit information about manufacturer and vendor history, financial stability, distribution and support systems. Use one form for each product requested. Only first product listed will be considered on forms with more than one product listed.

Specification Section Number: _____ Drawing Number: _____

Para Number: _____ Detail Number: _____

Specified Product: _____

Proposed Substitution: _____

Answer the following questions. Attach an explanation sheet on your company's letterhead when required.

Does the proposed substitution affect dimensions indicated on Drawings?

No _____ Yes _____ (If yes, explain below).

Does the proposed substitution require changes in Drawings and/or design or installation changes?

No _____ Yes _____

If yes, is the cost of these changes included in the proposed amount? No _____ Yes _____

Does the proposed substitution affect other trades? No _____ Yes _____

(If yes, explain who and how)

If the proposed product does affect the work of other trades, has the cost impact on their work been included in the price of the proposed substitution?

No _____ Yes _____

Does the proposed product's guarantee differ from that of the specified product's?

No _____ Yes _____ (If yes, explain below).

Why is this proposal for substitution being submitted? List reasons below.

**Vendor Qualification Form
Walker Parking Consultants/Engineers, Inc.**

1. Statement of Confidentiality:

Walker Parking Consultants/Engineers, Inc. (WPC) will treat any information as confidential which is clearly labeled so. A "clear label" is defined as the word "Confidential" marked in red ink on each and every page desired confidential in letters no less than one half inch high. At most, only two WPC staff will have access to vendor information marked "Confidential", Randy Carwile and his designate.

2. Statement of WPC's Commitment to Quality:

WPC is committed to providing quality service to its clients. As part of this commitment, WPC never makes a promise it cannot keep. WPC requires the same commitment from its vendors, whether direct or indirect.

3. Statement of WPC's Relationship to its Vendors:

Mutual trust is the relationship WPC desires with all its vendors. Both WPC and its vendors must realize that trust must be earned over time. Trust is easily damaged and sometimes impossible to recover.

4. Vendor's Organization:

For the product being considered, list the number of employees in:

_____	Product manufacture
_____	Product sales
_____	Product marketing
_____	Product R & D
_____	Product technical service
=====	TOTAL

5. Financial Stability:

Provide past 5 yrs sales history and current audited financial statement or equivalent documentation of financial stability.

6. Safety and Environment:

Define vendor policies.

7. Sales/Service Offices:

List all locations.

8. Geographic Markets:

List all areas served.

9. Products:

On (a) separate sheet(s) for each product, list product name, uses, length of time in service, test data. Provide Material Safety Data Sheet(s). Provide case history data of product use in 5 major projects within the last 2 yrs.

10. Quality Assurance:

Define manufacturing program. Define installation program.

11. Installation:

By manufacturer?	_____ Y	_____ N
By certified applicators?	_____ Y	_____ N
By approved applicators?	_____ Y	_____ N
By any applicator?	_____ Y	_____ N

12. Comments:

13. Standard Warranty:

Provide copy of terms.

14. References:

Provide three.

Signature: _____

Printed name: _____

Title: _____

Date: _____

Have this statement notarized.

Decision of Engineer/Architect regarding acceptance or rejection of proposed substitution will be based, at least in part, on information supplied above and in attached explanations and product data.

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SECTION 017300 - EXECUTION

GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering and surveying.
 - 3. General installation of products.
 - 4. Coordination of Owner-installed products.
 - 5. Progress cleaning.
 - 6. Starting and adjusting.
 - 7. Protection of installed construction.
 - 8. Correction of the Work.
 - 9. Construction Phasing.
 - 10. Maintaining public access through or adjacent to the Work.
- B. Related Sections include the following:
 - 1. Division 01 Section "Project Management and Coordination" for procedures for coordinating field engineering with other construction activities.
 - 2. Division 01 Section "Submittal Procedures" for submitting surveys.
 - 3. Division 01 Section "Cutting and Patching" for procedural requirements for cutting and patching necessary for the installation or performance of other components of the Work.
 - 4. Division 01 Section "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.3 SUBMITTALS

- A. Qualification Data: For land surveyor to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of Engineers and owners, and other information specified.
- B. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.

- C. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.
- D. Certified Surveys: Submit two copies signed by land surveyor.
- E. Final Property Survey: Submit four copies showing the Work performed and record survey data and one copy in electronic format.

1.4 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.
 - 1. Before construction, verify the location and points of connection of utility services.
- B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework or demolition, investigate and verify the existence and location of underground or embedded utilities and other construction affecting the Work.
 - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
 - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- C. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
 - a. Description of the Work.

- b. List of detrimental conditions, including substrates.
 - c. List of unacceptable installation tolerances.
 - d. Recommended corrections.
2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to **[local utility]** **[Owner]** that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 1. Notify Owner not less than two days in advance of proposed utility interruptions.
 2. Do not proceed with utility interruptions without Owner's written permission.
- C. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- D. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- E. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Engineer. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents. Submit requests on CSI Form 13.2A, "Request for Interpretation."

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Engineer promptly.
- B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.
 - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
 - 2. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 - 3. Inform installers of lines and levels to which they must comply.
 - 4. Check the location, level and plumb, of every major element as the Work progresses.
 - 5. Notify Engineer when deviations from required lines and levels exceed allowable tolerances.
 - 6. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.
- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Engineer and Owner.

3.4 FIELD ENGINEERING

- A. Identification: Owner will identify existing benchmarks, control points, and property corners.
- B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
 - 1. Do not change or relocate existing benchmarks or control points without prior written approval of Owner and Engineer. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Owner and Engineer before proceeding.
 - 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

- C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
 - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
 - 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
 - 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.
- D. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.
- E. Final Property Survey: Prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.
 - 1. Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a site corner to a legal point.
 - 2. Recording: At Substantial Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

3.5 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
 - 4. Maintain minimum headroom clearance of 7 feet in spaces without a suspended ceiling.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Engineer.
 - 2. Allow for building movement, including thermal expansion and contraction.
- G. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- H. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 OWNER-INSTALLED PRODUCTS

- A. Site Access: Provide access to Project site for Owner's construction forces.
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction forces.
 - 1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
 - 2. Preinstallation Conferences: Include Owner's construction forces at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction forces if portions of the Work depend on Owner's construction.

3.7 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F (27 deg C).
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Cutting and Patching: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.
 - 1. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.
- H. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- I. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- J. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- K. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

- B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Division 01 Section "Quality Control."

3.9 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.10 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 01 Section "Cutting and Patching."
 - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 017300

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SECTION 017329 - CUTTING AND PATCHING

GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes procedural requirements for cutting and patching.
- B. Related Sections include the following:
 - 1. Division 01 Section "Selective Structure Demolition" for demolition of selected portions of the building for alterations.
 - 2. Division 07 Section "Penetration Firestopping" for patching fire-rated construction.
 - 3. Divisions 02 through 14, 21-27, and 31-33 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.
 - a. Requirements in this Section apply to mechanical and electrical installations. Refer to Divisions 23 and 26 Sections for other requirements and limitations applicable to cutting and patching mechanical and electrical installations.

1.3 DEFINITIONS

- A. Cutting: Removal of existing construction necessary to permit installation or performance of other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.4 SUBMITTALS

- A. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
 - 1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.

2. Changes to Existing Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
3. Products: List products to be used and firms or entities that will perform the Work.
4. Dates: Indicate when cutting and patching will be performed.
5. Utilities: List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out of service. Indicate how long service will be disrupted.
6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
7. Engineer's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

1.5 QUALITY ASSURANCE

- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
- B. Operational Elements: Do not cut and patch [**the following**] operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
 1. Primary operational systems and equipment.
 2. Air or smoke barriers.
 3. Fire-protection systems.
 4. Control systems.
 5. Communication systems.
 6. Conveying systems.
 7. Electrical wiring systems.
 8. Operating systems of special construction in Division 13 Sections.
- C. Miscellaneous Elements: Do not cut and patch the following elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
 1. Water, moisture, or vapor barriers.
 2. Membranes and flashings.
 3. Exterior curtain-wall construction.
 4. Equipment supports.
 5. Piping, ductwork, vessels, and equipment.
 6. Noise- and vibration-control elements and systems.

- D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Engineer's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
1. If possible, retain original Installer or fabricator to cut and patch exposed Work listed below. If it is impossible to engage original Installer or fabricator, engage another recognized, experienced, and specialized firm.
 - a. Processed concrete finishes.
 - b. Stonework and stone masonry.
 - c. Ornamental metal.
 - d. Matched-veneer woodwork.
 - e. Preformed metal panels.
 - f. Roofing.
 - g. Firestopping.
 - h. Window wall system.
 - i. Stucco and ornamental plaster.
 - j. Terrazzo.
 - k. Finished wood flooring.
 - l. Fluid-applied flooring.
 - m. Aggregate wall coating.
 - n. Wall covering.
 - o. Swimming pool finishes.
 - p. HVAC enclosures, cabinets, or covers.
- E. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.6 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections of these Specifications.

- B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Services: Where existing services are required to be removed, relocated, or abandoned, bypass such services before cutting to [**minimize**] [**avoid**] interruption of services to occupied areas.

3.3 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

- B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 3. Concrete: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 4. Excavating and Backfilling: Comply with requirements in applicable Division 02 Sections where required by cutting and patching operations.
 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 6. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
 4. Ceilings: Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.
 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

END OF SECTION 017329

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SECTION 017423 - FINAL CLEANING

GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for final cleaning at Substantial Completion.
 - 1. Special cleaning requirements for specific elements of Work are included in appropriate Sections of Divisions 02 through 14, 21-27, and 31-33.
- B. General Project closeout requirements are included in Section "Closeout Procedures."
- C. General cleanup and waste removal requirements are included in Section "Temporary Facilities and Controls."
- D. Environmental Requirements: Conduct cleaning and waste disposal operations in compliance with local laws and ordinances. Comply fully with federal and local environmental and anti-pollution regulations.
 - 1. Do not dispose of volatile wastes such as mineral spirits, oil or paint thinner in storm or sanitary drains.
 - 2. Burning or burying of debris, rubbish or other waste material on the premises will not be permitted.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by the manufacturer or fabricator of surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property, or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Provide final cleaning operations when indicated. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit of Work to the condition expected from commercial building cleaning and maintenance program. Comply with manufacturer's instructions.
- B. Complete following cleaning operations before requesting inspection for Certification of Substantial Completion for entire Project or a portion of Project.
 - 1. Clean Project site, yard and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste materials, litter and foreign substances. Sweep paved areas broom clean. Remove petro-chemical spills, stains and other foreign deposits. Rake grounds that are neither planted nor paved, to a smooth even-textured surface.
 - 2. Remove tools, construction equipment, machinery and surplus material from the site.
 - 3. Remove snow and ice to provide safe access to the building.
 - 4. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - 5. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics and similar spaces.
 - 6. Broom clean concrete floors in unoccupied spaces.
 - 7. Vacuum clean carpet and similar soft surfaces, removing debris and excess nap. Shampoo if required.
 - 8. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - 9. Remove labels that are not permanent labels.
 - 10. Touch-up and otherwise repair and restore marred exposed finishes and surfaces. Replace finishes and surfaces that can not be satisfactorily repaired or restored, or that show evidence of repair or restoration. Do not paint over "UL" and similar labels, including mechanical and electrical name plates.
 - 11. Wipe surfaces of mechanical and electrical equipment, elevator equipment and similar equipment. Remove excess lubrication, paint and mortar droppings and other foreign substances.
 - 12. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - 13. Replace air disposable filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills. Clean ducts, blowers, and coils if units were operated without filters during construction.

14. Clean food service equipment to a sanitary condition, ready and acceptable for its intended use.
 15. Clean light fixtures, lamps, globes and reflectors to function with full efficiency. Replace burned out bulbs, and defective and noisy starters in fluorescent and mercury vapor fixtures.
 16. Leave Project clean and ready for occupancy.
- C. Pest Control: Engage an experienced licensed exterminator to make final inspection, and rid Project of rodents, insects, and other pests. Comply with regulations of local authorities.
- D. Removal of Protection: Remove temporary protection and facilities installed during construction to protect previously completed installations during remainder of construction period.
- E. Compliances: Comply with governing regulations and safety standards for cleaning operations. Remove waste materials from the site and dispose of in a lawful manner.
1. Where extra materials of value remain after completion of associated construction have become Owner's property, dispose of these materials as directed.

END OF SECTION 017423

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SECTION 017700 - CLOSEOUT PROCEDURES

GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for project closeout, including but not limited to:
 - 1. Inspection procedures.
 - 2. Submittal of warranties.
 - 3. Final cleaning.
- B. Closeout requirements for specific construction activities are included in appropriate Sections in Divisions 02 through 14, 21-27, and 31-33.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete following. List exceptions in request.
 - 1. In Application for Payment that coincides with, or first follows, date Substantial Completion is claimed, show 100% completion for portion of Work claimed as substantially complete. Include supporting documentation for completion as indicated in these Contract Documents and statement showing an accounting of changes to Contract Sum.
 - a. If 100% completion cannot be shown, include list of incomplete items, value of incomplete construction, and reasons Work is not complete.
 - 2. Advise Owner of pending insurance change-over requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.
 - 4. Obtain and submit releases enabling Owner unrestricted use of Work and access to services and utilities; include occupancy permits, operating certificates and similar releases.
 - 5. Submit record drawings, maintenance manuals, final project photographs, damage or settlement survey, property survey, and similar final record information.
 - 6. Deliver tools, spare parts, extra stock, and similar items.

7. Make final change-over of permanent locks and transmit keys to Owner. Advise Owner's personnel of change-over in security provisions.
 8. Complete start-up testing of systems, and instruction of Owner's operating and maintenance personnel. Discontinue or change over and remove temporary facilities from site, along with construction tools, mock-ups, and similar elements.
 9. Complete final clean up requirements, including touch-up painting. Touch-up and otherwise repair and restore marred exposed finishes.
- B. Inspection Procedures: On receipt of request for inspection, Engineer/Architect will either proceed with inspection or advise Contractor of unfilled requirements. Engineer/Architect will prepare Certificate of Substantial Completion following inspection, or advise Contractor of construction that must be completed or corrected before certificate will be issued.
1. Engineer/Architect will repeat inspection when requested and assured that Work has been substantially completed.
 2. Engineer/Architect will provide one repeat inspection under its contract with Owner. Subsequent inspections shall be at Contractor's expense.
 3. Results of completed inspection will form basis of requirements for final acceptance.

1.4 FINAL ACCEPTANCE

- A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in request.
1. Submit final payment request with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 2. Submit an updated final statement, accounting for final additional changes to Contract Sum.
 3. Submit certified copy of Engineer/Architect's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and list has been endorsed and dated by Engineer/Architect.
 4. Submit final meter readings for utilities, measured record of stored fuel, and similar data as of date of Substantial Completion, or when Owner took possession of and responsibility for corresponding elements of Work.
 5. Submit consent of surety to final payment.
 6. Submit final liquidated damages settlement statement.
 7. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
- B. Re-inspection Procedure: Engineer/Architect will re-inspect Work upon receipt of notice that Work, including inspection list items from earlier inspections, has been completed, except items whose completion has been delayed because of circumstances acceptable to Engineer/Architect.

1. Engineer/Architect will provide one repeat inspection under its contract with Owner. Subsequent inspections shall be at Contractor's expense.
2. Upon completion of re-inspection, Engineer/Architect will prepare certificate of final acceptance, or advise Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
3. If necessary, re-inspection will be repeated.

PART 2 - PRODUCTS (NOT APPLICABLE).

PART 3 - EXECUTION

3.1 CLOSEOUT PROCEDURES

- A. Operating and Maintenance Instructions: Arrange for each installer of equipment that requires regular maintenance to meet with Owner's personnel to provide instruction in proper operation and maintenance. If installers are not experienced in procedures, provide instruction by manufacturer's representatives. Include detailed review of following items:
1. Maintenance manuals.
 2. Record documents, including all final surveys.
 3. Spare parts and materials.
 4. Tools.
 5. Lubricants.
 6. Fuels.
 7. Identification systems.
 8. Control sequences.
 9. Hazards.
 10. Cleaning.
 11. Warranties and bonds.
 12. Maintenance agreements and similar continuing commitments.
- B. As part of instruction for operating equipment, demonstrate following procedures:
1. Start-up.
 2. Shutdown.
 3. Emergency operations.
 4. Noise and vibration adjustments.
 5. Safety procedures.
 6. Economy and efficiency adjustments.
 7. Effective energy utilization.

END OF SECTION 017700

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SECTION 017823 - OPERATION AND MAINTENANCE DATA

GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory.
 - 2. Emergency manuals.
 - 3. Operation manuals for systems, subsystems, and equipment.
 - 4. Maintenance manuals for the care and maintenance of products, systems and equipment.
- B. Related Sections include the following:
 - 1. Division 01 Section "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
 - 2. Division 01 Section "Closeout Procedures" for submitting operation and maintenance manuals.
 - 3. Division 01 Section "Project Record Documents" for preparing Record Drawings for operation and maintenance manuals.
 - 4. Divisions 02 through 14, 21-27, and 31-33 Sections for specific operation and maintenance manual requirements for products in those Sections.

1.3 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 SUBMITTALS

- A. Initial Submittal: Submit two draft copies of each manual at least 15 days before requesting inspection for Substantial Completion. Include a complete operation and maintenance directory. Owner or entity designated by Owner will return one copy of draft and mark whether general scope and content of manual are acceptable.

- B. Final Submittal: Submit one copy of each manual in final form at least 15 days before final inspection. Owner or entity designated by Owner will return copy with comments within 15 days after final inspection.
 - 1. Correct or modify each manual to comply with Owner or entity designated by Owner comments. Submit three copies of each corrected manual within 15 days of receipt of Owner or entity designated by Owner's comments.

1.5 COORDINATION

- A. Where operation and maintenance documentation includes information on installations by more than one factory-authorized service representative, assemble and coordinate information furnished by representatives and prepare manuals.

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

- A. Organization: Include a section in the directory for each of the following:
 - 1. List of documents.
 - 2. List of systems.
 - 3. List of equipment.
 - 4. Table of contents.
- B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
- C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
- D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with the same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

2.2 MANUALS, GENERAL

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:

1. Title page.
 2. Table of contents.
 3. Manual contents.
- B. Title Page: Enclose title page in transparent plastic sleeve. Include the following information:
1. Subject matter included in manual.
 2. Name and address of Project.
 3. Name and address of Owner.
 4. Date of submittal.
 5. Name, address, and telephone number of Contractor.
 6. Name and address of Engineer/Architect.
 7. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
 - b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
 2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
 3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.
 4. Supplementary Text: Prepared on 8-1/2-by-11-inch, 20-lb/sq. ft. white bond paper.

5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.3 EMERGENCY MANUALS

- A. Content: Organize manual into a separate section for each of the following:
 1. Type of emergency.
 2. Emergency instructions.
 3. Emergency procedures.
- B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
 1. Fire.
 2. Flood.
 3. Gas leak.
 4. Water leak.
 5. Power failure.
 6. Water outage.
 7. System, subsystem, or equipment failure.
 8. Chemical release or spill.
- C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- D. Emergency Procedures: Include the following, as applicable:
 1. Instructions on stopping.
 2. Shutdown instructions for each type of emergency.
 3. Operating instructions for conditions outside normal operating limits.
 4. Required sequences for electric or electronic systems.
 5. Special operating instructions and procedures.

2.4 OPERATION MANUALS

- A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

1. System, subsystem, and equipment descriptions.
2. Performance and design criteria if Contractor is delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.
8. Piped system diagrams.
9. Precautions against improper use.
10. License requirements including inspection and renewal dates.

B. Descriptions: Include the following:

1. Product name and model number.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.5 PRODUCT MAINTENANCE MANUAL

- A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

- B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Product Information: Include the following, as applicable:
 - 1. Product name and model number.
 - 2. Manufacturer's name.
 - 3. Color, pattern, and texture.
 - 4. Material and chemical composition.
 - 5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
 - 1. Inspection procedures.
 - 2. Types of cleaning agents to be used and methods of cleaning.
 - 3. List of cleaning agents and methods of cleaning detrimental to product.
 - 4. Schedule for routine cleaning and maintenance.
 - 5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.

2.6 SYSTEMS AND EQUIPMENT MAINTENANCE MANUAL

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- B. Source Information: List each system, subsystem, and piece of equipment included in the manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:

1. Standard printed maintenance instructions and bulletins.
 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 3. Identification and nomenclature of parts and components.
 4. List of items recommended to be stocked as spare parts.
- D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
1. Test and inspection instructions.
 2. Troubleshooting guide.
 3. Precautions against improper maintenance.
 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 5. Aligning, adjusting, and checking instructions.
 6. Demonstration and training videotape, if available.
- E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
 2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.
- B. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.

- C. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- D. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
 - 1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 - 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- E. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
 - 1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- F. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.

Do not use original Project Record Documents as part of operation and maintenance manuals.

- 2. Comply with requirements of newly prepared Record Drawings in Division 01 Section "Project Record Documents."
- G. Comply with Division 01 Section "Closeout Procedures" for the schedule for submitting operation and maintenance documentation.

END OF SECTION 017823

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SECTION 017836 - WARRANTIES

GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for warranties required by Contract Documents, including manufacturers standard warranties on products and special warranties.
 - 1. Refer to General Conditions for terms of Contractor's period for correction of Work.
- B. Related Sections: Following Sections contain requirements that relate to this Section:
 - 1. Division 01 Section "Submittal Procedures" specifies procedures for submitting warranties.
 - 2. Division 01 Section "Closeout Procedures" specifies contract closeout procedures.
 - 3. Divisions 02 through 14, 21-27, and 31-33 Sections for specific requirements for warranties on products and installations specified to be warranted.
 - 4. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in Contract Documents.
- C. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of warranty on Work that incorporates products. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

1.3 DEFINITIONS

- A. Standard Product Warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by manufacturer to Owner.
- B. Special warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.

1.4 WARRANTY REQUIREMENTS

- A. Related Damages and Losses: When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as result of such failure or must be removed and replaced to provide access for correction of warranted construction.
- B. Reinstatement of Warranty: When Work covered by warranty has failed and been corrected by replacement or rebuilding, reinstate warranty by written endorsement. Reinstated warranty shall be equal to original warranty with equitable adjustment for depreciation.
- C. Replacement Cost: Upon determination that Work covered by warranty has failed replace or rebuild Work to an acceptable condition complying with requirements of Contract Documents. Contractor is responsible for cost of replacing or rebuilding defective Work regardless of whether Owner has benefited from use of Work through portion of its anticipated useful service life.
- D. Owner's Recourse: Expressed warranties made to Owner are in addition to implied warranties, and shall not limit duties, obligations, rights and remedies otherwise available under law. Expressed warranty periods shall not be interpreted as limitations on the time in which the Owner can enforce such other duties, obligations, rights, or remedies.
 - 1. Rejection of Warranties: Owner reserves right to reject warranties and to limit selection to products with warranties not in conflict with requirements of Contract Documents.
- E. Where Contract Documents require a special warranty, or similar commitment on Work or part of Work, Owner reserves the right to refuse to accept Work, until Contractor presents evidence that entities required to countersign such commitments are willing to do so.

1.5 SUBMITTALS

- A. Submit written warranties to Engineer/Architect and DCP prior to date certified for Substantial Completion.
- B. When designated portion of Work is completed and occupied or used by Owner, by separate agreement with Contractor during construction period, submit properly executed warranties to Engineer/Architect and DCP within 15 days of completion of that designated portion of Work.
- C. Form of Submittal: At Final Completion compile 2 copies of each required warranty properly executed by Contractor, or by Contractor, subcontractor, supplier, or manufacturer. Organize warranty documents into an orderly sequence based on table of contents of Project Manual.

- D. Bind warranties and bonds in heavy-duty, commercial quality, durable 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8.5 in. by 11in. paper.
1. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark tab to identify product or installation. Provide typed description of product or installation, including name of product, and name, address, and telephone number of Installer.
 2. Identify each binder on front and spine with typed or printed title "WARRANTIES," Project title or name, and name of Contractor.
 3. When warranted construction requires operation and maintenance manuals, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 017836

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SECTION 017839 - PROJECT RECORD DOCUMENTS

GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.
- B. Related Sections include the following:
 - 1. Division 01 Section "Closeout Procedures" for general closeout procedures and maintenance manual requirements.
 - 2. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 3. Divisions 02 through 14, 21-27, and 31-33 Sections for specific requirements for Project Record Documents of products in those Sections.

1.3 SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit one set of marked-up Record Prints.
 - 2. Number of Copies: Submit copies of Record Drawings as follows:
 - a. Initial Submittal: Submit one set of plots from corrected Record CAD Drawings and one set of marked-up Record Prints. Engineer/Architect will initial and date each plot and mark whether general scope of changes, additional information recorded, and quality of drafting are acceptable. Engineer/Architect will return plots and prints for organizing into sets, printing, binding, and final submittal.
 - b. Final Submittal: Submit one set of marked-up Record Prints, one set of Record CAD Drawing files, one set of Record CAD Drawing plots, and three copies printed from record plots. Plot and print each Drawing, whether or not changes and additional information were recorded.

- 1) Electronic Media: CD-ROM.
- B. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications.
 - C. Record Product Data: Submit one copy of each Product Data submittal.
 1. Where Record Product Data is required as part of operation and maintenance manuals, submit marked-up Product Data as an insert in the manual instead of submittal as Record Product Data.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.
 1. Preparation: Mark Record Prints to show the actual installation and unit quantity where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an understandable drawing technique.
 - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Depths of foundations below first floor.
 - d. Locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.
 - g. Actual equipment locations.
 - h. Duct size and routing.
 - i. Locations of concealed internal utilities.
 - j. Changes made by Change Order or Construction Change Directive.
 - k. Changes made following Engineer/Architect's or DCP's written orders.
 - l. Details not on the original Contract Drawings.
 - m. Field records for variable and concealed conditions.
 - n. Record information on the Work that is shown only schematically.
 - o. Actual location and quantity of unit price items of the Work.

3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
 4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Record CAD Drawings: Immediately before inspection for Certificate of Substantial Completion, review marked-up Record Prints with Engineer/Architect. When authorized, prepare a full set of corrected CAD Drawings of the Contract Drawings, as follows:
1. Format: Same CAD program, version, and operating system as the original Contract Drawings.
 2. Format: DWG Version AutoCAD 2014, operating in Windows 7 or higher operating system.
 3. Incorporate changes and additional information previously marked on Record Prints. Delete, redraw, and add details and notations where applicable.
 4. Refer instances of uncertainty to Engineer/Architect for resolution.
 5. Engineer/Architect will furnish Contractor one set of CAD Drawings of the Contract Drawings for use in recording information.
- C. Newly Prepared Record Drawings: Prepare new Drawings instead of preparing Record Drawings where Engineer/Architect determines that neither the original Contract Drawings nor Shop Drawings are suitable to show actual installation.
1. New Drawings may be required when a Change Order is issued as a result of accepting an alternate, substitution, or other modification.
 2. Consult with Engineer/Architect for proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction. Integrate newly prepared Record Drawings into Record Drawing sets; comply with procedures for formatting, organizing, copying, binding, and submitting.
- D. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 2. Record CAD Drawings: Organize CAD information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each CAD file.
 3. Identification: As follows:
 - a. Project name.

- b. Date.
- c. Designation "PROJECT RECORD DRAWINGS."
- d. Name of Engineer/Architect.
- e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 - 3. Record the name of the manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 - 4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
 - 5. Note related Change Orders, Record Drawings, and Product Data where applicable.

2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 - 3. Note related Change Orders, Record Drawings, **[and] [Product Data]** where applicable.

2.4 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Engineer/Architect's and DCP's reference during normal working hours.

END OF SECTION 017839

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SECTION 017900 - DEMONSTRATION AND TRAINING

GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
 - 1. Demonstration of operation of systems, subsystems, and equipment.
 - 2. Training in operation and maintenance of systems, subsystems, and equipment.
- B. Related Sections include the following:
 - 1. Division 01 Section "Project Management and Coordination" for requirements for preinstruction conferences.
 - 2. Division 01 Section "Photographic Documentation" for preparing and submitting demonstration and training videotapes.

1.3 SUBMITTALS

- A. Instruction Program: Submit two copies of outline of instructional program for demonstration and training, including a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
 - 1. At completion of training, submit one complete training manual for Owner's use.
- B. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of Engineer/Architects and owners, and other information specified.
- C. Attendance Record: For each training module, submit list of participants and length of instruction time.
- D. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.
- E. Demonstration and Training Videotape: Submit two copies at end of each training module.

1.4 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Division 01 Section "Quality Control," experienced in operation and maintenance procedures and training.
- C. Preinstruction Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to demonstration and training including, but not limited to, the following:
 - 1. Inspect and discuss locations and other facilities required for instruction.
 - 2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
 - 3. Review required content of instruction.
 - 4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.5 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Engineer/Architect.

PART 2 - PRODUCTS

2.1 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections, and as follows:
 - 1. Fire-protection systems, including fire alarm, fire pumps and fire-extinguishing systems.
 - 2. Conveying systems, including elevators.

3. Electrical service and distribution, including transformers, switchboards, panelboards, and motor controls.
 4. Lighting equipment and controls.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following:
1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
 - a. System, subsystem, and equipment descriptions.
 - b. Performance and design criteria if Contractor is delegated design responsibility.
 - c. Operating standards.
 - d. Regulatory requirements.
 - e. Equipment function.
 - f. Operating characteristics.
 - g. Limiting conditions.
 - h. Performance curves.
 2. Documentation: Review the following items in detail:
 - a. Emergency manuals.
 - b. Operations manuals.
 - c. Maintenance manuals.
 - d. Project Record Documents.
 - e. Identification systems.
 - f. Warranties and bonds.
 - g. Maintenance service agreements and similar continuing commitments.
 3. Emergencies: Include the following, as applicable:
 - a. Instructions on meaning of warnings, trouble indications, and error messages.
 - b. Instructions on stopping.
 - c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.
 - e. Sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.
 4. Operations: Include the following, as applicable:
 - a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.

- h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
- a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
- a. Diagnostic instructions.
 - b. Test and inspection procedures.
7. Maintenance: Include the following:
- a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning
 - e. Procedures for preventive maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.
8. Repairs: Include the following:
- a. Diagnosis instructions.
 - b. Repair instructions.
 - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - d. Instructions for identifying parts and components.
 - e. Review of spare parts needed for operation and maintenance.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a combined training manual.
- B. Set up instructional equipment at instruction location.

3.2 INSTRUCTION

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
 - 1. Engineer/Architect will furnish an instructor to describe basis of system design, operational requirements, criteria, and regulatory requirements.
 - 2. Owner will furnish an instructor to describe Owner's operational philosophy.
 - 3. Owner will furnish Contractor with names and positions of participants.
- C. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
 - 1. Schedule training with Owner with at least seven days' advance notice.
- D. Evaluation: At conclusion of each training module, assess and document each participant's mastery of module by use of a demonstration performance-based test.
- E. Demonstration and Training Videotape: Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
 - 1. Comply with requirements in Division 01 Section "Photographic Documentation."
 - 2. At beginning of each training module, record each chart containing learning objective and lesson outline.
- F. Cleanup: Collect used and leftover educational materials and give to Owner. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

END OF SECTION 017900

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MILESTONE TABLE

Task	Calendar Days	Date
RFP PHASE [Eight weeks]		
Issue Criteria Documents	0	03/18/15
Pre-Proposal Meeting	9	03/27/15
Last Date for Questions and RFI	26	04/22/15
Proposals Due	7	04/29/15
Proposal Review by Selection Committee	7	05/06/15
D/B team Interviews [At City's Option]	6	05/12/15
Design/Build Team Selection and Award	2	05/14/15
DESIGN PHASE [Nine weeks]		
Contract and Notice to Proceed	4	05/18/15
50% Design Submission	21	06/08/15
50% Design Review and Approval by Owner	7	06/15/15
100% Design Submission	21	07/06/15
100% Design Review and Approval by Owner	14	07/20/15
CONSTRUCTION PHASE [Twenty-Eight weeks]		
Construction Start	9	07/29/15
Substantial Completion and Owner Occupancy	168	01/13/16
Final Completion	28	02/10/16

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EVALUATION CRITERIA

FUNCTIONAL DESIGN

- Meet or exceed number of parking spaces in the structure
- Parking Structure Function
- Aesthetic Design
- Plaza Design

SITework

- Utilization of Site [Mobilization]
- Site Development
- Landscaping
- Hardscaping

TECHNICAL DESIGN

- Structural Design
- Durability Engineering
- Finishes
- Graphics
- Conveying Systems
- Electrical Systems
- Code Compliance [Lack of Compliance shall be basis for disqualification]

QUALITY CONTROL

- Specifications
- Construction Quality Measures

SCHEDULE

- Overall schedule
- Construction schedule – Number of Days from ground breaking to substantial completion.

COST

- Cost of construction of the garage
- Cost per space
- Cost of construction for the north side plaza.

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