LAKE COUNTY FOREST PRESERVES
GENERAL OFFICES
1899 WEST WINCHESTER ROAD
LIBERTYVILLE, ILLINOIS 60048
847-367-6640

PURCHASE ORDER # 20200428-00 FY 2020
Page Number: 1

THIS MUST APPEAR ON ALL INVOICES, PACKING LISTS AND PACKAGES

BILL TO
LAKE COUNTY FOREST PRESERVES
ACCOUNTS PAYABLE
1899 WEST WINCHESTER ROAD
LIBERTYVILLE, ILLINOIS 60048

VENDOR
ADOR COMPANY, INC.
128 E. MAIN ST

ROUND LAKE PARK, IL 60073

SHIP TO
LAKE COUNTY FOREST PRESERVES
1899 WEST WINCHESTER ROAD

LIBERTYVILLE, IL
60048

Tel 847-546-4000 Requisition
Fax overhead@ameritech.n 20200562

DATE ORDERED	VENDOR NUMBER	DATE REQUIRED	FREIGHT METHOD/TERMS	DEPARTMENT/LOCATION
09/10/20	008774	10/30/20	NA - SERVICE	PLANNING, CONSERVATION, DEV

LN	DESCRIPTION/PART NO.	QTY	COST EA.	EXT. PRICE
001	ALL PARTS AND LABOR TO DEMO TWO EXISTING OVERHEAD DOORS,TRACKS AND OPERATOR MOTORS. PARTS AND LABOR TO INSTALL TWO NEW OVERHEAD DOORS, TRACK AND OPERATOR MOTORS. 11104100-803200-60022 10,450.00	1.00 EACH	10450.00000	10,450.00
			PO Total	10,450.00

OUR PURCHASE ORDER NUMBER MUST APPEAR ON ALL PAPERWORK, ESPECIALLY INVOICES.

THE PURCHASE DESCRIBED IN THIS PURCHASE ORDER WILL BE GOVERNED BY THE TERMS AND CONDITIONS OF THE CONTRACT APPROVED BY THE LAKE COUNTY FOREST PRESERVE DISTRICT, AND NOT BY THE TERMS AND CONDITIONS ON THE REVERSE OF THIS PURCHASE ORDER.

ILLINOIS TAX EXEMPTION IDENTIFICATION NO. E9995-6721-06
Lake County Forest Preserves is exempt from Federal Excise Tax. See reverse side.

The TERMS AND CONDITIONS set forth on the reverse side hereof are incorporated herein by reference. Vendor will be deemed to accept this Purchase Order, and this Purchase Order will become a binding contract, upon Vendor either executing this Purchase Order in the VENDOR ACCEPTANCE box or by commencing performance.

PURCHASING AUTHORIZATION
Christine F. Miller

VENDOR ACCEPTANCE

TERMS AND CONDITIONS

1. **ENTIRE AGREEMENT.** All specifications, drawings, data, and standards submitted to Vendor with this order or the solicitation for this order are hereby incorporated herein and made a part hereof. This order contains the entire agreement of the parties. No change to this order will be effective unless approved in writing by the District and Vendor, except for increases or decreases in the work or products described on the front side of this order, which may be made unilaterally in writing by the District, subject to paragraph 3 below. Any terms and conditions proposed by Seller different than or in addition to the terms and conditions of this order are deemed rejected by the District.

2. **INDEMNIFICATION.** Vendor shall defend, indemnify, and hold harmless the District, its agents, officials and employees from and against all injuries, losses, claims, suits, costs and expenses (including attorney's fees) ("Claims") which may be asserted against the District related to Vendor's performance under this order, including without limitation any Claims for (a) infringement of any patent, copyright, trademark, or other intellectual property rights or (b) royalties, license fees, or related damages, fees, or costs.

3. **PRICE CHANGE.** The District may, by written order, increase, decrease, or otherwise change the work or products described on the front side of this order. If such change causes an increase or decrease in Vendor's costs or in the time required for performance of the Contract, or if Vendor believes it is otherwise entitled to an equitable adjustment in the contract price, then Vendor shall (a) assert its claim to the District for an equitable adjustment within five (5) calendar days after it receives the order and (b) complete and provide the work or products provided for in this order, as changed, pending a decision by the District regarding such equitable adjustment, which decision will be final.

4. **DEFAULT.** Time is of the essence of this order. If Vendor fails to deliver or provide acceptable work or products within the time promised herein, the District may, in addition to its other rights and remedies, terminate this order by written notice effective when received by Vendor as to work or products not yet shipped or rendered, and to purchase substitute work or products elsewhere and charge Vendor with any difference in price.

5. **TRANSPORTATION CHARGES.** Unless otherwise specifically provided in this order, (a) Vendor shall prepay transportation expenses for all shipments to their final destination, (b) the District will not accept shipments sent C.O.D. or freight collect and, at Seller's risk and expense, may return such shipments to Vendor, and (c) the District will pay no charges for transportation, packing, cartage or containers.

6. **UNAVOIDABLE DELAY.** If Vendor is delayed in delivering the products or work purchased under this order, Seller (a) must immediately, upon learning of such delay, give written notice to the District of such delay and (b) may, for a delay caused by a cause beyond its reasonable control, request an extension of time for delivery.

7. **QUANTITY.** If Vendor delivers quantities of products or work in excess of those specified in this order, the District, at its option, may either (a) reject such excess and hold it, ship it back to Vendor, or discard it, all at Vendor's risk and expense or (b) accept such excess at no further cost to the District.

8. **INSPECTION.** The District has the right to inspect and approve the products or work and reject any that does not comply with this order. Vendor shall remove any rejected products or work promptly after rejection. If it fails to do so, the District may return any rejected products or work to Vendor at Vendor's risk and expense.

9. **WARRANTY.** Vendor warrants that all products and work furnished hereunder will conform in all respects to the terms and conditions of this order, including any drawings, specifications, data, or standards incorporated herein, and that they will be free from latent and patent defects in materials, workmanship and title and will be free from such defects in design. In addition, Vendor warrants that said products and work are suitable for, and will perform in accordance with, the purposes for which they are purchased, fabricated, manufactured and designed or for such other purposes as are expressly specified in this order. The District may return any nonconforming or defective product to Vendor and may require correction or replacement of any nonconforming or defective product or work all at Vendor's risk and expense. The District's acceptance of any product or work delivered pursuant to this order shall not relieve Vendor of its warranty.

10. **REGULATORY COMPLIANCE.** Vendor represents and warrants that the products and work furnished hereunder (including all labels, packages and container for said goods) will comply with all applicable federal, state and local laws, rules, regulations, and standards. Without limiting the preceding sentence, Vendor shall comply with (a) the Occupational Safety and Health Act, (b) the Illinois Toxic Substances Disclosure to Employees Act (which compliance must include furnishing "Material Safety Data Sheets" where required) and (c) all applicable federal, state, and local labor laws, including but not limited to the Illinois Prevailing Wage Act, if applicable. All contractual provisions required to be incorporated in this order are deemed incorporated herein by this reference.

11. **ROYALTIES AND PATENTS; OWNERSHIP.** Vendor shall pay all royalties and license fees required for the use of the products or services. Any and all products or services provided by Vendor shall become the property of the District.

12. **EQUAL EMPLOYMENT OPPORTUNITY.** The Equal Employment Opportunity Clause of Title 44, Subtitle B, Chapter X, Part 750 of the Illinois Department of Human Rights Rules and Regulations is hereby incorporated herein in its entirety as a material term of this contract.

13. **PAYMENT.** The District shall make payments in accordance with the terms on the front of this order, or Vendor's invoice, whichever are more favorable to the District. Unless otherwise provided in this order, the due date for payment shall be calculated from the later of (a) the date the District receives an invoice from Vendor that complies with this order and (b) the date upon which the District accepts all products or work.

14. **IDENTIFICATION.** Vendor's invoices to the District shall (a) be in duplicate, (b) clearly identify all prices, (c) clearly identify the correct Purchase Order Number, and (d) be sent to the address shown on the front of this order. Vendor shall place the correct Purchase Order Number on all invoices, boxes, packages, shipping documents and correspondence related to this order. Vendor shall enclose a list of contents in each box or package.

15. **TERMINATION.** District may, at any time and for any reason, terminate this order in whole or in part by written notice or oral notice confirmed in writing. The District will pay for any conforming products or work delivered or rendered prior to the date of its written or oral notice of termination, less any damages that the District has incurred or that the District reasonably anticipates incurring.

16. **TAXES.** District is exempt from any state or local sales, use, or excise taxes. District's exemption number is printed on the front of this order. The Contract Price includes all applicable federal, state, and local taxes applicable to the products or work.

17. **LAW GOVERNING.** This order shall be governed by and construed according to the internal laws (but not the conflict of laws rules) of the State of Illinois.

LAKE COUNTY FOREST PRESERVE DISTRICT
RFQ NO.: 20031
PROJECT NAME: OVERHEAD GARAGE DOOR REPLACEMENT – MAINTENANCE BUILDING
OLD SCHOOL FOREST PRESERVE

LAKE COUNTY FOREST PRESERVE DISTRICT
CONTRACT/QUOTE FOR THE
OVERHEAD GARAGE DOOR REPLACEMENT
OLD SCHOOL FOREST PRESERVE

Full Name of Vendor ad ("Vendor") ADOR COMPANY dba OVERHEAD DOOR OF LAKE & McHENRY COUNTIES

Principal Office Address 128 E. MAIN ST, ROUND LAKE PARK IL. 60073

Local Office Address SAME

Contact Person MARK FRANZEN Telephone 847-546-4000

Email OVERHEAD@AMERITECH.NET

TO: Lake County Forest Preserve District
1899 West Winchester Road
Libertyville, Illinois 60048
Attention: Lisa Roberts, Buyer II

Vendor warrants and represents that it has reviewed and understands all documents included, referred to, or mentioned in this bound set of documents, including Addenda Nos. _____ (if none, write "NONE"), which are securely stapled to the end of this Contract/Quote.

1. Proposal to Deliver Work

A. Contract and Work. If this Contract/Quote is accepted by Owner, Vendor proposes and agrees that it shall:

(1) Labor, Equipment, Materials and Supplies. Provide, perform, and complete, in the manner specified and described in the Contract/Quote, including Attachment A, all necessary work, services, transportation, equipment, materials, information, utilities and other means and items necessary to accomplish the Project at the Work Site, both as defined in Attachment A, all in a proper and workmanlike manner (the "Work");

(2) Permits Procure and furnish all permits, licenses, and other governmental approvals and authorizations necessary for the Work;

(3) Bonds and Insurance. Procure and furnish all bonds, insurance certificates, and polices of insurance, if any, specified in the Contract/Quote; and

(4) Miscellaneous. Perform all other things required of Vendor by this Contract/Quote.

B. Required Submittals. Vendor shall submit to Owner all documents, data, and information specifically required to be submitted by Vendor under this Contract and shall, in addition, submit to Owner all such drawings, specifications, descriptive information, and engineering documents, data, and information as may be required, or as may be requested by Owner, to show the details of the Work, including a detailed Progress Schedule of the Work (the "Work Schedule"), a complete description of all equipment, materials, and supplies to be provided under this Contract (Required Submittals"). Such details shall include, but shall not be limited to, design data, structural and operating features, principal dimensions, space required or provided, clearances required or provided, type and brand of finish, and all similar matters, for all components of the Work.

C. Performance Standards. If this Contract/Quote is accepted, Vendor proposes and agrees that the Work shall strictly comply with the specifications within Attachment B and by this reference made a part of this Contract/Quote (the "Specifications").

If this Contract/Quote specifies a product by brand name or model, such specification is intended to reflect the required performance standards and standard of excellence that Owner requires for the product. However, Vendor may propose to deliver a product that is a different brand or model. If Vendor provides with its quote written documentation establishing that the brand or model it proposes to deliver possesses equal quality, durability, functionality, capability, and features as the product specified.

D. Responsibility for Damage or Loss. If this Contract/Quote is accepted, Vendor proposes and agrees that Vendor shall be responsible and liable for, and shall promptly and without charge to Owner, repair or replace damage done to and any loss or injury suffered by Owner as a result of Vendor's failure to perform hereunder.

E. Inspection/Testing/Rejection/Remedies. Owner shall have the right to inspect all of any part of the Work. If, in Owner's judgment, all or any part of the Work is defective or damaged or fails to conform strictly to the requirements of this Contract/Quote, Owner, without limiting its other rights or remedies, may (i) reject such Work, (ii) require Vendor to correct or replace such Work at Vendor's cost, (iii) perform or have performed all Work necessary to replace such Work and charge Vendor with, or withhold from Vendor, any excess cost incurred by Owner, including attorneys' fees and staff costs, (iv) cancel all or any part of this Contract/Quote without liability for further payment of amounts due or to become due; (v) require Vendor, within such reasonable time as may be fixed by Owner, to complete or correct all such Work; (vi) accept such Work or part thereof and make an equitable reduction in the Contract Price; and (vii) recover any damages suffered by Owner.

F. Per Diem Administrative Charge

Five Hundred Dollars and No Cents ($ 500.00)

2. Contract Price Proposal

A. LUMP SUM

If, in the Specifications, Owner has directed that Vendor quote a lump sum price, then Vendor shall take, in full payment for all Work and other matters set forth under Section 1 of this Contact/Quote, including overhead and profit, taxes, royalties, license fees, delivery, contributions and premiums, and compensation to all subcontractors and suppliers, the total Contract Price of:

TEN THOUSAND FOUR HUNDRED FIFTY DOLLARS AND ZERO CENTS
(in writing)

10,450 DOLLARS AND 00 CENTS
(in figures)

B. Basis for Determining Prices. It is expressly understood and agreed that:

(1) All prices stated in this Section are firm and shall not be subject to escalation or change;

(2) Owner is not subject to state or local sales, use and excise taxes; that no such taxes are included in the Schedule of Prices; and that all claim or right to claim any additional compensation by reason of the payment of any such tax is hereby waived and released;

(3) All other applicable federal, state and local taxes of every kind and nature applicable to the Work are included in the Schedule of Prices; and

(4) If Owner has stated that a certain amount of Work will be required or that a certain amount of unit price items are needed, (a) such statement is an estimate only, (b) Owner may increase or decrease such quantity, (c) the total Contract Price to be paid shall be based upon the final quantity determined by Owner and the actual quantity that complies with this Contract/Quote and that are accepted by Owner, and (d) any claim or dispute, based on such estimate, regarding the quantity of Work to be provided is waived and released by Vendor.

C. Time of Payment. It is expressly understood and agreed that all payments shall be made in accordance with the following schedule:

Payment upon completion and acceptance by the owner.

All payments may be subject to deduction or set off by reason of any failure of Bidder to perform under this Contract/Bid.

Payment shall be made in accordance with the Local Government Prompt Payment Act.

3. Contract Time Proposal

If this Contract/Quote is accepted, Vendor proposes and agrees that Vendor shall complete the Work to Owner not later than the date specified in Attachment A.

4. Financial Assurance

A. Indemnification. If this Contract/Quote is accepted, Vendor proposes and agrees that Vendor shall indemnify, save harmless, and defend Owner against all damages, liability, claims, losses, and expenses (including attorneys' fees) that may arise or be alleged to have arisen out of or in connection with Vendor's performance of or failure to perform under this Contract/Quote, including without limitation any failure to meet the representations and warranties set forth in Section 6 of this Contract/Quote.

B. Penalties. If this Contract/Quote is accepted, Vendor proposes and agrees that Vendor shall be solely liable for any fines or civil penalties that are imposed by any governmental or quasi-governmental agency or body that may arise or be alleged to have arisen out of or in connection with Vendor's performance of or failure to perform hereunder.

5. Firm Proposal

All prices and other terms stated in this Contract/Quote are firm and shall not be subject to withdrawal, escalation or change provided Owner accepts this Contract/Quote within sixty (60) days after the date this sealed Contract/Quote is opened.

6. Vendor's Representations and Warranties

In order to induce Owner to accept this Contract/Quote, Vendor hereby represents and warrants as follows:

A. The Work. The Work and all of its components, for a period of one year after final acceptance by Owner, shall be of merchantable quality; shall be free from any latent or patent defects and flaws in workmanship, materials, and design; shall strictly conform to the requirements of this Contract/Quote, including, without limitation, the performance standards set forth in Subsection 1C of this Contract/Quote; and shall be fit, sufficient and suitable for the purposes expressed in or reasonably inferred from this Contract/Quote and the warranties expressed herein shall be in addition to any other warranties applicable to the Work (including any manufacturer's warranty) or expressed or implied by law which are hereby reserved unto Owner.

B. Compliance with Laws. Vendor shall ensure that the Work and all of its components shall comply with, and Vendor agrees to be bound by, all applicable federal, state and local laws, orders, rules and regulations as they may be modified or amended from time to time. Every provision required by law to be inserted into this Contract/Quote shall be deemed to be inserted herein. Without limiting the generality of this Section, in accordance with the Prevailing Wage Act, 820 ILCS 130/0.01 et seq., not less than the prevailing rate of wages for similar work in the locality in which the Work is to be performed shall be paid to all laborers, workers, and mechanics performing Work under this Contract/Quote. Occasionally, the Illinois Department of Labor may revise the prevailing rate of hourly wages to be paid; the revised rate shall apply to this Contract/Quote. The prevailing rate of wages in Lake County can be found on the IDOL website: https://www2.illinois.gov/idol/Laws-Rules/CONMED/Pages/2018-Rates.aspx

C. Not Barred. Vendor is not barred by law from contracting with Owner or with any other unit of state or local government as a result of (i) a delinquency in the payment of any tax administered by the Illinois Department of Revenue unless Vendor is contesting, in accordance with the procedures established by the appropriate revenue act, its liability for the tax or the amount of the tax as set forth in 65 ILCS 5/11-42.1-1; (ii) a violation of either Section 33E-3 or Section 33E-4 of Article 33 of the Criminal Code of 1961, 720 ILCS 5/33E-1 et seq; or (iii) for any other reason.

D. Qualified. Vendor has the requisite experience, ability, inventory, capital, facilities, equipment, plant, organization, and staff to enable Vendor to deliver the Work at the Contract Price and within the Contract Time Proposal set forth above.

7. Acknowledgments

In submitting this Contract/Quote, Vendor acknowledges and agrees that:

A. Reliance. Owner is relying on all warranties, representations, and statements made by Vendor in this Contract/Quote.

B. Reservation of Rights. Owner reserves the right to reject any and all Quotes, reserves the right to reject the low price Quote, and reserves such other rights as are set forth in the Instructions to Vendors.

C. Acceptance. If this Contract/Quote is accepted, Vendor shall be bound by each and every term, condition or provision contained in this Contract/Quote and in Owner's written notification of acceptance in the form included in this bound set of documents.

D. Remedies. Each of the rights and remedies reserved to Owner in this Contract/Quote shall be cumulative and additional to any other or further remedies provided in law or equity or in this Contract/Quote.

E. Time. Time is of the essence of this Contract/Quote and, except where stated otherwise, references in this Contract/Quote to days shall be construed to refer to calendar days.

F. No Waiver. No examination, inspection, investigation, test, measurement, review, determination, decision, certificate or approval by Owner, whether before or after Owner's acceptance of this Contract/Quote; nor any information or data supplied by Owner, whether before or after Owner's acceptance of this Contract/Quote; nor any order by Owner for the payment of money; nor any payment for or use, possession or acceptance of the whole or any part of any Product; nor any extension of time granted by Owner; nor any delay by Owner in exercising any right under this Contract/Quote; nor any other act or omission of Owner shall constitute or be deemed to be an acceptance of any defective, damaged or nonconforming Product; nor operate to waive or otherwise diminish the effect of any representation or warranty made by Vendor or of any requirement or provision of this Contract/Quote or of any remedy, power, or right of Owner.

G. Severability. The provisions of this Contract/Quote shall be interpreted when possible to sustain their legality and enforceability as a whole. In the event any provision of this Contract/Quote shall be held invalid, illegal or unenforceable by a court of competent jurisdiction, in whole or in part, neither the validity of the remaining part of such provision, nor the validity of any other provisions of this Contract/Quote shall be in any way affected thereby.

H. Amendments. No modification, addition, deletion, revision, alteration or other change to this Contract/Quote shall be effective unless and until such change is reduced in writing and executed and delivered by Owner and Vendor.

I. Assignment. Neither this Contract/Quote, nor any interest herein, shall be assigned or subcontract in whole or in part by Vendor, except upon the prior written consent of Owner.

J. Governing Law. This Contract/Quote and the rights of the parties under this Contract/Quote shall be interpreted according to the internal laws, but not the conflict of law rules of the State of Illinois.

K. Conflicts of Interest. Vendor represents and certifies that, to the best of its knowledge, (1) no elected or appointed District official, employee or agent has a personal financial interest in the business of the Vendor or in this Contract/Quote, or has personally received payment or other consideration for this Contract/Quote; (2) as of the date of this Contract/Quote, neither Vendor nor any person employed or associated with Vendor has any interest that would conflict in any manner or degree with the performance of the obligations under this Contract/Quote; and (3) neither Vendor nor any person employed by or associated with Vendor shall at any time during the term of this Contract/Quote obtain or acquire any interest that would conflict in any manner or degree with the performance of the obligations under this Contract/Quote.

DATED this 28 day of AUGUST, 2020

Signature of Vendor or Authorized Agent

MARK FRANZEN
Printed Name

PRESIDENT
Title / Position

LAKE COUNTY FOREST PRESERVE DISTRICT
RFQ NO.: 20031
PROJECT NAME: OVERHEAD GARAGE DOOR REPLACEMENT – MAINTENANCE BUILDING
OLD SCHOOL FOREST PRESERVE

VENDOR STATUS

Vendor's Status: ☒ X (State) Corporation ☐ (State) Partnership ☐ Individual Proprietor

Vendor's Name: ADOR COMPANY

Doing Business As (if different): OVERHEAD DOOR OF LAKE & McHENRY COUNTIES

Signature of Vendor or Authorized Agent: Mark Franzen

Printed Name: MARK FRANZEN

{CORPORATE SEAL, IF APPLICABLE}

Title/Position: PRESIDENT

Vendor's Business Address: 128 E. MAIN ST ROUND LAKE PARK IL 60073

Vendor's Business Telephone: (847) 546-4000

Facsimile: (847) 546-4049

Vendor's email: OVERHEAD@AMERITECH.NET

If a Corporation or Partnership, list all Officers or Partners:

NAME	TITLE	ADDRESS
MARK FRANZEN	PRESIDENT	26777 W. STONEGATE DR. ANTIOCH IL 60002

Status

LAKE COUNTY FOREST PRESERVE DISTRICT
RFQ NO.: 20031
PROJECT NAME: OVERHEAD GARAGE DOOR REPLACEMENT – MAINTENANCE BUILDING
OLD SCHOOL FOREST PRESERVE

REFERENCE FORM

List three projects most comparable to the Work completed by Vendor, or its predecessors, in the past five (5) years.

PROJECT 1

Owner Name: LAKE COUNTY FOREST PRESERVES
Owner Address: VAN PATTEN WOODS MAINTENANCE BUILDING
Contact Person (Reference) PAT BOVILL
Telephone: 847-276-6937
Email Address: _____
Type of Work: REPLACED OVERHEAD DOORS
Vendor: _____
(if Vendor was subcontractor)
Contract Amount _____ Completion Date _____

PROJECT 2

Owner Name: CITY OF LAKE FOREST
Owner Address: 800 FEILD DRIVE
LAKE FOREST IL
Contact Person (Reference) STUART COX
Telephone: 847-615-4225
Email Address: _____
Type of Work: OVERHEAD DOOR REPLACEMENT AND REPAIR
Vendor: _____
(if Vendor was subcontractor)
Contract Amount _____ Completion Date _____

PROJECT 3

Owner Name: VILLAGE OF VOLO
Owner Address: 500 S. FISH LAKE RD
Contact Person (Reference) JONATON MEYER
Telephone: 847-740-6982
Email Address: JMEYER@VILLAGEOF VOLO
Type of Work: REPLACE OVERHEAD DOORS AND REPAIR
Vendor: _____
(if Vendor was subcontractor)
Contract Amount _____ Completion Date _____

LAKE COUNTY FOREST PRESERVE DISTRICT
RFQ NO.: 20031
PROJECT NAME: OVERHEAD GARAGE DOOR REPLACEMENT – MAINTENANCE BUILDING
OLD SCHOOL FOREST PRESERVE

ACCEPTANCE

The Contract/Quote attached hereto and by this reference incorporated herein and made a part hereof is hereby accepted by the Lake County Forest Preserve District ("Owner") this 14th of September, 2020.

This Acceptance, together with the Contract/Quote attached hereto, constitutes the entire and only agreement between the parties relating to the Work and the Contract Price therefor and supersedes and merges any other prior or contemporaneous discussions, agreements or understandings, whether written or oral, and shall prevail over any contradictory or inconsistent terms or conditions contained in any purchase order, acceptance, acknowledgment, invoice or other standard form used by the parties in the performance of the Contract/Quote. Any such contradictory or inconsistent terms or conditions shall be deemed objected to by Owner without further notice of objection, shall be of no effect, and shall not be in any circumstances binding upon Owner, unless accepted by Owner in a written document plainly labeled, "Amendment to Contract/Quote." Acceptance or rejection by Owner of any such contradictory or inconsistent terms or conditions shall not constitute acceptance of any other contradictory or inconsistent terms or conditions.

LAKE COUNTY FOREST PRESERVE DISTRICT

By: _____
John Nelson, Director of Operations & Infrastructure

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NOTICE OF AWARD

TO:
Ador Company dba Overhead Door of Lane & McHenry Counties
128 E. Main St.
Round Lake Park, IL 60073
("Vendor")

FROM:
Lake County Forest Preserve District
1899 West Winchester Road
Libertyville, Illinois 60048
("Owner")

ON THE 28th DAY OF August, 2020, Owner found to be most favorable to the interests of Owner, the Vendor's Request for Quote ("RFQ") submitted by Vendor and dated on the 28th day of August, 2020, in which Vendor proposes to contract with Owner, in the form of the Contract included in the Request for Quote ("RFQ") to perform the Work (as defined in Section I, "Proposal to Deliver Work" of the Contract) and to do all other things required of the Vendor by the Contract and to provide, perform and complete all of the foregoing in a proper and workmanlike manner and in full compliance with, and as required by or pursuant to, the Contract.

OWNER ACCORDINGLY AWARDS VENDOR, EFFECTIVE AS OF THE DATE OF DELIVERY OF THIS NOTICE OF AWARD, THE CONTRACT FOR SAID WORK FOR THE SUM, SET FORTH IN THE VENDOR'S PROPOSAL.

DATED this 28th day of Aug, 2020

LAKE COUNTY FOREST PRESERVE DISTRICT

By: Lisa Roberts, Buyer II

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ATTACHMENT A
SUPPLEMENTAL SCHEDULE OF CONTRACT TERMS

1. Project:
   Remove the existing garage doors, operating hardware, tracks and supports. Prepare the opening for installation of new garage doors, operating hardware, tracks and supports. Install new garage doors, operating hardware, tracks and supports.

2. Work Site:
   Old School Forest Preserve
   28285 N St. Mary's Rd
   Libertyville, IL 60048

3. Permits, Licenses, Approvals, and Authorizations:
   Vendor shall obtain all required governmental permits, licenses, approvals, and authorizations, except:
   ☒ Permit by owner

4. Commencement Date:
   ☒ 30 days following execution of the Contract by Owner

   As a Required Submittal pursuant to Section 1B of this Contract, within ten (10) days after the Closing, Vendor shall submit to Owner a detailed schedule of the Work (the "Work Schedule") that (1) states the time of beginning and completion of every major component of the Work; (2) logically and realistically relates the performance of each major component of the Work to each other major component of the Work and to the whole of the Work in a manner that demonstrates that Vendor has allowed sufficient time to complete each major component without interfering or delaying any other major component; and (3) does not conflict with the Contract. If Owner rejects a submitted Work Schedule because it does not comply with this Contract, Owner shall notify Vendor in writing, specifying the reasons for non-compliance. Within two (2) business days thereafter, Vendor shall submit a revised Work Schedule to Owner. If a Work Schedule is acceptable to Owner, Owner shall notify Vendor in writing. The parties shall amend the Work Schedule as necessary to be consistent with any Change Order related to the Contract Time.

   The Contractor is obligated to take all safety precautions as shall be necessary to comply with all applicable laws and to prevent injury to persons. The Contractor is obligated to ensure that the Work is performed in accordance with all applicable statutes, ordinances, rules and regulations. Under these Sections, Contractor is obligated to perform the Work in compliance with all statutes, regulations, executive orders, and other laws related to COVID-19 ("COVID-Related Laws"). To demonstrate Contractor's compliance, Owner hereby requests that Contractor, within ten (10) days after the Closing, Vendor submit to Owner a written plan detailing Contractor's plans and procedures for complying with COVID-Related Laws, including a plan for implementing safety precautions during performance of the Work ("COVID-19 Safety Plan"). Contractor's COVID-19 Safety Plan shall, without limitation, (i) require "social distancing" and the use of face masks, (ii) limit the size of gatherings, and (iii) address all restrictions and recommendations contained in COVID-Related Laws, including without limitation the Governor's executive orders. Also, please revise and resubmit to Owner your COVID-19 Safety Plan as often as necessary during the performance of the Work to account for changes in COVID-Related Laws.

5. Completion Date:

☒ 5 days following the Commencement Date plus extensions, if any, authorized by a Change Order issued pursuant to Article II of the Contract.

6. Protection and Care of Carsonite Boundary Markers

Prior to commencing work, Vendor shall review all drawings, existing survey data and shall conduct a thorough investigation of the Work Site and the surrounding area to determine the location and extant of all Yellow Carsonite Boundary Markers.

Vendor shall not damage, cut, remove or allow any fire to burn which will damage or act in any way to affect the appearance, stature or function of the Owner's Yellow Carsonite Boundary Markers, except as such action is specifically authorized by the drawings or specifications. If any damages occur to the Owner's Carsonite Markers as a result of the Vendor's acts or omissions, Vendor shall promptly notify the Owner of such damage and shall at the Vendor's expense, be responsible for all replacement costs, including all labor and material costs for a registered land surveyor to re-set the Markers.

7. Insurance Coverages

All insurance policies shall be issued from insurance companies holding at least an "A5" or better rating as rated by A.M. Best Company. All policies shall include the District named as additional insured.

A. Worker's Compensation and Employer's Liability with limits not less than:
   (1) Worker's Compensation: Statutory
   (2) Employer's Liability:
      a. $1,000,000 - injury per occurrence
      b. $ 500,000 - disease per employee
      c. $ 500,000 - disease policy limit

   Such insurance shall evidence that coverage applies in the State of Illinois.

B. Comprehensive Motor Vehicle Liability with limits for vehicles owned, non-owned or rented, not less than:
   (1) Bodily Injury:
      a. $ 500,000 - per person
      b. $1,000,000 - per occurrence
   (2) Property Damage:
      a. $ 500,000 - per occurrence
      b. $ 1,000,000 - aggregate

   All employees shall be included as insured's.

C. Comprehensive General Liability: If such CGL insurance contains a general aggregate limit, it shall apply separately to this project. With coverage written on an "occurrence" basis with limits no less than:
   (1) General Aggregate: $2,000,000
   (2) Bodily Injury:
      a. $ 2,000,000 - per person
      b. $ 2,000,000 - per occurrence
   (3) Property Damage:
      a. $ 2,000,000 - per occurrence

b. $ 2,000,000 - aggregate

(4) Other Coverages:

- Premises/Operations
- Products/Completed Operations (to be maintained for two years following Final Payment)
- Independent Vendors
- Personal Injury (with Employment Exclusion deleted)
- Broad Form Property Damage Endorsement
- Blanket Contractual Liability (must expressly cover the indemnity provisions of the Contract)
- Bodily Injury and Property Damage "X", "C", and "U" exclusions shall be deleted

Railroad exclusions shall be deleted if Work Site is within 50 feet of any railroad tracks.

All employees shall be included as insured's.

E. Umbrella Policy. The required coverages may be in any combination of primary, excess, and umbrella policies. Any excess or umbrella policy must provide excess coverage over underlying insurance on a following-form basis such that, when any loss covered by the primary policy exceeds the limits under the primary policy, the excess or umbrella policy becomes effective to cover such loss.

F. Deductible. Each policy shall have a deductible or self-insured retention of not more than $10,000.00.

G. Owner and Architect as Additional Insured. Owner and Architect shall be named as an Additional Insured on the following policies:

- Comprehensive Motor Vehicle Liability
- Comprehensive General Liability

The Additional Insured endorsement shall identify Owner and Architect as follows:

Lake County Forest Preserve District (Owner)

The Hezner Corporation (Architect)

H. Indemnification Clause. The Vendor shall protect, indemnify, hold and save harmless and defend the District its officers, officials, employees, volunteers, and agents against any and all claims, costs, causes, actions and expenses, including but not limited to attorney's fees incurred by reason of a lawsuit or claim for compensation arising in favor of any person, including the employees, or volunteers or officers or independent Vendors or subcontractors of the District, on account of personal injuries or death, or damages to property occurring, growing out of, incidental to, or resulting directly or indirectly from the use and performance by or on behalf of the Vendor.

I. Evidence of Insurance. Company shall furnish District with a certificate(s) of insurance and applicable policy endorsement(s), executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements set forth above. Failure of District to demand such certificate, endorsement or other evidence of full compliance with these insurance requirements or failure of District to identify a deficiency from evidence that is provided shall not be construed as a waiver of Company's obligation to maintain such insurance. District shall have the right, but not the obligation, of prohibiting Company from entering the premises until such certificates or other evidence that insurance has been placed in complete compliance with these requirements is received and approved by District. Failure to maintain the required

insurance may result in termination of this Contract at District's option. Company shall provide certified copies of all insurance policies required above within 10 days of Districts' written request for said copies.

8. Contract Price

SCHEDULE OF PRICES

A. Lump Sum Contract

For providing, performing, and completing all Work, the total Contract Price of:

Ten thousand four hundred fifty DOLLARS AND no CENTS
(in writing)

10,450 DOLLARS AND 00 CENTS
(in figures)

9. Progress Payments

A. General. Owner shall pay to Vendor ninety percent (90%) of the Value of Work determined in the manner set forth below, installed and complete in place up to the day before the Pay Request, less the aggregate, of all previous Progress Payments. The total amount of Progress Payments made prior to Final Acceptance by Owner shall not exceed ninety percent (90%) of the Contract Price.

B. Value of Work. The Value of the Work shall be determined as follows:

(1) Lump Sum Items. For all Work to be paid on a lump sum basis, Vendor shall, not later than ten (10) days after execution of the Contract and before submitting its first Pay Request, submit to Owner a schedule showing the value of each component part of such Work in form and with substantiating data acceptable to Owner ("Breakdown Schedule"). The sum of the items listed in the Breakdown Schedule shall equal the amount or amounts set forth in the Schedule of Prices for Lump Sum Work. An unbalanced Breakdown Schedule providing for overpayment of Vendor on component parts of the Work to be performed first will not be accepted. The Breakdown Schedule shall be revised and resubmitted until acceptable to Owner. No payment shall be made for any lump sum item until Vendor has submitted and Owner has approved an acceptable Breakdown Schedule.

Owner may require that the approved Breakdown Schedule be revised based on developments occurring during the provision and performance of the Work. If Vendor fails to submit a revised Breakdown Schedule that is acceptable to Owner, Owner shall have the right either to suspend Progress and Final Payments for Lump Sum Work or to make such Payments based on Owner's determination of the value of the Work completed.

C. Application of Payments. All Progress and Final Payments made by Owner to Vendor shall be applied to the payment or reimbursement of the costs with respect to which they were paid and shall not be applied to or used for any pre-existing or unrelated debt between Vendor and Owner or between Vendor and any third party.

END OF ATTACHMENT A – SUPPLEMENTAL SCHEDULE OF CONTRACT TERMS

ATTACHMENT B
SPECIFICATIONS

REFER TO HEZNER PROJECT MANUAL AND DRAWINGS ATTACHED AS THEY RELATE TO OVERHEAD GARAGE DOOR REPLACEMENT

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EXECUTION

PART 1 GENERAL

1.01 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
   1. Construction layout.
   2. Field engineering and surveying.
   3. Installation of the Work.
   4. Cutting and patching.
   5. Coordination of Owner-installed products.
   6. Progress cleaning.
   7. Final Cleaning
   8. Starting and adjusting.
   9. Protection of installed construction.

B. Related Requirements:
   1. Section 011400 "Work Restrictions" for limits on use of Project site.
   2. Section 013300 "Submittal Procedures" for submitting surveys.
   3. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.
   4. Section 024119 "Selective Demolition" for demolition and removal of selected portions of the building.
   5. Section 078413 "Penetration Firestopping" for patching penetrations in fire-rated construction.

1.02 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.03 INFORMATIONAL SUBMITTALS

A. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

B. Certified Surveys: Signed by land surveyor.

C. Final Property Survey: Showing the Work performed and record survey data.

1.04 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.

B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
   1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection
   2. Operational Elements: Do not cut and patch 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.
   3. Other Construction Elements: Do not cut and patch other construction elements or 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.
   4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

EXECUTION

C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 PRODUCTS

2.01 MATERIALS

A. General: Comply with requirements specified in other Sections.
   1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with requirements in Section 018113.13 "Sustainable Design Requirements,"

B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
   1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

PART 3 EXECUTION

3.01 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning site work, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, 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; underground electrical services, and other utilities.
   2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

B. Existing Finished Conditions: Contractor shall document and protect all existing finished conditions to remain and become integrated into the finished work, including but not limited to existing landscape, irrigation, hardscape, utilities, utility boxes and visible connection / termination locations, and structures to remain. Contractor shall, at no cost to Owner, repair and replace all existing finished work to its original condition and to the satisfaction of the Owner at the end of the project. Contractor shall identify all anticipated areas of the existing conditions that will be allowed to deteriorate over the course of construction, and will be replaced by the Contractor at the completion of construction.

C. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, 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. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
   2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
   3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

D. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
   1. Description of the Work.
   2. List of detrimental conditions, including substrates.
   3. List of unacceptable installation tolerances.
   4. Recommended corrections.

E. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.02 PREPARATION

A. Existing Utility Information: Furnish information to 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.

EXECUTION

B. 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.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Section 013100 "Project Management and Coordination."

E. Surface and Substrate Preparation: Comply with manufacturer's recommendations for preparation of substrates to receive subsequent work

3.03 COORDINATION - PROTECTION

A. The Contractor shall be the custodian of the premises and shall provide temporary protection as required against precipitation, wind, the cold, and theft.

B. The Contractor shall protect work from damage or injury keeping all conduits, outlets, ducts, etc., plugged, capped, or otherwise protected. Damage occurring during the construction process shall be replaced or repaired without cost to the Owner. All pieces of equipment shall be suitably protected, and upon completion of the project shall be equal to new condition.

C. The Contractor will provide temporary fences and barricades as required for protection of the public at perimeter points of the construction of the project.

3.04 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 Architect promptly.

B. General:

1. Engage a land surveyor to lay out the Work using accepted surveying practices.
2. 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.
3. Establish limits on use of Project site.
4. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
5. Inform installers of lines and levels to which they must comply.
6. Check the location, level and plumb, of every major element as the Work progresses.
7. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
8. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

C. PHYSICAL CONDITIONS

1. Exercise reasonable care to verify locations of existing subsurface structures and Underground Facilities.
2. Thoroughly check immediate and adjacent areas subject to excavation by visual examination (and by electronic metal and pipe detection equipment, as necessary) for indications of subsurface structures and Underground Facilities.
3. Make exploratory excavations where existing Underground Facilities or structures may potentially conflict with proposed Underground Facilities or structures. Conduct exploratory excavations sufficiently ahead of construction to avoid possible delays to Contractor's Work.

D. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

E. 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.

F. 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 Architect.

EXECUTION

3.05 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 Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect 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: Engage a land surveyor to 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."

3.06 INSTALLATION

A. Inspection of Conditions: Require Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Proceed only after unsatisfactory conditions have been corrected in a manner acceptable to Architect. Coordinate this requirement with Division 01 Section "Quality Requirements."

B. 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 96 inches in occupied spaces and 90 inches in unoccupied spaces.

C. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

D. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

E. 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.

F. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.

G. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

H. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Submittals of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

I. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor

EXECUTION

each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

J. 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.

K. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.07 CUTTING AND PATCHING

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

C. Temporary Support: Provide temporary support of work to be cut.

D. Protection: Protect in-place 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.

E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in other Division 01 sections.

F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.

G. Cutting: Cut in-place 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 neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
   2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
   3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
   4. Excavating and Backfilling: Comply with requirements in applicable 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.

H. 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 practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
   1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical 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 minimize evidence of patching and refinishing.
      a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
      b. Restore damaged pipe covering to its original condition.
   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 in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

EXECUTION

a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate 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 in-place 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 and ensures thermal and moisture integrity of building enclosure.

I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.08 OWNER-INSTALLED PRODUCTS

A. Site Access: Provide access to Project site for Owner's construction personnel.

B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel.

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 personnel at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction personnel if portions of the Work depend on Owner's construction.

3.09 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. 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 waste materials more than seven days during normal weather or three 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.
   a. Use containers intended for holding waste materials of type to be stored.
4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.

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 in Finished Areas: 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: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 017419 "Construction Waste Management and Disposal."

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.

EXECUTION

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.

3.10 FINAL CLEANING

A. Employ skilled workmen for final cleaning.

B. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed interior and exterior surfaces.

C. Wash and shine glazing and mirrors.

D. Polish glossy surfaces to a clear shine.

E. Dust cabinetwork and remove markings.

F. Wash, wax 2 coats, and buff resilient flooring.

G. Prior to final completion, or Owner occupancy, General Contractor shall conduct an inspection of sight-exposed interior and exterior surfaces, and all work areas, to verify that the entire Work is clean.

H. Tunnels and closed-off spaces shall be cleaned of packing boxes, wood frame members and other waste materials used in the construction.

I. The entire system of piping and equipment shall be cleaned internally. The contractor installing those items shall open all dirt pockets and strainers, completely blowing down as required and clean strainer screens of all accumulated debris.

J. Tanks, fixtures and pumps shall be drained and proved free of sludge and accumulated matter.

K. Temporary labels, stickers, etc., shall be removed from fixtures and equipment. (Do not remove permanent nameplates, equipment model numbers, ratings, etc.)

L. Heating and air conditioning equipment, tanks, pumps, traps, etc., shall be thoroughly cleaned and new filters or filter media installed.

M. Before being placed in service, domestic water distribution systems including those for cold water, drinking water and the hot water system shall be chlorinated. The method to be used shall be at the option of the contractor installing the systems, and one of the methods set forth in the AWWA Standard specifications, latest edition, including all amendments thereto. The treatment shall consist of a solution of not less than 50 parts per million of available chlorine. The chlorinating material shall be either liquid chlorine or sodium hypochloride. After sterilization the system shall be flushed with clear water until the chlorine residual is not greater than 0.2 per million.

N. Labels, tags, tape, etc., shall be removed by the installing contractor.

O. HVAC contractor shall clean ducts, blowers and coils of all HVAC equipment that was operated during construction, and shall clean or replace filters.

P. See Section 017419 "Construction Waste Management and Disposal", and Section 018119 "Indoor Air Quality Requirements" for additional information and more restrictive requirements.

3.11 STARTING AND ADJUSTING

A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 019113 "General Commissioning Requirements."

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

C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

E. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

EXECUTION

3.12 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.

3.13 COORDINATION - EXISTING CONDITIONS / FACILITIES

A. Adjacent Facilities And Properties To Remain

1. After Effective Date of the Contract and before Work at site is started, Contractor, Architect, and Owner shall make thorough examination of pre-existing conditions including existing buildings, structures, and other improvements in vicinity of Work, as applicable, which might be damaged by construction operations. Periodic reexamination shall be jointly performed to include, but not limited to, cracks in structures, settlement, leakage, and similar conditions.
2. Documentation.
   a. Contractor shall photographically document all phases of the project including pre-construction, construction, and post-construction site conditions and progress. Project photographs shall be taken on a weekly basis beginning immediately after Notice to Proceed (NTP), in advance of construction activities, and continuing throughout the project until final completion. See Section 013200 – Construction Progress Documentation.
   b. These observations and photographs are intended for use as indisputable evidence in ascertaining whether and to what extent damage occurred as a result of Contractor's operations, and are for protection of adjacent property Owners, building manager, Contractor, and Owner.

B. Operation of Existing Facilities:

1. Continuous operation of existing facilities is of critical importance. Schedule and conduct activities to enable existing facilities to operate continuously, unless otherwise specified.
2. Except as specifically identified conduct Work during regular working hours.
   a. Work may be conducted outside of regular working hours only with prior written consent of Architect to meet Project schedule and avoid undesirable conditions.
3. Do not proceed with Work affecting a facility's operation without obtaining Architect's and Owner's advance written approval of the need for and duration of such Work.

C. Relocation of Existing Facilities:

1. During construction, it is expected that minor relocations of Work will be necessary.
2. Provide complete relocation of existing structures and underground facilities, including piping, utilities, equipment, structures, electrical conduit wiring, electrical duct bank, and other necessary items.
3. Use only new materials for relocated facility. Match materials of existing facility, unless otherwise shown or specified.
4. Perform relocations to minimize downtime of existing facilities.
5. Install new portions of existing facilities in their relocated position prior to removal of existing facilities, unless otherwise accepted by Architect.

3.14 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.

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.

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END OF SECTION 017300

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.01 SCOPE

A. Waste management and disposal during demolition and construction operations.
   1. Protect the environment, both on-site and off-site, during demolitions and construction operations.
   2. Prevent environmental pollution and damage.
   3. Maximize source reduction, reuse and recycling of solid waste.
      a. Salvaging non-hazardous demolition and construction waste.
      b. Recycling non-hazardous demolition and construction waste.
      c. Disposing of non-hazardous demolition and construction waste.

1.02 WORK BY OTHER SECTIONS

A. Section 017300 Execution

B. Section 017700 Closeout Procedures

C. Section 018113 Sustainable Design Requirements

D. Section 024119 Selective Demolition

1.03 DEFINITIONS

A. Asphalt Pavement, Brick, and Concrete (ABC) Rubble: Rubble that contains only un-coated weathered (cured) asphalt pavement, clay bricks and attached mortar normally used in construction, or concrete that may contain rebar. The rubble shall not be mixed with, or contaminated by, another waste or debris. No ABC may be used or brought to site.

B. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, paint, or the like.

C. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

D. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations

E. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction

F. Diversion: Avoidance of demolition and construction waste sent to landfill or incineration. Diversion does not include using materials for landfill, alternate daily cover on landfills, or materials used as fuel in waste-to-energy processes

G. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitability, corrosiveness, toxicity or reactivity

H. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse

I. Recycling: The process of sorting, cleansing, treating, and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

J. Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work

K. Salvage: Recovery of demolition or construction waste and subsequent reuse or sale in another facility

L. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste

M. Toxic: Poisonous to humans either immediately or after a long period of exposure

N. Trash: Any product or material unable to be reused, returned, recycled, or salvaged

O. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.04 PERFORMANCE REQUIREMENTS

A. The Owner has established that this Project shall generate the least amount of waste possible and that processes that ensure the

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors shall be employed.

B. Of the waste that is generated, as many of the waste materials as economically feasible shall be reused, salvaged, or recycled. Waste disposal in landfills or incinerators shall be minimized, thereby reducing disposal costs.

C. Salvage/Recycle Requirements: Achieve salvage and recycling of a **minimum** of 75% and a **goal** of 95% by weight of total non-hazardous solid waste generated by the Work. Use all reasonable means to divert construction and demolition was from landfills and incinerators. Facilitate recycling and salvage of materials.

1.05 SUBMITTALS

A. Submit documentation with calculations on end-of-project recycling rates, salvage rates, and landfill rates itemized by waste material, demonstrating that a minimum of 75% and goal of 95% of construction wastes were recycled or salvaged and diverted from landfill. Include documentation of recovery rate (if commingled), waste hauling certificates or receipts, and a brief narrative explaining how and to where each waste type has been diverted.

B. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

1. Include a list of the recycling facilities, reuse facilities, municipal solid waste landfills and other disposal area(s) to be used. Include name, location, and phone number and a copy of permit or license for each facility.

C. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills (or transfer stations) and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

1. Include a list of the recycling facilities, reuse facilities, municipal solid waste landfills and other disposal area(s) to be used. Include name, location, and phone number and a copy of permit or license for each facility.

1.06 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with all applicable requirements of:

1. U.S. and State EPA regulations and guidelines
2. Owner's construction waste recycling and disposal requirements.
3. All applicable local ordinances and regulations.

1.07 CONSTRUCTION WASTE MANAGEMENT PLAN

A. Waste Identification: Indicate anticipated types and quantities of demolition, site-clearing, and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.

B. Landfill Options: Indicate the name of the landfill(s) and/or transfer station(s) and/or incinerator(s) where trash will be disposed of, the applicable landfill tipping fee(s), and the projected cost of disposing of all Project waste in the landfill(s).

C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, reused, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

1.08 CONSTRUCTION WASTE MANAGEMENT RESOURCES

A. General information contacts regarding construction and demolition waste:

1. EPA Construction and demolition (C&D) debris website: http://www.epa.gov/epaoswer/non-hw/debris-new/bytype.htm
2. Directory of Wood-Framed Building Deconstruction and Reused Building Materials Companies: http://www.fpl.fs.fed.us/documnts/fplgtr/fpl_gtr150.pdf

PART 2 PRODUCTS

2.01 MATERIALS

A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

B. Use only those cleaning materials and methods recommended by manufacturer of the surface material to be cleaned.

C. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

D. Sweeping compounds used in cleaning operations shall leave no residue on concrete floor surfaces that may effect installation of finish flooring materials.

E. Provide staging area and supplies to facilitate separation of waste for salvage, recycling, and disposal of construction and demolition waste.

PART 3 EXECUTION

3.01 DURING CONSTRUCTION

A. Execute periodic cleaning to keep the Work, the site and adjacent properties free from accumulations of waste materials, rubbish and windblown debris resulting from construction operations.

B. Provide on-site containers for the collection of waste materials, debris and rubbish.

1. Owner's dumpsters may not be used for disposal of any construction debris, waste, or rubbish.

C. Remove waste materials, debris and rubbish from the site periodically and dispose of at legal disposal areas away from the site.

3.02 DUST CONTROL

A. Clean interior spaces prior to the start of the finish painting and continue cleaning on an as-needed basis until painting is finished.

B. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly-coated surfaces.

C. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.

3.03 FINAL CLEANING

A. Employ skilled workmen for final cleaning per the requirements listed in Section 017300 "Execution".

3.04 PLAN IMPLEMENTATION

A. General: Implement waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

B. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project Site.

1. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

C. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Designate and label specific areas on Project Site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
2. Recycling and waste bin areas are to be kept neat, and clean, and clearly marked in order to avoid contamination of materials.

D. Hazardous Wastes: Hazardous wastes shall be separated, stored, and disposed of according to local regulations and should not be included in Construction Waste Management Plan's calculations of waste.

3.05 SALVAGING DEMOLITION WASTE

A. Salvaged Items for Reuse in the Work:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until installation.
4. Protect items from damage during transport and storage.

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.

B. Salvaged Items for Owner's Use:
1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area designated by Owner.
5. Protect items from damage during transport and storage.

C. Doors and Hardware: Brace open end of door frames. Except for removing door closers, leave door hardware attached to doors.

3.06 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

A. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.

B. Procedures: If demolition contractor and waste hauler do not provide comingling of waste, separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project Site to the maximum extent practical.
1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project Site. Include list of acceptable and unacceptable materials at each container and bin.
   a. Inspect containers and bins for contamination and remove contaminated materials if found.
2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from the weather.
5. Remove recyclable waste off Owner's property and transport to recycling receiver or processor.

3.07 RECYCLING DEMOLITION WASTE

A. Asphaltic Concrete Paving: Break up and transport paving to asphalt recycling facility or recycle on-site into new paving.

B. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.
1. Pulverize concrete to maximum 4-inch (100-mm) size.
2. Crush concrete and screen to comply with requirements in Division 31 "Earthwork" for use as satisfactory soil for fill or subbase.

C. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.
1. Pulverize masonry to maximum 1-1/2-inch (38-mm) size.
   a. Crush masonry and screen to comply with requirements in Division 31 "Earthwork" for use as general fill or subbase.
   b. Crush masonry and screen to comply with requirements in Division 32 "Planting Preparation" for use as mineral mulch.
2. Clean and stack undamaged, whole masonry units on wood pallets.

D. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, and panel products for reuse and/or recycling. Separate wood material treated with heavy metal preservatives for reuse or landfill disposal.

E. Metals: Separate metals by type.
1. Structural Steel: Stack members according to size, type of member, and length.
2. Remove and dispose of bolts, nuts, washers, and other rough hardware.

F. Asphalt Shingle Roofing: Separate organic and glass-fiber asphalt shingles and felts for recycling into asphalt paving or by other recycling entities.

G. Gypsum Board: Stack large, clean pieces on wood pallets and store in a dry location for recycling off-site. Remove edge trim and sort with other metals. Remove and dispose of fasteners.
1. Moisture-damaged gypsum board with evidence of significant mold growth shall be disposed of in accordance with New York

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

City's "Guidelines on Assessment and Remediation of Fungi in Indoor Environments": http://www.nyc.gov/html/doh/html/epi/moldrpt1.shtml

H. Acoustical Ceiling Panels and Tile: Stack large, clean pieces on wood pallets and store in a dry location.
   1. Separate suspension system, trim, and other metals from panels and tile and sort with other metals.

I. Carpet and Pad: Roll large pieces tightly after removing debris, trash, adhesive, and tack strips.

J. Equipment: Drain tanks, piping, and fixtures. Seal openings with caps or plugs. Protect equipment from exposure to weather.

K. Plumbing Fixtures: Separate by type and size.

L. Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.

M. Lighting Fixtures: Separate lamps by type and protect from breakage.

N. Electrical Devices: Separate switches, receptacles, switchgear, transformers, meters, panelboards, circuit breakers, and other devices by type.

O. Conduit: Reduce conduit to straight lengths and store by type and size.

3.08 RECYCLING CONSTRUCTION WASTE

A. Packaging:
   1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
   2. Polystyrene Packaging: Separate and bag materials.
   3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project Site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
   4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Site-Clearing Wastes: Chip brush, branches, and trees on-site.

C. Wood Materials:
   1. Clean Cut-Offs of Lumber: Grind or chip into material appropriate for mulch or erosion control.
   2. Lumber Treated with Heavy-Metal Preservatives: Do not grind, chip, or incinerate; must be reused or landfilled.

D. Gypsum Board: Stack large, clean pieces on wood pallets and store in a dry location for recycling and/or reuse on-site or off-site.
   1. Moisture-damaged gypsum board with evidence of significant mold growth shall be disposed of in accordance with New York City's "Guidelines on Assessment and Remediation of Fungi in Indoor Environments": http://www.nyc.gov/html/doh/html/epi/moldrpt1.shtml
   2. Clean Gypsum Board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.

E. Miscellaneous: Anything called out to be ground and used on site should utilize an on-site grinder.
   1. Grinder should be able to accommodate a variety of materials including masonry, asphalt shingles, wood, and drywall.

3.09 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project Site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
   1. Except as otherwise specified, do not allow waste materials that are to be disposed of to accumulate on site.
   2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
   3. Do not burn or bury waste materials on or off site. Appropriate onsite topical application of ground gypsum or wood, or use of site paving as granulated fill is considered reuse, not waste.

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END OF SECTION 017419

MAINTENANCE BUILDING REMODELING
OLD SCHOOL FOREST PRESERVE
BID SPEC. NUMBER: 20017

Division 01
Section 017700

CLOSEOUT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Closeout procedures; Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
   1. Substantial Completion procedures.
   2. Final completion procedures.
   3. Warranties.
   4. Final cleaning.
   5. Repair of the Work.
   6. Adjusting
   7. Project record documents
   8. Operation and maintenance data
   9. Warranties
   10. Spare parts and maintenance materials

B. Related Requirements:
   1. Section 014000 "Quality Requirements"
   2. Section 013200 "Construction Progress Documentation"
   3. Section 017300 "Execution"
   4. Section 017419 "Construction Waste Management and Disposal"
   5. Section 017800 "Close Out Submittals"
   6. Section 017900 "Demonstration and Training"
   7. Section 018113 "Sustainable Design Requirements for requirements for Sustainable Design compliance and documentation.
   8. Divisions 2 through 48; Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.02 PROJECT TERMINATION

A. Contract requirements shall be met when construction activities have successfully produced, in this order, these three terminal activities:
   1. Substantial Completion
   2. Final Completion
   3. Final Payment

1.03 CLOSEOUT PROCEDURES

A. Submit written certification that Contract Documents have been reviewed, Work has been inspected and that Work is complete in accordance with Contract Documents and ready for inspection by Architect

B. Provide submittals to Architect that are required by governing or other authorities.

C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

D. Owner will occupy all portions of the building.

1.04 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prior to requesting inspection for determining date of Substantial Completion, prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.
   1. During the finishing stages of the project, the General Contractor shall make frequent inspections with Subcontractors, the Architect, and the Owner, so as to progressively check for and correct faulty work.

CLOSEOUT PROCEDURES

B. Submittals Prior to Substantial Completion: Prior to requesting inspection for determining date of Substantial Completion complete the following. List items below that are incomplete at time of request.
   1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
   2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
   3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
   4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Construction Manager. Label with manufacturer's name and model number where applicable.
      a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Archtect's signature for receipt of submittals.
   5. Submit test/adjust/balance records.
   6. Submit sustainable design submittals not previously submitted.
   7. Submit changeover information related to Owner's occupancy, use, insurance, operation, and maintenance.

C. Procedures Prior to Substantial Completion: Prior to requesting inspection for determining date of Substantial Completion complete the following. List items below that are incomplete at time of request.
   1. Advise Owner of pending insurance changeover requirements.
   2. Coordinate with Owner's Locksmith in changeover to permanent keying. Remove all construction locks. Advise Owner's personnel of changeover in security provisions.
   3. Complete startup and testing of systems and equipment.
   4. Perform preventive maintenance on equipment used prior to Substantial Completion.
   5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 017900 "Demonstration and Training."
   6. Advise Owner of changeover in heat and other utilities.
   7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
   8. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
   9. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
   10. Complete final cleaning requirements, including touchup painting.
   11. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

D. Inspection: Submit a written request for inspection to determine Substantial Completion. Within a reasonable time after receipt of such notice, Architect, Contractor and at his option, the Owner, will make an observation to determine the status of completion or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
   1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
   2. Results of completed inspection will form the basis of requirements for final completion.
   3. Premature requests for inspection resulting in repeat inspections will be back charged to the Contractor by the Owner.

1.05 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
   1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."

CLOSEOUT PROCEDURES

2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Certification that equipment and systems have been tested in the presence of the Owner's representative and are operational.
4. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect and Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Premature requests for inspection resulting in repeat inspections will be back charged to the Contractor by the Owner.

1.06 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from ground floor to basement and then roof.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information on each page:
   a. Project name.
   b. Date.
   c. Page number.

1.07 WARRANTIES

A. Execute and assemble warranty documents from Subcontractors, suppliers and manufacturers per the requirements of Section 017800 Closeout Submittals.

B. Submit prior to final Application for Payment.

C. Guarantees and warranties shall begin at the date of Substantial Completion of the Project. Guarantees and warranties which start at the date of shipment from the factory, or from the completion date of an individual portion of the project, are not acceptable without prior written approval of the Owner and Architect.

D. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within ten days after acceptance, listing date of acceptance as start of warranty period.

E. Submit all extended guarantees and warranties that have been specified in various, individual Sections of the Specifications..

1.08 FINAL CLEANING

A. General:
1. Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
   a. General cleaning during construction is included in Section 017300 "Execution."
2. Maintain project site free from accumulations of waste, debris, and rubbish, caused by operations. At completion of work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all sight-exposed surfaces; leave project clean and ready for occupancy.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:

CLOSEOUT PROCEDURES

a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
c. Rake grounds that are neither planted nor paved to a smooth, even textured surface.
d. Remove tools, construction equipment, machinery, and surplus material from Project site.
e. 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.
f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces. Leave pipe and duct spaces, plenums, furred spaces and the like clean of debris and decayable materials.
g. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces as acceptable to the UMA Project Manager.
h. Sweep concrete floors broom clean in unoccupied spaces.
i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
k. Leave all architectural metals, hardware, and fixtures in undamaged polished conditions.
l. Remove labels that are not permanent.
m. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
n. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
o. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
p. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
q. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
r. Clean all surfaces, interior and exterior in which the General Contractor has had access whether existing or new.
s. Leave Project clean and ready for occupancy.

C. Pest Control: Comply with pest control requirements in Section 015000 "Temporary Facilities and Controls."

D. Construction Waste Disposal: Comply with waste disposal requirements in Section 017419 "Construction Waste Management and Disposal."

E. At the end of the project, General Contractor and each Subcontractor shall remove all his tools, equipment, machinery, and surplus materials from the job site. The General Contractor shall remove all waste materials and rubbish from the project at this time. All temporary structures shall be removed and the project shall be left clean.

F. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the South Coast Air Quality Management District (SCAQMD) maximum allowable VOC levels.

1.09 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.
a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove

CLOSEOUT PROCEDURES

paint applied to required labels and identification.

3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

C. LANDSCAPE REPAIRS

1. If applicable, all lawn areas used for contractor parking and material storage shall be prepared and shall be reseeded per the requirements of Division 32.
2. All lawn areas damaged by pedestrian or vehicular traffic due to the contractor's operations shall be aerated. Aeration shall consist of 9"-10" deep infraction at areas free of tree roots and at areas within tree drip lines shall be aerated 1"-3" with a tow behind 3- point hitch aerator. If in the opinion of the Owner or Architect, the lawn areas require over-seeding or restoration, the area shall be prepared per the requirements and shall be reseeded per the requirements of Division 32.

1.10 ADJUSTING

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

1.11 PROJECT AS-BUILT AND RECORD DOCUMENTS

A. See Section 017800 "Close Out Submittals"

1.12 OPERATION AND MAINTENANCE DATA

A. See Section 017800 "Close Out Submittals"

1.13 FINAL ADJUSTMENT OF ACCOUNTS

A. Submit a final statement of accounting to Architect.

B. Statement shall reflect all adjustments to the Contract Sum:

1. The original Contract Sum
2. Additions and deductions resulting from:
   a. previous Change Orders
   b. allowances
   c. deductions for uncorrected Work
   d. deductions for re-inspection payments
   e. other adjustments
3. Total Contract Sum, as adjusted
4. Previous payments
5. Sum remaining due

C. Architect will prepare final Change Order reflecting adjustments to the Contract Sum that were not previously made by Change Orders.

1.14 FINAL APPLICATION FOR PAYMENT

A. Contractor shall submit the final Application for Payment in accordance with procedures and requirements stated in the General and Supplementary Conditions of the Contract and Section 012900.

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END OF SECTION 017700

MAINTENANCE BUILDING REMODELING
OLD SCHOOL FOREST PRESERVE
BID SPEC. NUMBER: 20017

Division 01
Section 017800

CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SCOPE

A. Evidence of compliance with requirements of governing authorities:
   1. Certificate of Occupancy
   2. Certificates of Inspection:
      a. Mechanical:
      b. Fire Protection
      c. Electrical
      d. Fire Alarm

B. Informational Closeout Submittals
   1. Materials, Maintenance, and Operation Data and Instructions.
   2. Project Record Documents
   3. Final survey and As-Built Plans
   4. Demonstration and Training information

C. Physical Closeout Submittals - Spare Parts and Maintenance Materials

D. Keys and Keying Schedule: To requirements of Section 087000

E. Sustainable Design Requirements: To requirements of Section 018113.

F. Commissioning Requirements: To requirements of Section 019100 and Divisions 22, 23, 26, and 26.

G. Warranties and Bonds: To requirements of Individual Sections.

H. Evidence of Payment and Release of Liens: To requirements of General and Supplementary Conditions.

1.02 RELATED SECTIONS

A. General and Supplementary Conditions of the Contract

B. Section 013300 – Submittal Procedures

C. Section 014000 – Quality Requirements

D. Section 017300 – Execution

E. Section 017700 – Closeout Procedures

F. Section 017900 – Demonstration and Training

G. Section 017113 – Sustainable Design Requirements

H. Section 019100 – Commissioning

I. Individual Sections for requirements specific to each section

1.03 QUALITY ASSURANCE

A. Preparation of data shall be done by personnel:
   1. Trained and experienced in maintenance and operation of described products.
   2. Skilled as technical writer to the extent required to communicate essential data.
   3. Skilled as draftsman competent to prepare required drawings.

MAINTENANCE BUILDING REMODELING
OLD SCHOOL FOREST PRESERVE
BID SPEC. NUMBER: 20017

Division 01
Section 017800

CLOSEOUT SUBMITTALS

1.04 FORM OF SUBMITTALS

A. Form of Submittals - Informational

1. ELECTRONIC DIGITAL DATA FORMAT - Provide on permanent portable media for digital data such as CD, DVD, or USB Flash Drive.
   a. All documents should be in searchable PDF or similar universally accessible format.
   b. Drawings should also be provided as AutoCAD release 2007 or earlier DWG files and, where available, as current version of 3D BIM model. Manufacturer and specific version of software used to prepare drawings shall be clearly listed along with fonts, pen settings and similar information required for legibility of submitted electronic files.
   c. Include an index of the material included. Note that all informational submittals shall be submitted in the electronic digital data format.
   d. Label and organize the documents for ease in finding a specific piece of information.
   e. Provide the Owner's name, the title of Project, the project location, the substantial completion date, and the identity of general subject matter both in the digital data and as a physical label on the portable device.
   f. Provide protective cover for each portable device.
2. HARD COPY FORMAT
   a. Provide one set of informational submittals in hard copy format:
      1) Size: 8-1/2" x 11"
      2) Paper: 20 pound minimum, white, for typed pages.
      3) Text: Manufacturer's printed data, or neatly typewritten.
   b. Drawings:
      1) Provide reinforced punched binder tab, bind in with text.
      2) Fold larger drawings to size of text pages.
   c. Provide fly-leaf for each separate product, or each piece of operating equipment.
      1) Provide typed description of product, and major component parts of equipment.
      2) Provide indexed tabs.
   d. Cover: Identify each volume with typed or printed title. List:
      1) Title of Project
      2) Title of volume.
      3) Identity of locations/ structures / floors as applicable.
      4) Identity of general subject matter covered in the manual.
   e. Binders:
      1) Commercial quality three-ring binders with durable and cleanable plastic covers.
      2) Maximum ring size: 3"
      3) Do not fill binders more than ¾ full to allow future additions.
      4) When multiple binders are used, correlate the data into related consistent groupings.
3. Prepare material, maintenance, and operational data in form of an instructional manual for use by Owner's personnel.

B. Form of Submittal - Physical (Spare Parts and Maintenance Materials)

1. Clearly label all spare parts and maintenance materials with project material tags.
2. Deliver spare parts in original unopened packaging.
3. Provide as part of the information al submittal a full listing of spare parts and maintenance materials provided. Include full description of parts and materials provided, what location, system or piece of equipment it is associated with, quantity of each provided, location where each was stored, and name of Owner's representative that received the parts and materials.

1.05 SUBMITTAL SCHEDULE

A. Submit a list of warranty or guarantees requiring manufacturer or other third party review and/or sign off within 2 weeks of contract award.

B. Provide one draft copy of all informational submittals in electronic digital data format for Architect's review.

C. Provide draft copies of record "as-built" drawings with Architect's comments and final approved copies of all other informational

CLOSEOUT SUBMITTALS

submittals for use during owner demonstration and training and for use during commissioning. Provide adequate copies for use by both trainers and those being trained.

D. Ensure spare parts and maintenance materials are on site, collected, and appropriately documented by scheduled time of the owner demonstration and training. Coordinate with Owner's representatives where spare parts and maintenance materials are to be stored.

E. Provide a minimum of 4 sets of portable digital data devices containing final approved informational submittals.

F. Provide a minimum of one set of hard copy binders of final approved informational submittals. Confirm exact quantity required with Owner.

G. Close out submittals must be complete and delivered to Owner and Building Manager before final payment application will be certified by the Architect.

PART 2 PRODUCTS

2.01 SPARE PARTS AND MAINTENANCE MATERIALS

A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification Sections.

B. Deliver to Project site and place in location as directed; obtain receipt from Owner prior to final payment.

C. Include receipt signed by Owner in materials and finishes close out manuals.

PART 3 EXECUTION

3.01 MAINTENANCE AND OPERATION DATA AND INSTRUCTIONS

A. CONTENT OF MANUAL

1. Provide table of contents for each volume, arranged in systematic order.
   a. Contractor, name of responsible principal, address and telephone number.
   b. "High Level" Table of Contents, with the contents of all volumes, to be included in all volumes.
   c. Volume-specific Table of Contents for each volume
   d. A list of each product required to be included, indexed to content of the volume.
   e. List, with each product, name, address and telephone number of:
      1) Subcontractor or installer
      2) Maintenance contractor, as appropriate
      3) Identify area of responsibility of each
      4) Local source of supply for parts and replacement
   f. Identify each product by product name and other identifying symbols as set forth in Contract Documents.
2. Product Data:
   a. Include only those sheets that are pertinent to the specific product.
   b. Annotate each sheet to:
      1) Clearly identify specific product or part installed.
      2) Clearly identify data applicable to installation.
      3) Delete references to inapplicable information.
3. Drawings:
   a. Supplement product data with drawings as necessary to clearly illustrate:
      1) Relations of component parts or equipment and systems.
      2) Control and flow diagrams.
   b. Coordinate drawings with information in Project Record Documents to assure correct illustration of completed installation.
   c. Do not use Project Record Documents as maintenance drawings.
4. Written text, as required, to supplement product data for the particular installation:
   a. Organize in consistent format under separate headings for different procedures.
   b. Provide logical sequence of instructions for each procedure.

CLOSEOUT SUBMITTALS

5. Copy of each warranty, bond and service contract issued.
   a. Provide information sheet for Owner's personnel, give:
      1) Proper procedures in event of failure.
      2) Instances that might affect validity of warranties or bonds.
6. Copy of all Sustainable Design information.

3.02 MANUAL FOR MATERIALS AND FINISHES

A. Content, for architectural products, applied materials and finishes:
   1. List, with each product, name, address and telephone number of:
      a. Subcontractor or installer
      b. Maintenance contractor, as appropriate
      c. Identify area of responsibility of each
      d. Local source of supply for material.
   2. Manufacturer's data, giving full information on products:
      a. Catalog number, size, composition
      b. Color and texture designations
      c. Information required for re-ordering special manufactured products.
   3. Instructions for care, maintenance and preventative maintenance.
      a. Manufacturer's recommendation for types of cleaning agents and methods.
      b. Cautions against cleaning agents and methods which are detrimental to product.
      c. Recommended schedule for cleaning and maintenance.

B. Content, for moisture-protection and weather-exposed products:
   1. Manufacturer's data, giving full information on products.
      a. Applicable standards.
      b. Chemical composition.
      c. Details of installation.
   2. Instructions for inspection, maintenance and repair.

C. Additional requirements for maintenance data: Respective Sections of Specifications.

3.03 MANUAL FOR EQUIPMENT AND SYSTEMS

A. Content, for each unit of equipment and system, as appropriate:
   1. Description of unit and component parts.
      a. Function, normal operating characteristics, and limiting conditions.
      b. Performance curves, engineering data and tests.
      c. Complete nomenclature and commercial number of replaceable parts.
   2. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
   3. Operating procedures:
      a. Start-up, break-in, routine and normal operating instructions.
      b. Regulation, control, stopping, shut-down and emergency instructions.
      c. Summer and winter operating instructions.
      d. Special operating instructions.
   4. Maintenance and Preventative Maintenance Procedures:
      a. Routine operations.
      b. Guide to "trouble-shooting".
      c. Disassembly, repair and re-assembly.
      d. Alignment, adjusting and checking.
   5. Servicing and lubrication schedule.
      a. List of lubricants required.

CLOSEOUT SUBMITTALS

6. Manufacturer's printed operating and maintenance instructions.
7. Description of sequence of operation by control manufacturer.
8. Provide control diagrams by controls manufacturer as installed.
9. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
10. Original manufacturer's parts list, illustrations, assembly drawings and diagrams required for maintenance.
    a. Predicted life of parts subject to wear.
    b. Items recommended to be stocked as spare parts.
11. As-installed control diagrams by controls manufacturer.
12. Each Contractor's coordination drawings.
    a. As-installed color coded piping diagrams.
13. Charts of valve tag numbers, with location and function of each valve.
14. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.
15. Other data as required under pertinent Sections of Specifications.

B. Content, for each electric and electronic system, as appropriate:
1. Description of system and component parts.
    a. Functional, normal operating characteristics and limiting conditions.
    b. Complete nomenclature and commercial number of replaceable parts.
2. Circuit directories of panel boards.
    a. Electrical service.
    b. Controls.
    c. Communications.
3. As-installed color coded wiring diagrams.

3.04 WARRANTIES, GUARANTEES, AND BONDS

A. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of warranty on Work that incorporates products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with Contractor.

B. Owner's Recourse:
1. Written warranties made to Owner are in addition to implied warranties, and shall not limit duties, obligations, rights and remedies otherwise available under law.
2. Warranty periods shall not be interpreted as limitations on time in which Owner can enforce such other duties, obligations, rights, or remedies.
3. Rejection of warranties: Owner reserves right to reject warranties and to limit selections to products with warranties not in conflict with requirements of Contract Documents.

C. Include one copy of each warranty in Operations and Maintenance Manual, or in Material and Finishes Maintenance Manual.

D. Provide full information for each warranty, guarantee, and bond. List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

E. Obtain warranties, bonds, and maintenance/service contracts executed in triplicate by responsible subcontractors, suppliers, and manufacturers; warranties commence on Date of Substantial Completion.

F. Verify that documents are in proper form, contain full information, and are notarized.

3.05 DEMONSTRATION AND TRAINING

A. Training Materials and information produced per the requirements of Section 017900 Demonstration and Training shall be included in the Closeout Submittals.

CLOSEOUT SUBMITTALS

3.06 AS-BUILT RECORD DOCUMENTS

A. As-Built Documents are documents, including but not limited to Drawings, Addenda, Specifications, executed Change Orders, and other elements of the Contract Documents which the Contractor annotates and otherwise modifies to indicate changes made during the construction process, the location of concealed and buried items, and other information useful to the Owner throughout the life of the completed Project.

1. Any reference to Project Record Documents shall be construed the same as a reference to As-Built Documents.

B. SCOPE

1. Maintain at the job site one record copy of:
   a. All Contract Documents including Drawings, Project Manual, and Addenda
   b. Reviewed Shop Drawings
   c. Change Orders
   d. Other modifications to Contract
   e. Field test records
   f. Affidavits
2. Store record documents apart from documents used for construction.
3. Maintain documents in clean, dry, legible condition.
4. Do not use project record documents for construction purposes.
5. Make documents available for inspection at any time by Architect and Owner.
6. Failure to maintain documents up-to-date will be cause for withholding payments to Contractor.

C. RECORDING

1. Label each document "Project Record".
2. Keep record documents current.
3. Do not permanently conceal any work until required information has been recorded.
4. Contract Drawings:
   a. Contractor may at his option enter required information on a "working set" and then at completion of project transfer the information to final submitted "Project Record" set.
      1) Alternative means of recording actual construction conditions such as laser scanning with any conversion of resulting point clouds and/or reality capture required to provide readily comprehensible information may also be acceptable.
   b. Contractor shall legibly record actual construction for all disciplines of work whether changes occur or not. Actual construction conditions must be recorded on a continual ongoing basis and shall be available to Architect for review at any time.
   c. Information recorded shall include at a minimum:
      1) Depths of various elements of foundation in relation to survey data.
      2) Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
      3) Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
      4) Revisions to routing of piping and conduits.
      5) Revisions to electrical circuitry.
      6) Actual equipment locations.
      7) Duct size and routing.
      8) Field changes of dimension and detail.
      9) Changes made by Change Order or Field Order.
      10) Details not on original Contract Drawings.
      11) Field records for variable and concealed conditions.
      12) Record information on the Work that is shown only schematically.
   d. Record drawings shall include, as a minimum, the location and performance data on each piece of equipment, general configuration of duct and pipe distribution system, including sizes, and the terminal air and water design flow rates.

CLOSEOUT SUBMITTALS

5. Project Manual and Addenda:
   a. Contractor shall legibly mark up each section to record:
      1) Manufacturer, trade name, catalog number and Supplier of each product and item of equipment actually installed.
      2) Changes made by Change Order or Field Order.
      3) Other items not originally specified.
6. Conversion of Schematic Layouts:
   a. Arrangement of conduits, circuits, piping, ducts and similar items are in most cases shown schematically on the Drawings.
   b. Contractor shall legibly mark to record actual construction:
      1) Dimensions accurate to within 1" of the centerline of items shown schematically.
      2) Identify each item, for example, "cast iron drain", "galvanized water", etc.
      3) Identify location of each item, for example, "under slab", "in ceiling plenum", "exposed", etc.
   c. The Architect may waive requirements of schematic layout conversion when, in his opinion, it serves no beneficial purpose. Do not, however, rely on waivers being issued except as specifically issued by the Architect in writing.
7. Delete Architect title block and Architect / Engineer seals from all documents.

D. SUBMITTAL
1. At completion of project, deliver Record Documents to Architect for review.
2. Make any Architect / Owner requested adjustments to Record Documents.
3. Submit approved documents to Architect with claim for final Application for Payment.
4. Accompany submittal with transmittal letter in duplicate containing:
   a. Date
   b. Project Title & Number
   c. Contractor's name and address
   d. Title & number/each Record Document
   e. Certification that each Document as submitted is complete and accurate.
   f. Signature of Contractor, or his authorized representative.

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END OF SECTION 017800

MAINTENANCE BUILDING REMODELING
OLD SCHOOL FOREST PRESERVE
BID SPEC. NUMBER: 20017

Division 01
Section 017900

DEMONSTRATION AND TRAINING

PART 1 GENERAL

1.01 SUMMARY

A. This Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
   1. Demonstration of systems, subsystems, and equipment to Owner's personnel to show proper management, operation, and maintenance of equipment and systems furnished under the Contract. Personnel to be trained include administrative, maintenance, engineering, and operations personnel.
   2. The training of Owner's personnel shall encompass training in the management, operation, and maintenance of equipment and systems furnished under the Contract. Personnel to be trained include maintenance, engineering, and operations personnel.
   3. The Training Program shall enable Owner's personnel to operate, service, enhance, maintain, and interact with, the hardware, software, and firmware, such that the equipment and systems will perform in accordance with the Contract requirements.

B. Related Sections include the following:
   1. General and Supplementary Conditions of the Contract
   2. Section 011110 – Summary of Work
   3. Section 011116 – Work by Owner
   4. Section 011300 – Submittal Procedures
   5. Section 017700 – Closeout Procedures
   6. Section 017800 – Closeout Submittals
   7. Section 018113 – Sustainable Design Requirements
   8. Section 019100 – Commissioning
   9. Individual Sections for specific requirements for demonstration and training

1.02 SUBMITTALS

A. Instruction Program: Submit 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.

B. Attendance Record: For each training module, submit list of participants and length of instruction time. Submit reports within one week after completion of demonstrations, that demonstrations and instructions have been satisfactorily completed.

C. Demonstration and Training Materials:
   1. The completed FINAL VERSION of the approved Operation & Maintenance Manuals and the redlined set of the as-built record drawings shall be used as the basis of instruction. The Contractor is not responsible for providing additional copies of these documents for training purposes.
   2. Demonstration and Training Materials shall also include any additional materials not included in the Operational and Maintenance Manuals and as-built drawings that are required for the Owner to train additional personnel in the management, operation, and maintenance of equipment and systems furnished under the Contract.
      a. Provide a complete transcript of the content of each training session.
      b. These additional training materials may, at the contractor's option, include a video taken of the original demonstration and training sessions.
      c. All auxiliary demonstration and training materials shall be specific to the equipment, systems, and materials of this project.
      d. Identify all auxiliary demonstration and training materials with Project name, Contractor name, and description of material covered.

D. Owner will provide list of personnel to receive instructions, and will coordinate their attendance at agreed-upon times. Personnel to be trained shall include the administrative, maintenance, engineering, and operations personnel responsible for this facility.

1.03 QUALITY ASSURANCE

A. Instructor Qualifications: Factory-authorized service representative, experienced in operation and maintenance procedures and

DEMONSTRATION AND TRAINING

training, familiar with the installed equipment and systems, and familiar with this facility.

B. Pre-instruction Meeting: 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

1.04 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 Architect.

D. Coordinate instruction schedule with commissioning activities. Ensure that systems are fully operational and in compliance with design requirements before completing demonstration and training.

PART 2 EXECUTION

2.01 PREPARATION

A. Verify equipment has been inspected and put into operation; testing, adjusting, and balancing has been performed; and equipment and systems are fully operational.

B. Have copies of completed operation and maintenance manuals, as-built drawings, and any additional training materials at hand for use in demonstrations and instructions.

2.02 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 but not limited to:
   1. Building structure and site materials including, but not limited to, paving, landscaping, masonry, sealants, firestopping, waterproofing, roofing, millwork, glazing, doors, hardware, flooring, ceilings, painting,
   2. Equipment provided under the general construction contract including, but not limited to, signage, toilet partitions, demountable partitions, toilet accessories, warm air hand dryers, emergency aid specialties, lockers, specialty locker, storage equipment, specialty banking and cash handling equipment, kitchen appliances, window treatments, furniture, vaults, and towers.
   3. Conveying systems, including elevators.
   4. Fire-protection systems, including fire alarm, fire pumps and fire-extinguishing systems.
   5. Special plumbing systems including, but not limited to storm water cisterns and gray water plumbing systems.
   6. Heating and Cooling equipment and HVAC instrumentation and controls.
   7. Electrical service and distribution, including transformers, switchboards, panelboards, uninterruptible power supplies and motor controls.
   8. Packaged engine generators, including transfer switches.
   9. Lighting equipment and controls.
   10. Photovoltaic System
   11. Communications systems and services including, but not limited to, Structured Cable System, Audio Visual System, Sound Masking System, Interview Recording System, and Intercom and Paging System.
   12. Safety and Security Systems and services including, but not limited to, Access Control System, Intrusion Detection System,

DEMONSTRATION AND TRAINING

Video Surveillance System, and Fire Alarm System.

13. Other Contractor furnished and installed systems and equipment.
14. Assist in scheduling training for equipment and systems provided by Owner outside the general construction contract.

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
   c. LEED and sustainable design requirements.
   d. Operating standards.
   e. Regulatory requirements.
   f. Equipment function.
   g. Operating characteristics.
   h. Limiting conditions.
   i. 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 re-assembly instructions.
   d. Instructions for identifying parts and components.
   e. Review of spare parts needed for operation and maintenance.

PART 3 EXECUTION

3.01 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.

3.02 INSTRUCTION - GENERAL

A. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.

B. 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 14 days' advance notice.

C. Evaluation: At conclusion of each training module, assess and document each participant's mastery of module by use of a demonstration performance-based test.

D. Cleanup: Collect used and leftover educational materials and remove from Project site. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

3.03 TRAINING OF FACILITY ENGINEERING, OPERATING AND MAINTENANCE PERSONNEL

A. Instruct the Owner's personnel in operation, adjustment, and maintenance of all materials, components, equipment and systems.
   1. Use the Operation and Maintenance Manuals and the Record "As-Built" Drawings for each piece of equipment or system as the basis of instruction. Review contents in detail to explain all aspects of installation, care and preservation, operation, preventive maintenance, service, and replacement.
   2. Use all required additional demonstration and training materials required to provide adequate training.
   3. The detailed review of the materials, components, systems and equipment shall include as minimum the following items:
      a. Materials, components, systems and equipment
      b. Safety precautions and procedures
      c. Installation
      d. Operational features and functions
      e. Operational testing and diagnostics

f. Preventive and predictive maintenance
g. Service: Repair and replacement
h. Operation and Maintenance manual content
i. Commissioning: Testing, adjusting, calibration and balancing
j. Contractor furnished spare parts and extra materials
k. Recommended "spare parts" inventory not furnished by Contractor
l. Specialty tool requirements
m. Lubricants
n. Fuels
o. Identification systems
p. Automatic/manual control systems
q. Hazards/Material Safety Data Sheets
r. Cleaning
s. Procurement of replacement parts
t. Warranty reviews including terms and conditions, points of contact, return material procedures, effective date, extended warranty options
u. Maintenance agreements and similar continuing commitments
v. Record "As-Built" Drawings

4. As part of the operations portion of the training session, demonstrate all operational features and functions.
5. Refer to other specification Sections for additional training requirements associated with engineering, operating and maintenance of various systems/equipment.

3.04 DEMONSTRATION AND TRAINING VIDEO RECORDINGS - OPTIONAL

A. Contractor may at his option provide video recordings of and for demonstration and training.

B. General: Engage a qualified commercial videographer to record demonstration and training video recordings. Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
1. At beginning of each training module, record each chart containing learning objective and lesson outline.

C. Video: Provide minimum HD video resolution converted to format file type acceptable to Owner, on electronic media.
1. Electronic Media: Read-only, permanent, portable digital data media acceptable to Owner, with commercial-grade graphic label.
2. File Hierarchy: Organize folder structure and file locations according to project manual table of contents. Provide complete screen-based menu.
3. File Names: Utilize file names based upon name of equipment generally described in video segment, as identified in Project specifications.
4. General Contractor, Filed Subcontractor, Non-Filed Subcontractor, Supplier, Vendor, Manufacturer and Installer Contact File: Using appropriate software, create a file for inclusion on the Equipment Demonstration and Training DVD that describes the following for each party involved on the Project, arranged according to Project table of contents:
a. Name of Contractor/Installer.
b. Business address.
c. Business phone number.
d. Point of contact.
e. E-mail address.

D. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to adequately cover area of demonstration and training. Display continuous running time.
1. Film training session(s) in segments not to exceed 15 minutes.
a. Produce segments to present a single significant piece of equipment per segment.
b. Organize segments with multiple pieces of equipment to follow order of Project Manual table of contents.
c. Where a training session on a particular piece of equipment exceeds 15 minutes, stop filming and pause training session. Begin training session again upon commencement of new filming segment.

MAINTENANCE BUILDING REMODELING
OLD SCHOOL FOREST PRESERVE
BID SPEC. NUMBER: 20017

Division 01
Section 017900

DEMONSTRATION AND TRAINING

E. Light Levels: Verify light levels are adequate to properly light equipment. Verify equipment markings are clearly visible prior to recording.
   1. Furnish additional portable lighting as required.

F. Narration: Describe scenes on video recording by audio narration by microphone while video recording is recorded. Include description of items being viewed.

G. Transcript: Provide a transcript of the narration. Display images and running time captured from videotape opposite the corresponding narration segment.

H. Preproduced Video Recordings: Provide video recordings used as a component of training modules in same format as recordings of live training

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END OF SECTION 017900

MAINTENANCE BUILDING REMODELING
OLD SCHOOL FOREST PRESERVE
BID SPEC. NUMBER: 20017

Division 05
Section 055000

METAL FABRICATIONS

PART 1 GENERAL

1.01 SCOPE

A. Provide labor, materials, equipment and supervision required to furnish and install:
   1. Angles and lintels.
   2. Miscellaneous framing and supports.
   3. Steel shapes and plates for masonry support.
   4. Bumper posts / Steel Bollards
   5. Ornamental metal
   6. Items as indicated on Drawings.

1.02 SUBMITTALS

A. Submit Shop Drawings showing locations, markings, quantities, materials, sizes and shapes; indicate methods of connecting, anchoring, fastening, bracing, and attaching to work of other trades.

1.03 QUALITY ASSURANCE

A. Qualification of Welders:
   1. Use only certified welders and shielded arc process for welding performed in connection with work of this Section.

B. Codes and Standards:
   1. Comply with pertinent codes and regulations during installation of miscellaneous metal fabrications.
   2. Comply with recommendations of "Specification for Structural Steel Buildings" of AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
   3. Comply with recommendations of "Code of Welding in Building Construction of American Welding Society".

1.04 TESTING LABORATORY

A. Testing of structural metal framing will be performed by a Testing Laboratory as indicated in Section 014529.

B. Erection Inspection and Testing:
   1. Visual inspection of welds.
      a. Field welding as indicated on the reviewed Shop Drawings shall be inspected visually for conformance to the Contract Documents by a representative of an independent testing laboratory.
      b. Welds found to be non-conforming to the Contract Document requirements shall be repaired.
      c. Repairs made to the defective welds will be subjected to re-inspection by the original method used. Re-inspection costs shall be paid by this Section.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver items in a sequence as required to be incorporated into the work without delaying the project.

B. Store and handle in a manner to avoid damage and contact with deleterious elements.

C. Deliver materials to the site at such intervals to ensure uninterrupted progress of the work.

D. Deliver anchor bolts and anchorage devices, which are to be embedded in cast-in-place concrete or masonry, in ample time to not delay that work.

E. Store materials to permit easy access for inspection and identification. Keep steel members off the ground, using pallets, platforms, or other supports. Protect steel members and packaged materials from corrosion and deterioration.

F. Do not store materials on the structure in a manner that might cause distortion or damage to the members or the supporting structures. Repair or replace damaged materials or structures as directed.

MAINTENANCE BUILDING REMODELING
OLD SCHOOL FOREST PRESERVE
BID SPEC. NUMBER: 20017

Division 05
Section 055000

METAL FABRICATIONS

PART 2 PRODUCTS

2.01 BASIC MATERIALS

A. Steel tubing shall be new, free from rust and conform with requirements of ASTM A-500, Grade B.

B. Steel Channels, Plates and Angles shall be new, free from rust and conform with requirements of ASTM A-36.

C. Steel W Shapes shall be new, free from rust, and conform to requirements of ASTM A992 (Fy = 50 KSI).

D. Bolts and nuts shall be new, free from rust and conform to requirements of ASTM A-325 or ASTM A-490.

E. Primer: Federal Specification TT-P-31, fabricator's standard for shop application and field touch-up.

F. Touch-up primer for galvanized surfaces: Federal Specification TT-P-641.

G. Angles and Lintels:

1. Provide loose angles to accommodate items embedded in or passing through masonry walls for work of all trades and contracts.
2. Lintels will typically be 16" longer than opening.
3. Where lintel abuts column or concrete wall, provide a 5/16" plate welded to end of lintel which can be welded to steel column or anchored to concrete.
4. Lintels not specifically sized by Drawings shall comply with the following:
   a. Walls 6" or less in thickness containing hollow metal frames:
      1) Above hollow metal frames, openings up to 3'-4": No lintel required where jambs and head of frame are grouted full.
      2) Unframed openings and openings greater than 3'-4": Structural lintel required per the following.
   b. Walls 8" or more in thickness: For each 4" thickness of masonry:
      1) Up to 4'-0" wide: One 3-1/2" x 3-1/2" x 5/16" angle.
      2) Over 4'-0" up to 6'-4" wide: One 4" x 3-1/2" x 5/16" angle.
      3) Over 6'-4" up to 8'-1" wide: One 5" x 3-1/2" x 5/16" angle.
      4) Over 8'-1" wide: Structural lintel required.
   c. Variation to above will require structural lintel reviewed by Architect.
5. All angles and lintels in exterior walls shall be hot dipped galvanized with a minimum G-60 coating.

H. Miscellaneous Framing and Supports:

1. Provide miscellaneous steel framing and supports which are not a part of structural steel framework.
2. Fabricate miscellaneous units from structural steel shapes, plates and steel bars of welded construction using mitered joints for field connection. Cut, drill and tap units to receive hardware and similar items.
3. Equip units with integrally welded anchors for casting into concrete or building into masonry. Furnish inserts if units must be installed after concrete is in place.
4. Space anchors 24" on center and provide minimum anchor units of 1-1/4" x 1/4" x 8" steel straps.
5. Galvanize miscellaneous frames and supports exposed to the exterior and units cast into the structure.
6. Interior miscellaneous frames and supports shall be prime painted unless indicated otherwise.

I. Structural Support Rods and Brackets:

1. Provide structural supports rods to support lighting elements as per Drawings.
2. Provide steel anchors and brackets as required and shown on Drawings.

J. Rectangular tubing shall be new, free from rust, and conform with requirements of ASTM A-500 Grade B.

K. Bolts and nuts shall be new, free from rust and conform with requirements of ASTM A-307.

L. Cast iron shall be new, free from rust, suitable for intended use and conform to ASTM A-48.

M. Primer: Federal Specification TT-P-31, fabricator's standard for shop application and field touch-up.

N. Touch-up Primer for Galvanized Surfaces: Federal Specification TT-P-641.

MAINTENANCE BUILDING REMODELING
OLD SCHOOL FOREST PRESERVE
BID SPEC. NUMBER: 20017

Division 05
Section 055000

METAL FABRICATIONS

2.02 METAL FABRICATIONS

A. Bumper posts, guardrails and handrails; prime paint finish.

B. Metal Framing System:
   1. Basic channels shall be fabricated of 0.105" thick steel 1-5/8" x 1-5/8".
   2. Channels shall have baked acrylic finish which will withstand 400 hours salt spray when tested per ASTM B-117.
   3. Parts, screws and nuts shall be electro-galvanized to commercial standards.
   4. Channels shall be supported at 4'-0" on center.
   5. Vertical supports shall be capable of each supporting 1200 pound tensile stress.
   6. Approved Manufacturers:
      a. POWER - STRUT "PS - 200"; (216) 372-8111.
      b. UNISTRUT BUILDING SYSTEMS "P1000"; (313) 721-4040.
      c. Architect-approved equivalent.

2.03 FINISH

A. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.

B. Do not prime surfaces in direct contact bond with concrete or where field welding is required.

C. Prime paint items scheduled with one coat unless indicated otherwise.

D. Galvanize items to minimum 1.25 ounces per square foot zinc coating in accordance with ASTM A-386.

E. Toxicity: Solvent coating systems are not permitted. Electroplated coating systems are not permitted.

F. Anti-Corrosive Paint: Comply with GS-03.

2.04 FABRICATION

A. Verify dimensions on site prior to shop fabrication.

B. Fabricate metal fabrications in strict accordance with Shop Drawings and referenced standards.

C. Where possible, prefabricate items complete and ready for installation.

D. Fabricate items with joints tightly fitted and secured.

E. Fit and shop assemble in largest practical sections, for delivery to site.

F. Grind exposed welds flush and smooth with adjacent finished surface. Ease exposed edges to small uniform radius.

G. Exposed Mechanical Fastenings: Flush countersink screws or bolts; unobtrusively located; consistent with design of structure, except where specifically noted otherwise.

H. Make exposed joints butt tight, flush, and hairline.

I. Supply components required for anchorage of metal fabrications. Fabricate anchorage and related components of same material and finish as metal fabrication, except where specifically noted otherwise.

J. Welding:
   1. Weld shop connections.
   2. Make joints and intersections of metal tightly fitting and securely fastened.
   3. Make work square, plumb, straight and true.

K. Holes:
   1. Drill or punch holes required for attachment of work of other trades and for bolted connections.
   2. Burned holes will not be accepted.

MAINTENANCE BUILDING REMODELING
OLD SCHOOL FOREST PRESERVE
BID SPEC. NUMBER: 20017

Division 05
Section 055000

METAL FABRICATIONS

PART 3 EXECUTION

3.01 SURFACE CONDITIONS

A. Inspection:
1. Prior to work of this Section, inspect installed work of other trades and verify that such work is to point where fabrication and installation of work of this Section may proceed.
2. Make field measurements to ensure proper and adequate fit of metal fabrications and to verify that metal fabrications may be fabricated and installed in strict accordance with original design and Shop Drawings.

3.02 SHOP PAINTING

A. Preparation:
1. Thoroughly clean metal of mill scale, rust and foreign matter.

B. Painting:
1. Shop prime steel except:
a. Steel to be encased in concrete.
b. Surfaces to be welded.
c. Galvanized steel.
d. Steel to be spray-on fireproofed.

3.03 ERECTION

A. Coordinate installation schedule with schedules of other trades to ensure orderly and timely progress of work.

B. Erect and install metal fabrications in strict accordance with Drawings, Shop Drawings, and referenced standards, aligned, straight, plumb and level.

C. After erection and installation are complete, touch up all shop primary coats using priming paint specified for shop priming.

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END OF SECTION 055000

MAINTENANCE BUILDING REMODELING
OLD SCHOOL FOREST PRESERVE
BID SPEC. NUMBER: 20017

Division 06
Section 061000

ROUGH CARPENTRY

PART 1 GENERAL

1.01 SCOPE

A. Furnish and install all rough carpentry of every description, as indicated on the Drawings and specified herein. The work includes, but is not necessarily limited to, the following:
   1. Wood framing.
   2. Wood furring and grounds.
   3. Wood nailers, curbs, and blocking.
   4. Wood treatment.
   5. Rough hardware and accessories.
   6. Sheathing and Exterior plywood and rough plywood used in concealed or semi-concealed areas.

1.02 WORK BY OTHER SECTIONS

A. Section 062000 - Finish Carpentry
B. Section 064000 – Architectural Woodwork
C. Section 079000 – Joint Sealants
D. Section 081113 – Hollow Metal Doors and Frames
E. Section 087000 – Finish Hardware

1.03 SUBMITTALS

A. Product data: technical data on wood treatment materials, manufacturer's certification for fire-retardant treatment, laminated veneer lumber (LVL), and framing connectors.
   1. Preservative treated wood: Submit certification that moisture content was reduced to 19% maximum, after treatment.
   2. Fire-retardant treatment: Submit certification by treating plant that materials comply with governing ordinances and will not bleed through finished surfaces.

1.04 QUALITY ASSURANCE

A. Installer qualifications: minimum five (5) years experience on comparable projects.
B. Regulatory requirements:
   1. Conform to applicable building code for requirements. materials, methods, and for fire retardant
   2. Conform to UL requirements to achieve fire ratings indicated.
   3. Conform to National Design Specification for Wood Construction (NDS).
C. Environmental Requirements:
   1. Plywood, oriented strand-board (OSB), particleboard, hardboard and other composite wood products, comply with the following:
      a. Manufactured without added formaldehyde.
      b. Emissions of raw panel product shall com ply with California Air Resources Board (CARB) Phase II standards for formaldehyde emissions. Compliance shall be certified by the Composite Panel Association (CPA) or other independent third-party agency recognized by CARB.
   2. Field-applied adhesives shall comply with the following VOC limits:
      a. Contact adhesive: 80 gIL.
      b. General purpose adhesive for wood substrates: 30 gIL.
   3. Field-applied sealants shall comply with the following VOC limits:
      a. General purpose sealant: 250 gIL.
      b. Sealant primer, non-porous surfaces: 250 gIL.
      c. Sealant primer, porous surfaces: 775 gIL.

ROUGH CARPENTRY

D. Grading Agencies:
   1. Lumber: certified by American Lumber Standards Committee.
   2. Plywood: certified by American Plywood Association.

E. Comply with "Simplified Practice Recommendations" R-16, American Lumber Standards for Soft Lumber by the U.S. Department of Commerce.

F. Lumber and plywood grade marking: factory marking each piece indicating grade, type and compliance with applicable treatment requirements.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Immediately upon delivery to job site, place materials in area protected from weather.

B. Store materials above ground, and cover.

C. Do not store seasoned materials in wet or damp portions of building.

D. Protect fire-retardant materials against high humidity and moisture during storage and erection.

E. Protect sheet materials from corners breaking and damaging surfaces, while unloading.

1.06 Project Conditions:

A. Fit carpentry work to other work; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment to other work.

PART 2 PRODUCTS

2.01 Sawn Lumber Materials:

A. Lumber grading rules: agency recognized by National Forest Products Association (NFoPA).

B. General requirements: S4S, SDRY, 19% moisture maximum at time of delivery to site. Lumber 2" nominal; or less, shall be dried to 15 - 19% moisture content.

C. Lumber grades; unless indicated otherwise:
   1. Structural light framing, 2" to 4" thick, 5" and wider: extreme fiber stress in bending, "f_b", 1200 PSI minimum; modulus of elasticity, "E", 1,000,000 minimum.
   2. Non-structural light framing: No.2, standard grades.
   3. Studs and plates: No.2, standard grades.
   4. Furring, grounds, nailers and blocking: No.2, standard grades.

2.02 Manufactured Lumber and Fabricated Wood Structural Framing Materials:

A. Laminated Veneer Lumber (LVL): Georgia-Pacific "G-P Lam LVL", Louisiana-Pacific "Gang-Lam,LVL" or approved equal.
   1. Stress Grade (s, unless noted otherwise: extreme fiber stress in bending, "fb", 2600 PSI minimum; modulus of elasticity, "E", 2,000,000 minimum; Shear stress, fv", 285 PSI. minimum.

2.03 Plywood Materials:

A. Sheathing: APA rated plywood, grade and thickness as indicated.

B. Softwood plywood, general: APA Grade C-D exterior, unsanded, thickness indicated.

C. Plywood backboards for equipment: APA Grade B-C, Interior, thickness as indicated.

2.04 Wood Treatment:

A. Fire Retardant: chemically treated and pressure impregnated per AWPA C20 or C27; conforming to IBC current issue, flame spread rating or 25 or less per ASTM E84 when test is continued for a period of 30 minutes, without evidence of progressive combustion, and flame front shall not progress more than 10 1/2 feet beyond the centerline of the burner at any time during the

test.

1. Provide fire retardant treated wood products only where specifically indicated on the Drawings

B. Wood preservative (pressure treatment) to suit application in accordance with Table 1 and the following:

1. Borate (DOT) Preservative Treatment: Disodium octoborate tetrahydrate
2. Copper Azole (CA) Preservative Treatment.
3. All treatments shall meet meeting the following minimum standards:
   a. Preservative Treatment Standard: AWPA P5.
   b. Structural Lumber Treatment Standard: comply with AWPA C31.
   c. Plywood Treatment Standard: comply with AWPA C9.
4. Mark each piece of treated material with quality mark of an ALSC-recognized agency which maintains supervision, testing, and inspection of the quality of the product. Include the following:
   a. Identification of the inspection agency.
   b. Identification of the standard to which the material was treated.
   c. Identification of the treating facility.
   d. Identification of the preservative and retention.
   e. Identification of the end use for which the product is suitable.
5. Provide preservative treated wood for all nailers, cants, blocking and similar members in conjunction with roofing, flashing, vapor barriers and waterproofing, where built into masonry or concrete, for sills, sleepers, furring and similar members concealed in contact with concrete, masonry, steel or earth and elsewhere as indicated.

Table 1 – Wood Preservative Treatment

Application	AWA Use Category	Treatment Method	Minimum Retention PCF	Typical Use Examples
Interior Dry or Damp	UC1, UC2	Borate (DOT)	.25 PCF DOT (0.17 PSF B_2O_3)	Sill plates, sleepers, and furring in contact with concrete foundations or floors, concealed fascias.
Exterior Above Ground	UC3A, UC3B	Copper Azole	.10 PCF CA-B	Roof nailers, blocking, curbs, and other lumber in conjunction with roofing, exposed wood fascias
Exterior Ground Contact	UC4A	Copper Azole	.21 PCF CA-B	Fence posts, structural lumber and timbers, guardrail posts

C. Field Applied Preservative: solution approve d by preservative treated wood manufacturer for application to site cut or milled surfaces.

2.05 Fasteners:

A. Fastener selection: use fastener size and type to suit application. Observe fastener manufacturer's recommendations for application, load capacity, embedment, spacing and edge distance and other criteria.

B. Types: unless specifically indicated on the Drawings select from the following types for securing wood framing, blocking, nailers, furring and grounds, fixtures and other items:

1. To steel beams and other structural shapes when loaded in shear:
   a. Self-drilling, self-tapping screws; ITW/Buildex "Teks" or "Traxx", Rawl "Twin Fast" or equal for light-duty applications.
   b. Low-velocity powder actuated fasteners or through bolting for other applications.

ROUGH CARPENTRY

2. To steel beams and other structural shapes when loaded in tension: through bolting.
3. To masonry when loaded in shear:
   a. Self-tapping screws (ITW/Buildex Tapcon, Rawl "Tapper" or equal) for light-duty applications.
   b. Sleeve-type internally expanding anchors (ITW Ramset/RedHead "Dynabolt", Rawl "Lok/Bolt" or equal), toggle bolts or screen-tube-epoxy anchoring system (ITW Ramset/RedHead "Epcon", Rawl "Foil-Fast Epoxy Injection Gel" or equal).
4. To concrete when loaded in shear:
   a. Self-tapping screws (ITW/Buildex Tapcon, Rawl "Tapper" or equal) for light-duty applications.
   b. Wedge-type anchors (ITW Ramset/RedHead "Trubolt", Rawl "Rawl-Stud Wedge Anchors" or equal), sleeve-type internally expanding anchors (ITW Ramset/RedHead "Dynabolt", Rawl "Lok/Bolt" or equal), or epoxy anchoring system (ITW Ramset/RedHead "Epcon", Rawl "Foil-Fast Epoxy Injection Gel" or equal).
5. To concrete when loaded in tension:
   a. Self-tapping screws (ITW/Buildex Tapcon, Rawl "Tappers" or equal) for light-duty applications.
   b. Wedge-type anchors (ITW Ramset/RedHead "Trubolt", Rawl "Rawl-Stud" Wedge Anchors" or equal), sleeve-type internally expanding anchors (ITW/Ramset/RedHead "Dynabolt", Rawl "Lok/Bolt" or equal).
6. Sills and plates to concrete foundations and masonry walls:
   a. Anchor rods, ASTM F1554, W' diameter, 9" embedded length, with 6" hook, overall length suitable for 1-1/2" projection beyond member(s) secured.

C. Types, for securing wood to wood:
   1. When loaded in shear: nails, screws, lag bolts and thru bolts
   2. When loaded in tension: screws, lag bolts and thru bolts.

D. Finish:
   1. Hot-dipped galvanized steel or stainless steel for exterior, high humidity, and other applications where moisture is likely to be present.
   2. Zinc plated or corrosion resistant polymer coated finish for interior applications involving treated wood.
   3. Plain finish elsewhere.

E. Minimum fastener size and spacing for roof nailers:
   1. Nailer to wood nailer:
      a. 8d nails:
         1) 12 inches on center, staggered, typical.
         2) 8 inches on center, staggered, within 12 feet of comer.
   2. Nailers to structural concrete deck:
      a. 1/2" wedge anchor, 1-1/2" min. embedment:
         1) 48 inches on center typical.
         2) 24 inches on center within 12 feet of roof comer.
      b. 1/4" Tapcon, 1-1/4" min. embedment:
         1) 24 inches on center, staggered, typical.
         2) 16 inches on center, staggered, within 12 feet of roof comer.
      c. 0.152" powder driven fastener with 7/8" dia. washer:
         1) 12 inches on center, staggered, typical.
         2) 8 inches on center, staggered, within 12 feet of roof comer.
   3. Nailers to structural steel (1/4" or thicker steel material):
      a. 1/2" bolt:
         1) 48 inches on center typical.
         2) 24 inches on center within 12 feet of roof comer.
      b. 1/4" self-drilling screws:
         1) 24 inches on center, staggered, typical.
         2) 16 inches on center, staggered, within 12 feet of roof comer.

c. 0.140" powder driven fastener with 7/8" dia. washer:
1) 12 inches on center, staggered, typical.
2) 8 inches on center, staggered, within 12 feet of roof comer.

4. Nailers to steel deck or metal roofing.:
a. #10 self-drilling screws, with washer:
1) 12 inches on center, staggered, typical.
2) 8 inches on center, staggered, within 12 feet of roof comer.
3) Not less than 3 fasteners per piece.
4) Additional fasteners may be required for roofing attachment by roofing system manufacturer.

5. Nailers to masonry:
a. 1/2" screen tube/epoxy anchors, 6" min. embedment:
1) 48 inches on center typical.
2) 24 inches on center within 12 feet of roof comer.

2.06 Accessories:

A. Connectors: galvanized steel, "Strong-Tie Connectors" manufactured by Simpson or approved equal, sized to suit joists, loads, and framing conditions, recognized under the applicable code.
1. Joist hangers, unless indicated otherwise: standard face mount, 16 gauge.
a. 2 x 6, 2 x 8: U26.
b. 2 x 10 and larger: U210.
2. Other applications: types indicated or as necessary to suit application and loads.

B. Construction adhesive: waterproof, air cure type, cartridge dispensed, type recommended by manufacturer for specific application.

C. Sill sealer: fiberglass

PART 3 EXECUTION

3.01 Installation - General:

A. Discard materials which are unsound, warped, bowed, twisted, im properly treated, inadequately seasoned at no cost to the owner.

B. Securely attach all carpentry work.
1. Size and spacing of nails shall met or exceed the requirements established by applicable code, product manufacturer's recommendations and, for plywood, the recommendations of the American Plywood Association. Use common wire nails, except as otherwise shown or specified herein. Use finishing nails for exposed work. Select nails of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials.
2. Provide washers under bolt heads and nuts in contact with wood.
3. Countersink nail heads on exposed carpentry work and fill holes.
4. Fasten carpentry work to masonry or concrete with anchors at maximum 36" o.c. unless indicated otherwise. Com ply with minimum fastener size and spacing for roof nailers: specified below.

C. Minimum anchor rod spacing for sills and plates to concrete foundations and masonry walls, unless indicated otherwise:
1. 32" on center
2. Not less than two anchors per member.
3. Anchor rods placed not more than 16" from ends of foundation or wall.

D. Place fiberglass sill sealer between wood sills or plates and concrete or masonry substrates.

E. Shim with metal or slate for bearing on concrete and masonry substrates. Grout with 1:3 portland cement-sand grout for full bearing when concrete or masonry bearing surfaces are irregular or out of line.

F. Install carpentry work plumb, level, and true to line.

G. Furnish and install all hangars, brackets and other items of rough carpentry necessary for completion of the work.

ROUGH CARPENTRY

H. When preservative treated lumber is cut or milled after treatment, all cut surfaces, bolt holes, and machined areas shall be liberally brushed with the sam e preservative in accordance with AW PA Standard M4.

I. Protect Borate (DOT) preservative treated wood from prolonged exposure to rain and water.

3.02 Framing:

A. Comply with applicable recommendations of NFoPA for the fabrication and installation of framing.

B. Comply with manufacturer's recommendations for fabrication and installation of LVL and other manufactured structural wood framing products.

C. Place horizontal members laid flat with crown side up.

D. Construct framing members full-length without splices.

E. Double members at openings over 4 sq. ft. Space short studs to stud spacing over and under opening.

F. Construct double joist headers at floor and ceiling openings. Frame rigidly into joists.

G. Bridge joists spanning in excess of 8 feet at mid-span.

3.03 Furring:

A. Provide wherever shown or required for attachment of other work.

B. Shim with wood as required to bring furring true to line. Provide closure strips at edges and openings.

C. Firestop furred spaces on walls at each floor level, with wood blocking or incombustible materials, accurately fitted to close furred spaces.

D. Furring to receive paneling: unless otherwise shown provide 1" x 3" furring at 2'O.C. horizontally and vertically.

E. Furring to receive gypsum drywall: unless other w ise shown, provide 2" x 2" furring at 16" O.C. vertically.

F. Suspended furring: provide size and spacing shown, including hangers and attachment devices.

3.04 Grounds:

A. Provide wherever shown and where required for screeding.

B. Provide grounds of dressed, key-beveled lumber not less than 1-1/2" wide, thickness as required to bring face of ground to exact thickness of finish material involved. Provide preservative treated lumber for permanent grounds. Remove temporary grounds when no longer required.

3.05 Nailers and Blocking:

A. Provide wherever indicated or required for attachment or support of other work.

3.06 Plywood and Sheathing:

A. Comply with APA recommendations for the fabrication and installation of plywood and sheathing work.

B. Wall sheathing:

1. Provide solid blocking at all edges. Panels nay be installed parallel or perpendicular to supports subject to compliance with APA span rating for product. Provide solid blocking at openings greater than 8".
2. Install panels with 1/8" spacing at all edge and end joints.
3. Fastening:
   a. To wood framing: 8d nails for W' thickness or less, 10d nails over 1/2" thickness; 6" OC along edges, 12" OC along intermediate supports, for spans up to 48".
   b. To metal framing: screws, 6" OC along edges, 12" OC along intermediate supports, for spans up to 48".

C. Roof sheathing:

1. Install with long dimension perpendicular to supports and continuous over two or more spans.
2. Panel clips: provide at unsupported edges when indicated on the Drawings and when ever unsupported edge span exceed s

ROUGH CARPENTRY

APA maximum recommended span for product and panel thickness.

3. Install panels with 1/8" spacing at all edge and end joints.
4. Nailing: 10d ring-shank nails, 6" OC along edges, 12" OC along intermediate supports, for spans up to 48".
5. Edge blocking: provide solid blocking at edges of openings greater than 12"
6. Exposed edges: Protect exposed edges of panels edges of EXP1 and EXP2 sheathing or use EXT sheathing starter course.

D. Wet conditions: If sheathing may be exposed to wet conditions prior to installation of moisture-resistant barrier limit length of continuous areas of sheathing to 80 feet, leaving a minimum of 3-span open space. Fill-in open space later when conditions are dry.

E. Protection: Coordinate installation of sheathing with installation of roofing or so that installed sheathing is protected and not exposed to inclement weather.

3.07 Tolerances:

A. Framing members. Nailers and blocking: 1/4" maximum from true position.

B. Furring: 1/8" maximum in 10'.

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END OF SECTION 061000

MAINTENANCE BUILDING REMODELING
OLD SCHOOL FOREST PRESERVE
BID SPEC. NUMBER: 20017

Division 07
Section 079200

JOINT PROTECTION

PART 1 GENERAL

1.01 SCOPE

A. Provide labor, materials, equipment and supervision necessary to furnish and install:
   1. Sealants
   2. Caulks
   3. Sealing gaskets

B. Review architectural Drawings for exact location and type of sealant if not specified directly in this Specification.

1.02 SUBMITTALS

A. Samples:
   1. Submit samples of full range of colors of each type sealant, caulk and sealing gasket for selection.

B. Product data:
   1. Submit manufacturer's descriptive literature for each material.

C. Location Identification:
   1. Submit list of locations for each material.

1.03 WARRANTY AND GUARANTEE

A. The sealant manufacturer shall provide the Owner with a written 15-year warranty on materials as installed.

B. The sealant contractor shall provide the Owner with a written 5-year warranty and guarantee on labor and materials as installed.

PART 2 PRODUCTS

2.01 MATERIALS

A. Silicone Sealant (Typical interior use in "wet" locations):
   1. Silicone sealant shall meet or exceed the requirements of Fed. Spec. TT-S-1543 and Fed. Spec. TT-S-230.
   2. Sealant shall be supplied in ready-to-use form which requires no job-sit.
   3. Approved manufacturers:
      a. TREMCO "Spectrem 2"
      b. GENERAL ELECTRIC "SCS 1702 Sanitary Sealant"
      c. GENERAL ELECTRIC "Silpruf Weatherproofing Sealant"
      d. DOW CORNING "786 Mildew Resistant"
      e. DOW CORNING "795 Silicone"
      f. Architect-approved equivalent

B. Latex Caulk (Typical interior use):
   1. Latex caulk shall meet and exceed ASTM C-834 for Latex Sealing Compounds.
   2. Approved manufacturers:
      a. PECORA "AC-20 One-part Acrylic Latex Caulk"
      b. DAP "Acrylic Latex Caulk"
      c. SONNEBORN "Sonolac Acrylic Latex Caulk"
      d. TREMCO "Acrylic Latex Caulk".

C. Silicone, Multi-Component Sealant (Typical exterior use):
   1. Sealant shall meet or exceed the requirements of Fed. Spec. TT-S-227.
   2. Sealant shall be supplied for job-site mixing following manufacturer's specific mixing instructions.
   3. Approved manufacturers:

JOINT PROTECTION

a. GLENROCK CO.
b. BOSTIK-CHEM-LACK N'CURE 2000
c. DOW CORNING "795 Silicone"
d. TREMCO "Spectrem 2"
e. GENERAL ELECTRIC "Silpruf Weatherproofing Sealant"
f. Architect-approved equivalent.

D. Sealing Gasket:
1. Sealing gasket shall be open-celled foamed polyurethane strips saturated with a polybutylene waterproofing material. Waterproofing material shall not migrate or stain. Adhesive used to adhere sealing gaskets to preassembled surfaces shall be approved by manufacturers of sealing gaskets.
2. Approved manufacturers:
a. SANDELL MANUFACTURING COMPANY
b. W.R. MEADOWS, INC.
c. WILL-SEAL 150
d. Architect-approved equivalent.

E. Joint Backing (Backer Rod):
1. Provide closed-cell polyurethane rod designed for use with cold-applied joint sealants. Provide backer rod of size required for joint design.
2. Approved manufacturers:
a. DOW CHEMICAL "Ethafoam"
b. SONNEBORN "Sonofoam"
c. Architect-approved equivalent

F. Color:
1. Color of sealants and caulks will be selected by the Architect from the manufacturer's custom color range. Color charts will be submitted to Architect for approval before ordering material.

G. General Specification:
1. The approved manufacturer's General Specifications become a part of this Specification.

PART 3 EXECUTION

3.01 APPLICATION

A. General:
1. No sealant or caulk shall be applied on damp, wet or frosty surfaces. Apply only when temperature is between 40 deg. F. and 80 deg. F.
2. Where the possibility of primer or sealant staining of adjacent areas or materials exists, joints shall be masked prior to application. Masking tape shall not be removed before joints have been tooled and initial cure of sealant has taken place. Work stained due to failure of proper masking precautions will not be accepted.

B. Cleaning:
1. Concrete and masonry: Clean as per manufacturer's recommendations. Remove all dust from surfaces to receive primer or sealant.
2. Stone: Steam Clean under 400 psi. Surfaces shall be dry and dust free before primer or sealant application. Use guidelines set up by the Landmark Preservation Council of Illinois located in the Monadnock Bldg. at 53 W. Jackson, Chicago, IL 60604, (312) 922-1742, or as per manufacturer's recommendations.
3. Glass:
a. Clean glass surfaces with methyl ethyl ketone or alcohol. Contaminants, such as paints, should be removed from the surface before solvent cleaning.
4. Painted surfaces: Follow manufacturer's recommended cleaning procedures prior to primer or sealant application.

JOINT PROTECTION

5. Metals, unpainted:
   a. Aluminum, mill finish: Clean with xylene or trichloroethylene.
   b. Galvanized steel: Clean and degrease with xylene or toluene.

C. Back-up Material:
1. Verify the compatibility of back-up material with sealant before installation.
2. Use back-up material 1/2" wider than width of joint so that sufficient pressure is exerted by material to provide substantial resistance to displacement.

D. Release Agent:
1. Provide release agent or bond-breaker strip to joint to be sealed on top of back-up material to prevent adhesion of sealant to the back-up material per manufacturer's recommendations.

E. Sealant Caulk Application:
1. Prepare sealants that require mixing following manufacturer's recommended procedures, mixing thoroughly.
2. Mix only as much material as can be applied within manufacturer's recommended application time period.
3. Apply materials in accordance with the manufacturer's recommendations taking care to produce beads of proper width and depth, to tool as recommended by the manufacturer and to immediately remove surplus sealant.
4. Apply materials only within manufacturer's specified application life period. If inspection indicates that application life is expired or if the prescribed application period has elapsed, remainder of sealant shall be discarded.

****

END OF SECTION 079200

MAINTENANCE BUILDING REMODELING
OLD SCHOOL FOREST PRESERVE
BID SPEC. NUMBER: 20017

Division 08
Section 083613

SECTIONAL DOORS

PART 1 GENERAL

1.01 SUMMARY

A. Insulated Sectional Overhead Doors

B. Electric Operators and Controls.

1. Interior wired "UP/STOP/DOWN" controllers – one at each door.
2. Three button wireless controllers.
   a. Each button to control one door.
      1) Two existing sectional doors are being replaced.
      2) Wireless controllers should control each door individually.
   b. All wireless controllers to open / close both doors
   c. Ten (10) identical wireless controller are required, one for each of 10 of the Owner's vehicles.

C. Operating Hardware, tracks, and support.

1.02 Related Section:

A. Section 055000 - Metal Fabrications

B. Section 061000 – Rough Carpentry

C. Section 079000 – Joint Sealants

1.03 REFERENCES

A. ANSI/DASMA 102 - American National Standard Specifications for Sectional Overhead Type Doors.

1.04 PERFORMANCE REQUIREMENTS

A. Wind Loads: Design and size components to withstand loads caused by pressure and suction of wind acting normal to plane of wall as calculated in accordance with applicable code.

B. Wiring Connections: Requirements for electrical characteristics. 115 volts, single phase, 60 Hz.

C. Single-Source Responsibility: Provide doors, tracks, motors, and accessories from one manufacturer for each type of door. Provide secondary components from source acceptable to manufacturer of primary components.

1. Wind Loads: Per Code Requirements. .

1.05 SUBMITTALS

A. Product Data: Manufacturer's data sheets on each product to be used.

B. Shop Drawings: Indicate plans and elevations including opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, and installation details.

C. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

D. Operation and Maintenance Data.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum five years documented experience.

B. Installer Qualifications: Authorized representative of the manufacturer with minimum five years documented experience.

C. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories, Inc. acceptable to authority having jurisdiction as suitable for purpose specified.

1.07 WARRANTY

A. Warranty: Manufacturer's limited door and operators System warranty for 10 year against delamination of polyurethane foam from steel face and all other components for 3 years or 20,000 cycles, whichever comes first.

MAINTENANCE BUILDING REMODELING
OLD SCHOOL FOREST PRESERVE
BID SPEC. NUMBER: 20017

Division 08
Section 083613

SECTIONAL DOORS

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design Manufacturer: Overhead Door Corp., 2501 S. State Hwy. 121, Suite 200, Lewisville, TX 75067. ASD. Tel. Toll Free: (800) 275-3290. Phone: (469) 549-7100. Fax: (972) 906-1499. Web Site: www.overheaddoor.com. E-mail: sales@overheaddoor.com.

B. Other Acceptable Manufacturers
   1. Wayne-Dolton Corp
   2. Architect approved comparable

2.02 INSULATED SECTIONAL OVERHEAD DOORS

A. Insulated Steel Sectional Overhead Doors: 592 Series Thermacore Insulated Steel Doors by Overhead Door Corporation. Units shall have the following characteristics:
   1. Door Assembly: Metal/foam/metal sandwich panel construction, with PVC thermal break and weather-tight ship-lap design meeting joints.
      a. Panel Thickness: 2 inches (51 mm).
      b. Exterior Surface: Ribbed, textured.
      c. Exterior Steel: .015 inch (.38 mm), hot-dipped galvanized.
      d. End Stiles: 16 gauge with thermal break.
      e. Spring Counterbalance: Sized to weight of the door, with a helically wound, oil tempered torsion spring mounted on a steel shaft; cable drum of diecast aluminum with high strength galvanized aircraft cable. Sized with a minimum 7 to 1 safety factor.
         1) High cycle spring: 50,000 cycles.
      f. Insulation: CFC-free and HCFC-free polyurethane, fully encapsulated.
      g. Thermal Values: R-value of 17.50; U-value of 0.057.
      h. Air Infiltration: 0.08 cfm at 15 mph; 0.08 cfm at 25 mph.
      i. Partial Glazing of Steel Panels:
         1) 1/2 inch (12.5 mm) Low E Insulated glazing.
   2. Finish and Color:
      a. Two coat baked-on polyester:
         1) Interior color, white.
      b. Baked-on Kynar polyvinylidene floruoride high performance coating:
         1) Exterior color, to match existing sectional doors
   3. Windload Design: Provide to meet the Design/Performance requirements specified.
   4. Hardware: Galvanized steel hinges and fixtures. Ball bearing rollers with hardened steel races.
   5. Lock:
      a. Keyed lock with interlock switch for automatic operator.
   6. Weatherstripping:
      a. EPDM bulb-type strip at bottom section.
      b. Flexible Jamb seals.
      c. Flexible Header seal.
   7. Track: Provide track as recommended by manufacturer to suit loading required and clearances available.
      a. Size:
         1) 3 inch (76 mm).
      b. Type:
         1) Low headroom.
   8. Electric Motor Operation: Provide UL listed electric operator, size and type as recommended by manufacturer to move door in either direction at not less than 2/3 foot nor more than 1 foot per second. Operator shall meet UL325/2010 requirements for continuous monitoring of safety devices.
      a. Entrapment Protection: Required for momentary contact, includes radio control operation.
         1) Photoelectric sensors monitored to meet UL 325/2010.

SECTIONAL DOORS

b. Operator Controls:
1) Push-button and key operated control stations with open, close, and stop buttons.
a) Surface mounting.
b) Interior location.
c. Special Operation:
1) Radio control operation. (wireless vehicle mounted "garage" door opener)
a) Each wireless controller shall have 3 buttons.
b) Each button shall be programmed to control one door.

2.03 OVERHEAD SECTIONAL DOOR OPERATORS

A. Commercial Sectional Door Operator: Model RSX Commercial Door Operator:
1. Application:
a. Lift Clearance Sectional Door.
2. Electric Motor: UL listed.
a. Rating:
1) 1 horsepower single phase or three phase.
b. Motor frame comply with:
1) NEMA 56 3/4 and 1 hp all phases.
c. Construction:
1) Open drip-proof construction.
d. Reduction: Primary reduction is SuperBelt, an auto tension poly-V flex belt that does not require adjustment. Secondary reduction is by chain and sprocket.
e. Duty cycle: Accommodate heavy usage, up to 60 cycles per hour during peak usage periods.
1) Brake: DC Disc type with selectable Progressive Braking for smooth stopping.
2) Clutch: Adjustable friction disc type.
3) Limit System: LimitLock limit system, magnetic type providing absolute positioning with push to set and remote setting capabilities. Limit System shall remain synchronized with the door during manual operation and supply power interruptions.
3. Control System: Microprocessor based with relay motor controls on a single board. System incorporates a 16 character Liquid Crystal Display (LCD) to display the system status. System shall include the following:
a. Capable of monitoring and reporting on a variety of operating conditions, including: Current operating status, Current command status, Motor movement status, Current error status (if applicable), Hoist Interlock status (if applicable), External Interlock status, and 24VDC status.
b. A delay-on-reverse operating protocol.
c. Maximum run timers in both directions of travel that limit motor run time in the event a clutch slips or some other problem occurs.
d. Provisions for the connection of a 2-wire monitored photocell system or a 2-wire monitored edge sensor, as well as standard 2-wire sensing edges, photocells or other entrapment protection devices.
e. Control action will be constant contact close until a monitored entrapment device is installed, allowing for selection of momentary contact.
f. Provisions for connection of single and/or 3-button control stations.
g. Provisions for connection of an external 3-wire radio controls and related control devices.
h. On board open, close and stop control keys for local operation.
i. Trolley operators with an inherent secondary reversal system.
j. CodeDodger radio receiver that is dual frequency cycling at 315 Mhz and 390 Mhz capable of storing 250 single button and/or 250 Open-Close-Stop transmitters with the ability to add and/or delete transmitters individually, identify and store activating transmitter IDs.
4. Mounting:
a. Sectional doors shall be by Jackshaft that is center-mounted with:
1) Direct shaft-to-shaft coupling to door trolley.
2) 1.25" diameter shaft.
5. Release:
a. Release shall be a pull and hold type mechanism with single cable operation and an integrated interlock switch on hoist units.
b. Release shall consist of a manual disconnect door arm on trolley units.

SECTIONAL DOORS

6. Hoist: Chain hoist consists of chain pocket wheel, chain guard and smooth hand chain on hoist units.
7. Entrapment Protection:
   a. Jackshaft version designed to accept external entrapment device.
   b. Control system shall have provisions to connect entrapment protection devices such as electric sensing edge, pneumatic sensing edge or photoelectric sensor and to provide constant contact control operation in lieu of such devices.
8. Secondary Reversal:
   a. Trolley version only includes an integral electronic reversing system that will stop and reverse a closing door upon detection of an obstruction and designed to accept an optional external reversing device.
9. Control accessories:
   a. Operator Controls:
      1) Push-button operated control stations with open, close, and stop buttons.
         a) Controls for interior location.
         b) Controls surface mounted.
   b. Special Operation:
      1) Radio control operation. (wireless vehicle mounted "garage" door opener)
         a) Each wireless controller shall have 3 buttons.
         b) Each button shall be programmed to control one door.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install overhead doors and track in accordance with approved shop drawings and the manufacturer's printed instructions.

B. Coordinate installation with adjacent work to ensure proper clearances and allow for maintenance.

C. Anchor assembly to wall construction and building framing without distortion or stress.

D. Securely brace door tracks suspended from structure. Secure tracks to structural members only.

E. Fit and align door assembly including hardware.

F. Coordinate installation of electrical service. Complete power and control wiring from disconnect to unit components.

3.02 PROGRAMMING

A. Program all ten wireless 3-button controllers
   1. Button one on each controller shall control door one.
   2. Button two on each controller shall control door two.
   3. Button three on each controller shall control door three.

B. Verify operation of all wireless controllers for all doors.

3.03 CLEANING AND ADJUSTING

A. Adjust door assembly to smooth operation and in full contact with weatherstripping.

B. Clean doors, frames and glass.

C. Remove temporary labels and visible markings.

3.04 PROTECTION

A. Do not permit construction traffic through overhead door openings after adjustment and cleaning.

B. Protect installed products until completion of project.

C. Touch-up, damaged coatings and finishes and repair minor damage before Substantial Completion.

****

END OF SECTION 083613

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KEYNOTES

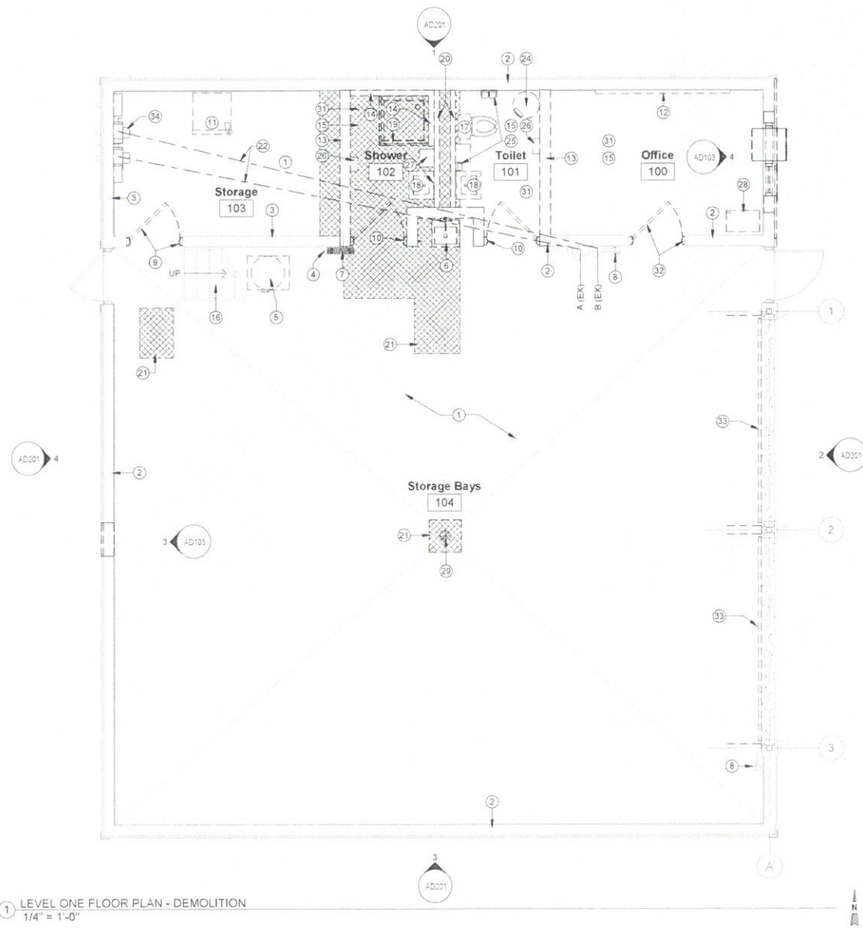
1. Power wash existing concrete floor surface and repair and infill cracks and other anomalies. Confirm any major concerns with architect.
2. Power wash existing painted concrete block walls throughout facility in preparation for new paint finish, typical.
3. Clean existing unfinished concrete block walls throughout facility in preparation for new paint finish, typical.
4. Existing water service and associated meter to remain.
5. Remove existing water heater, stone base block and all associated piping.
6. Existing utility sink to be removed and returned to Owner, dispose of any items the owner does not with to keep.
7. Relocate existing hose and associated wall hook. Confirm finall location with Owner.
8. Existing fire extinguisher to remain. Report expiration date to owner and coordinate replacement if required by AHJ.
9. Remove existing hollow metal door and frame. Re-work rough masonry opening as requried to create a finished opening when door and frame are removed.
10. Remove existing hollow metal door and frame and infill wall as shown on AE100.
11. Remove existing refrigerator and store as directed by Owner.
12. Remove existing baseboard heater and repair any damage to existing floor or wall.
13. Remove existing 8" concrete masonry wall as required to accommodate new construction. Reference new floor plans.
14. Remove existing gypsum board and stud wall in its entirety.
15. Remove existing VCT flooring and all adhesives. Clean existing concrete floor surface, repair and infill cracks and other anomalies and prepare surfaces for new finish.
16. Existing wood stair assembly to remain undisturbed and protected during construction clean and prepare for new paint finish.
17. Remove existing water closet in it's entirety.
18. Remove existing lavatory in it's entirety.
19. Remove existing shower in it's entirety.
20. Remove 4" concrete masonry plumbing wall.
21. Approximate areas for existing slab saw cutting and removal. Coordinate with plumbing plans.
22. Approximate area of underslab conduits feeding electrical panels. Take care not to cut or damage conduits during under slab plumbing work.

KEYNOTES

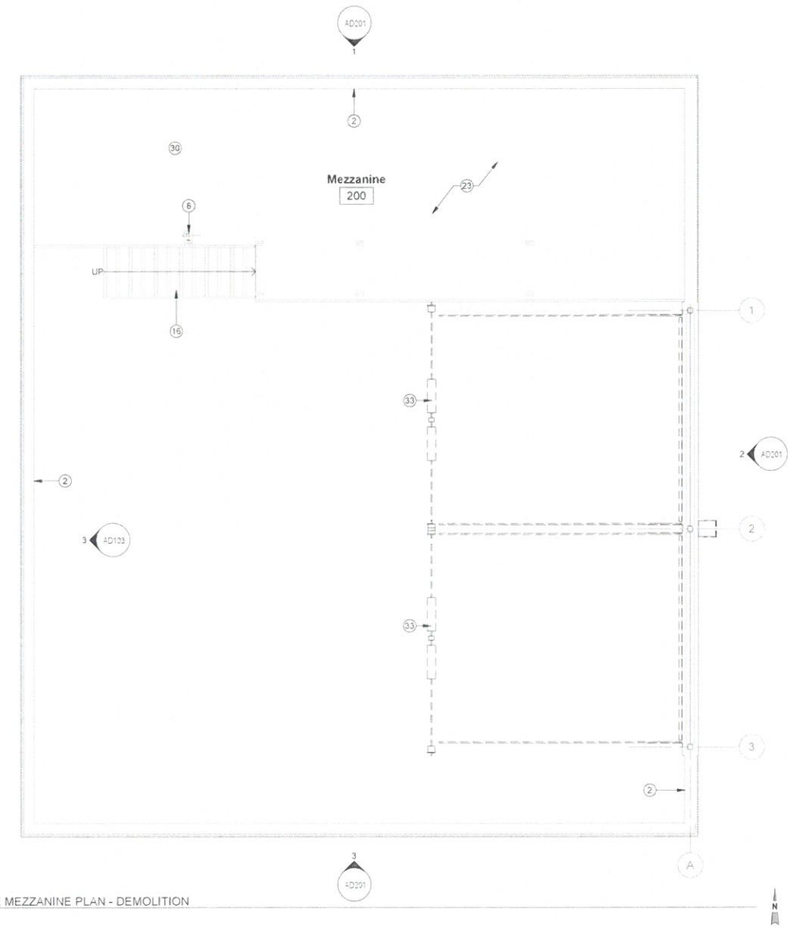
23. Existing mezzanine wood deck to remain and to be cleaned.
24. Remove existing refuse container and return to Owner.
25. Remove existing toilet room accessories including toilet paper holder, paper towel dispenser and soap dispenser and save for reinstallation in new layout."
26. Remove existing wall heater.
27. Remove existing shower room accessories.
28. Remove existing microwave and store for reuse as directed by Owner.
29. Remove existing floor grate and prepare for installation of new floor grate.
30. Remove all items from mezzanine and store per owners instruction. Discard what they do not want.
31. Remove all existing wall base in room and prepare wall for new wall base.
32. Remove existing hollow metal door and frame and prepare opening for new hollow metal door and frame.
33. Existing overhead garage door, opener and hardware to be removed. Prepare opening for installation of new garage doors.
34. Existing electrical meter and associated panels to be removed and replace with new 400A C/T and meter. See electrical drawings.

DEMOLITION GENERAL NOTES - TYPICAL

A. This project involves an existing building, all dimensions noted require field verification. All contractors affected by specific dimensions must field verify those dimensions prior to beginning work. If any discrepancies arise that adversely affect the work of a particular trade, that trade must notify the general contractor prior to proceeding with their work.
B. All existing furniture, shelving, wall hooks, equipment, etc. shall be removed from areas where work is occurring and shall be protected. Relocate existing furniture, shelving, equipment, etc. per the requirements of the owner. Store all shelving and wall mounted items per owners instruction.
C. Existing portions of the building structure which are not scheduled for modification shall remain undisturbed and protected throughout the entire construction process. Contractor shall repair any damage to existing building structural systems to remain caused by construction activities to the satisfaction of the architect and structural engineer.
D. Contractors shall review all drawings and existing conditions to establish exact scope of work. Prior to beginning demolition, contractors shall inspect work and report any conditions that conflict with drawings.
E. All walls shown dashed shall be removed and disposed of in their entirety unless specifically noted otherwise. This includes but is not limited to all framing, masonry, insulation, windows, doors, etc. All conduits and conductors located in walls to be removed back to their source. Contractor shall remove and save all existing fire extinguisher cabinets and fire extinguishers located on walls being demolished. All walls not shown dashed or shown in halftone shall remain undisturbed unless otherwise noted. Prepare all existing walls to remain for new construction. Cut and cap all plumbing, waste and vent piping to be removed at their source.
F. All furniture, equipment and other moveable items shown dashed shall be moved, relocated or disposed of per the owners instruction.
G. Protect all existing-to-remain perimeter wall construction from damage throughout demolition.
H. All existing areas where new floor finishes will be applied shall be properly prepared for those finishes. Preparation shall including removal of all adhesive residue, grinding, sanding, leveling and latexing. All floor prep shall be included in flooring contractors base bid.
I. Existing partitions to remain shall not be altered except where removal and replacement of surfaces is required to modify systems within partitions.
J. All power and data terminals, fixtures, voice / data equipment, devices, trims, and conductors shown dashed shall be removed and returned to the owner. All power and data terminals, fixtures, voice / data equipment, devices, trims, and conductors not shown dashed or shown in halftone shall remain undisturbed unless otherwise noted.
K. Rework existing electrical power and lighting circuits affected by the demolition as required to maintain electrical service to areas not being demolished.
L. Provide all necessary temporary lighting and power in area of work to provide safe work conditions throughout construction process.
M. This project must comply with the Lake County Construction and Demolition Debris Recycling Compliance Reporting Program. This applies to any new construction, renovation and / or demolition projects of 1,500 sq. ft. or greater gross floor area.



1 LEVEL ONE FLOOR PLAN - DEMOLITION
1/4" = 1'-0"



2 LEVEL ONE MEZZANINE PLAN - DEMOLITION
1/4" = 1'-0"

Scale: 1/16" = 1'-0" | Scale: 1/8" = 1'-0" | Scale: 1/4" = 1'-0" | Scale: 1/2" = 1'-0" | Scale: 3/4" = 1'-0" | Scale: 1" = 1'-0" | Scale: 1-1/2" = 1'-0" | Scale: 3" = 1'-0" | Scale: 6" = 1'-0"

The Hezner Corporation
Architectural Services

678 Broadway Street, Suite 100
Libertyville, IL 60048-2325

Ph.: (647)-918-3800
Fax: (847)-549-7633
Email: hezner@hezner.biz

Architect's Seal & Signature

KURT E. HEZNER 001.017710 LICENSED ARCHITECT STATE OF ILLINOIS

expires 11/2020

Drawn By: EWW

Checked By: KEH

Date: 04/08/2020 | Issued For: Permit

REVISION SCHEDULE

Rev.	Date:	Issued For:

Project Title
Lake County Forest Preserves
Old School Forest Preserve
Maintenance Building Remodeling

28285 N. St. Marys Rd.
Libertyville, IL 60048

Sheet Title

DEMOLITION FLOOR PLANS

Architect's Project Number
C-964

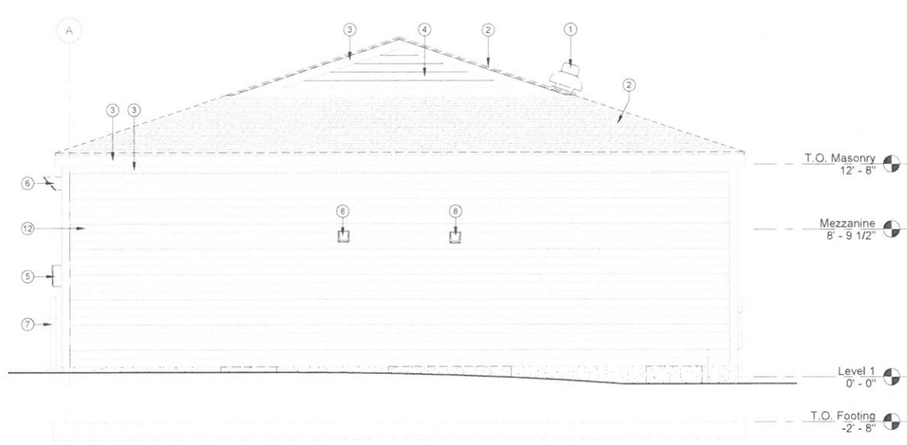
AD100

KEYNOTES

1. Remove existing exhaust fan and all associated conduits and conductors back to the nearest unaffected junction box. Patch hole in roof sheathing.
2. Remove existing asphalt shingles, associated roofing felt and metal flashing from the entire roof system. Remove and repair/replace plywood only where existing is failing or missing.
3. Prepare existing wood trim for new paint finish, all new and existing wood fascia shall be painted P-6.
4. Existing stud wall assembly consisting of wood studs, insulation, sheathing, siding, etc. to remain.
5. Remove existing through wall air conditioning unit and save for owner.
6. Remove existing light fixture. Pull conductors back to source and cap junction box with a water tight plate.
7. Existing bollard to remain. Prepare for new paint.
8. Remove existing exhaust fan shutter, prepare opening for installation of new shutter.
9. Existing wood fascia to be removed.
10. Existing wood siding, insulation, furring and weather barrier to be removed in their entirety. Existing concrete masonry wall beyond to remain. Take care not to destroy existing siding to remain.
11. Prepare existing wood trim for new P-6 paint finish. Modify wood trim as required for new overhead door installation.
12. Prepare existing siding for new P-5 painted finish.
13. Remove existing window unit in it's entirety.
14. Existing overhead garage door, opener and hardware to be removed. Prepare opening for installation of new garage doors.
15. Remove existing duplex outlet and replace with new exterior weather tight duplex outlet.
16. Existing wood trim to remain.
17. Prepare existing hollow metal door and frame for new paint finish.
18. Existing electrical service conduits to be protected throughout all phases of construction. Coordinate electrical work with demolition and new electrical drawings.

DEMOLITION ELEVATIONS GENERAL NOTES

A. Unless specifically noted otherwise, all existing roof shingles, mineral surface roofing, felt and flashing shall be removed and disposed of in their entirety.
B. Elevations are shown for reference purposes only. Contractor shall field verify all roof elevations prior to beginning work.



1 NORTH ELEVATION - DEMOLITION
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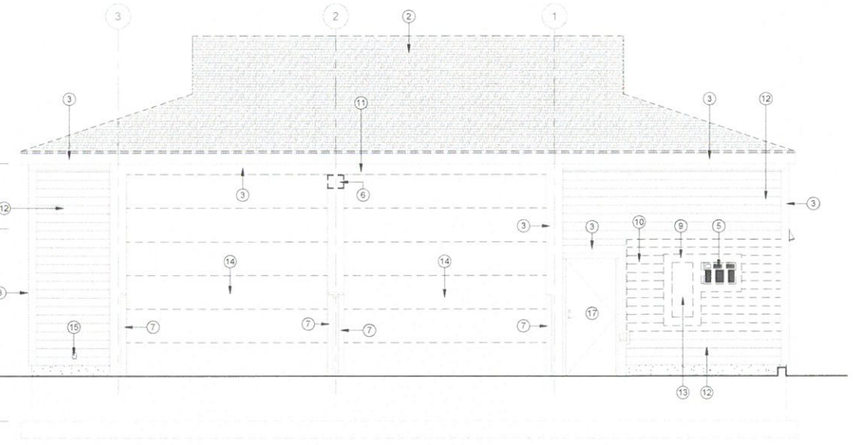

2 EAST ELEVATION - DEMOLITION
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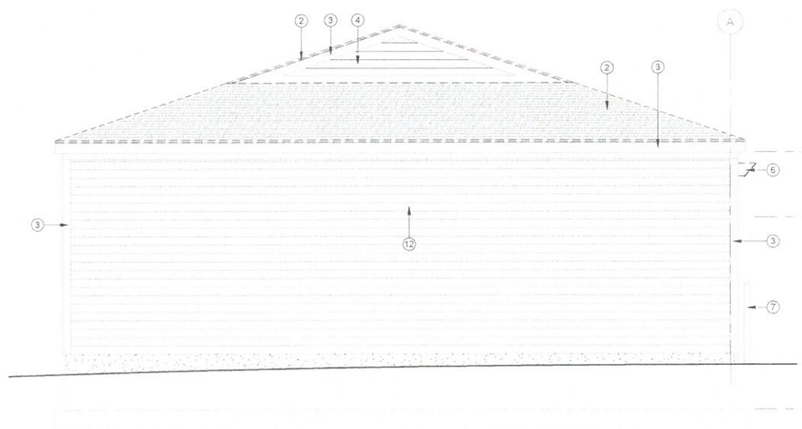
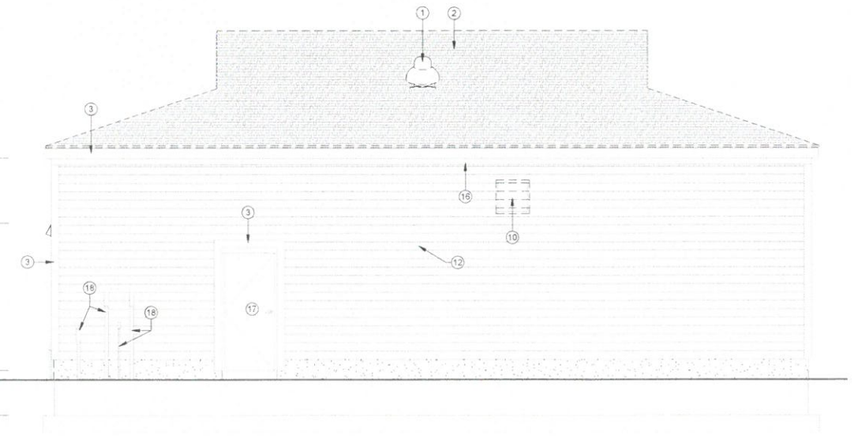


3 SOUTH ELEVATION - DEMOLITION
1/4" = 1'-0"



4 WEST ELEVATION - DEMOLITION
1/4" = 1'-0"

Scale: 1/16" = 1'-0" | Scale: 1/8" = 1'-0" | Scale: 1/4" = 1'-0" | Scale: 1/2" = 1'-0" | Scale: 3/4" = 1'-0" | Scale: 1" = 1'-0" | Scale: 1-1/2" = 1'-0" | Scale: 3" = 1'-0" | Scale: 6" = 1'-0"

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Architect's Seal & Signature

KURT E. HEZNER 001.016710 LICENSED ARCHITECT STATE OF ILLINOIS

expires 11/2020

Drawn By: EWW

Checked By: KEH

Date: 04/08/2020 | Issued For: Permit

REVISION SCHEDULE

Rev.	Date:	Issued For:

Project Title
Lake County Forest Preserves
Old School Forest Preserve
Maintenance Building Remodeling

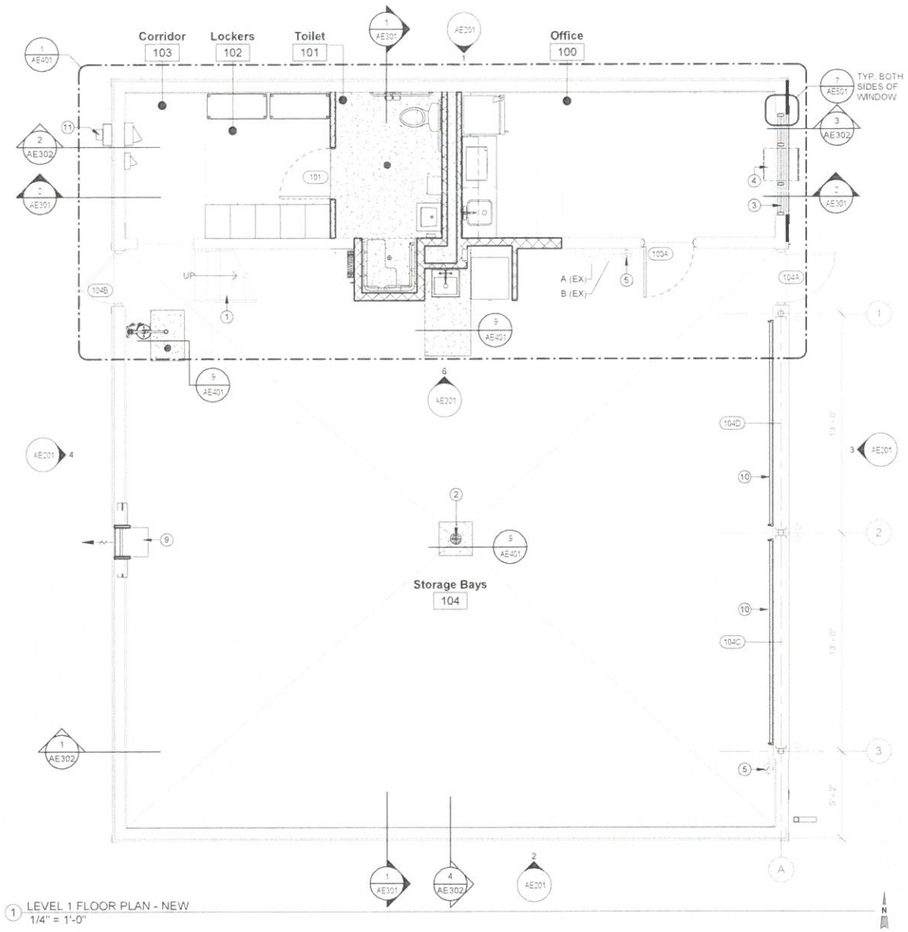
28285 N. St. Marys Rd.
Libertyville, IL 60048

Sheet Title

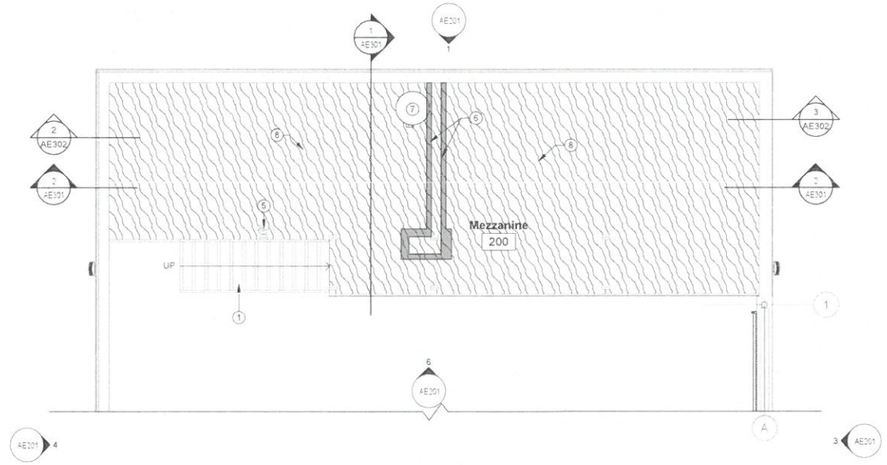
DEMOLITION ELEVATIONS

Architect's Project Number
C-964

AD201



1 LEVEL 1 FLOOR PLAN - NEW
1/4" = 1'-0"



2 MEZZANINE FLOOR PLAN - NEW
1/4" = 1'-0"

KEYNOTES

1. Paint existing stair assembly P-3 and P-4, reference Schedule of Finishes.
2. New floor drain, refer to plumbing drawings.
3. New aluminum storefront window with K-5 finish, refer to Schedule of Finishes.
4. Reference sheet M102 for new thru-wall air conditioning unit.
5. Existing fire extinguisher to remain. Report expiration date to owner and coordinate replacement if required by AHJ.
6. Outline of plumbing chase below.
7. New water heater, refer to plumbing drawings. Locate water heater to the west of the plumbing chase below as shown.
8. Existing mezzanine wood deck to remain and to be cleaned.
9. New thru wall exhaust fan, reference Exhaust Fan Schedule on sheet M001.
10. New overhead door and hardware. Reference door and frame schedule.
11. New 400A C/T and meter. Reference electrical drawings. Coordinate with electrical service provdider.

PLAN GENERAL NOTES

A. This project involves an existing building, all dimensions noted require field verification. All contractors affected by specific dimensions must field verify those dimensions prior to beginning work. If any discrepancies arise that adversely affect the work of a particular trade, that trade must notify the general contractor prior to proceeding with their work.
B. All floor preparation shall be included in flooring contractors base bid.

Scale: 1/16" = 1'-0" | Scale: 1/8" = 1'-0" | Scale: 1/4" = 1'-0" | Scale: 1/2" = 1'-0" | Scale: 3/4" = 1'-0" | Scale: 1" = 1'-0" | Scale: 1-1/2" = 1'-0" | Scale: 3" = 1'-0" | Scale: 6" = 1'-0"

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Architect's Seal & Signature

STATE OF ILLINOIS
KURT E. HEZNER
001.016710
LICENSED ARCHITECT

expires 11/2020

Drawn By: EWW

Checked By: KEH

Date: 04/08/2020 | Issued For: Permit

REVISION SCHEDULE

Rev.	Date:	Issued For:

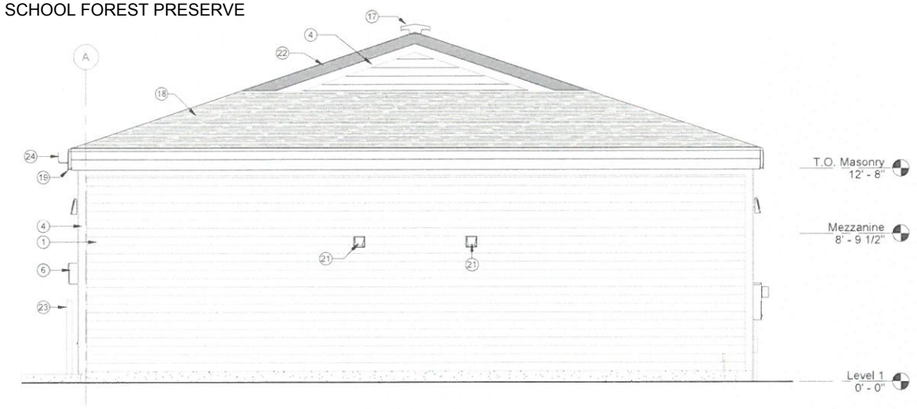
Project Title
Lake County Forest Preserves
Old School Forest Preserve
Maintenance Building Remodeling

28285 N. St. Marys Rd.
Libertyville, IL 60048

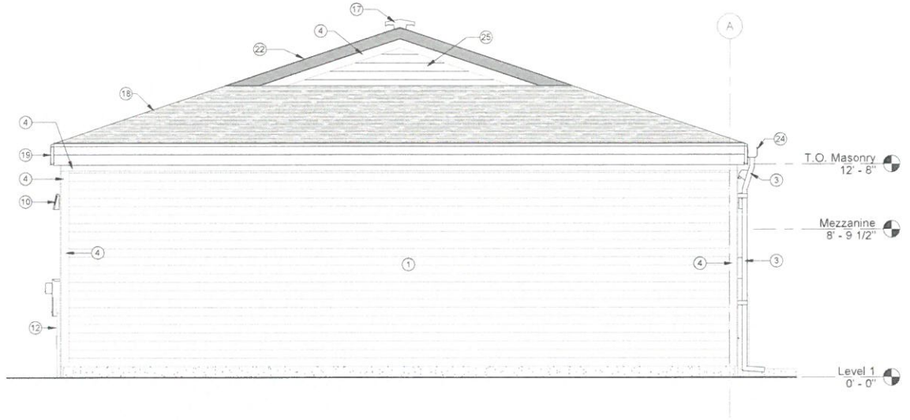
Sheet Title
NEW FLOOR PLANS

Architect's Project Number
C-964

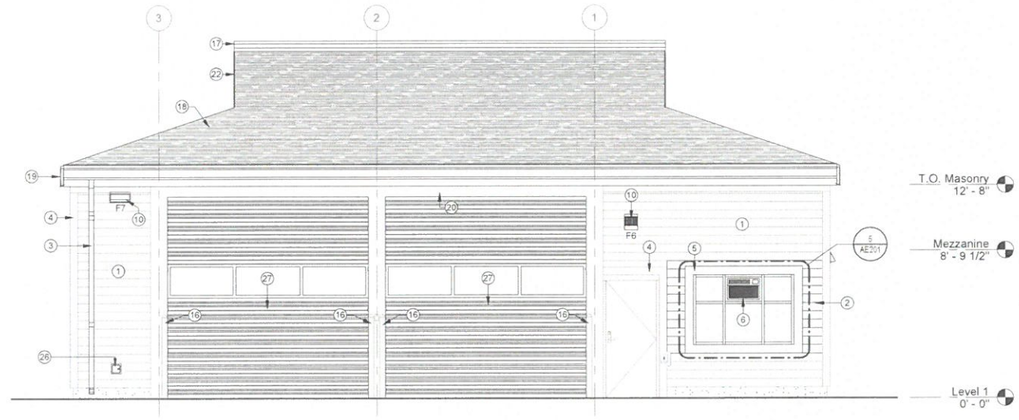
AE100



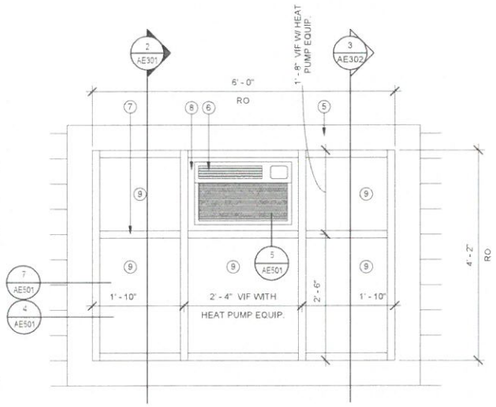
1 NORTH ELEVATION - NEW
1/4" = 1'-0"



2 SOUTH ELEVATION - NEW
1/4" = 1'-0"



3 EAST ELEVATION - NEW
1/4" = 1'-0"



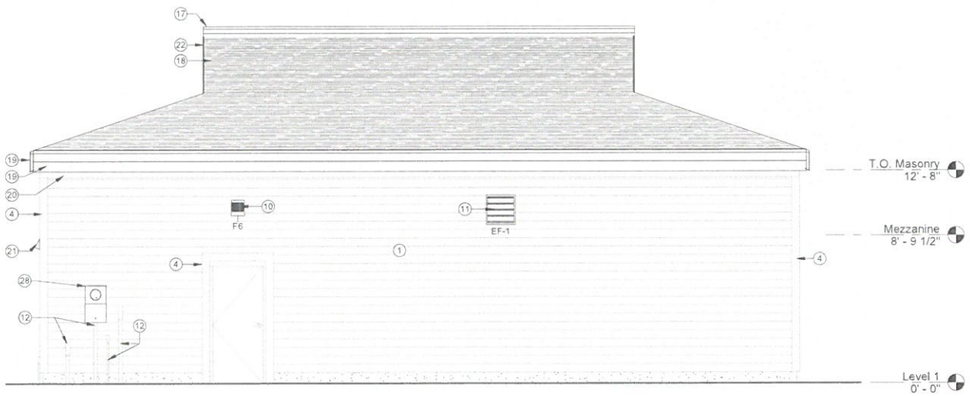
5 ELEVATION DETAIL
3/4" = 1'-0"

EXTERIOR ELEVATIONS GENERAL NOTES

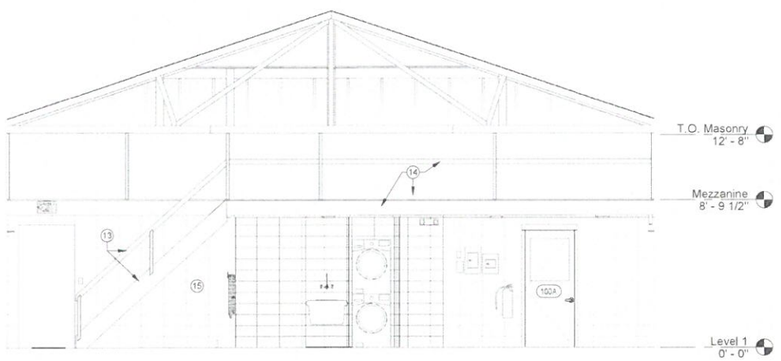
A. Provide sealant, to match painted surface, at all wood to wood trim board joints and imperfections in siding and trim, typical.

KEYNOTES

1 Prepare existing siding for new P-5 painted finish.
2 New 6" cedar siding painted P-5. New siding profile and height to match existing siding profile and height.
3 Metal-Era 4"x5" minimum aluminum downspout. Color: standard color to be verified during shop drawing review.
4 Prepare existing wood trim for new paint finish; all new and existing wood fascia shall be painted P-6.
5 New 1x6 cedar fascia / trim board with P-6 paint finish.
6 Reference sheet M102 for new thru-wall air conditioning unit.
7 New aluminum storefront window with K-5 finish, refer to Schedule of Finishes.
8 Insulated stepped edge panel, 3" total thickness with edges stepped back to 1" thick. Both faces smooth metal finish to match storefront aluminum. Mount in storefront glazing pocket. Cut opening in panel for thru-wall heat pump and seal penetration water tight.
9 1" clear tempered insulating window glazing unit.
10 Reference Lighting Fixture Schedule on sheet E001.
11 New thru wall exhaust fan, reference Exhaust Fan Schedule on sheet M001.
12 Existing electrical service conduits to be protected throughout all phases of construction. Coordinate electrical work with demolition and new electrical drawings.
13 Paint existing stair assembly P-3 and P-4; reference Schedule of Finishes.
14 Existing mezzanine wall, vertical trim and floor end caps to be cleaned and prepared for P-4 painted finish, typical.
15 Power wash existing painted concrete block walls throughout facility in preparation for new paint finish, typical.
16 Apply new yellow paint to existing bollards, typical.
17 New Metal-Era High-Perf ridge vent; color: standard color to be verified during shop drawing review.
18 New vented and insulated asphalt shingle roof assembly. Reference details and sections.
19 Metal-Era, Hi-Perf Vented Fascia, Vented Nailbase Version with 14" coverage, aluminum, Color: standard color to be verified during shop drawing review.
20 Prepare existing wood trim for new P-6 paint finish. Modify wood trim as required for new overhead door installation.
21 New exhaust fan wall cap, refer to mechanical plans.
22 New 1x8 wood fascia. Fascia should overlap existing trim by 1". Cut to width as required. Paint all exposed wood P-6".
23 Existing bollard to remain. Prepare for new paint.
24 Metal-Era, Seal-Tight Gold Industrial Gutter. Aluminum 1GG2-C8. Color: standard color to be verified during shop drawing review.
25 Existing stud wall assembly consisting of wood studs, insulation, sheathing, siding, etc. to remain.
26 New wall freeze-less wall hydrant. Reference plumbing drawings.
27 New overhead door and hardware. Reference door and frame schedule.
28 New 400A C/T and meter. Reference electrical drawings. Coordinate with electrical service provider.



4 WEST ELEVATION - NEW
1/4" = 1'-0"



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

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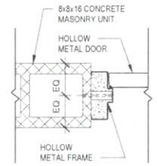
Old School Forest Preserve
Maintenance Building Remodeling
28285 N. St. Marys Rd,
Libertyville, IL 60048

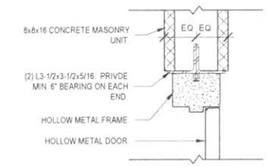
Sheet Title
ELEVATIONS

Architect's Project Number
C-964

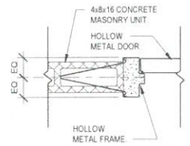
AE201



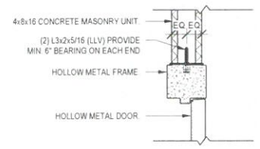
1 DETAIL - JAMB
1 1/2" = 1'-0"



2 DETAIL - JAMB
1 1/2" = 1'-0"



3 DETAIL - JAMB
1 1/2" = 1'-0"



4 DETAIL - HEAD
1 1/2" = 1'-0"

DOOR AND FRAME SCHEDULE

ID	DESCRIPTION	DOOR					FRAME					DETAILS			HARDWARE												
		LEAF					OPENING								SWING		LOCKS		CYLINDERS		CLOSERS		STOPS		WEATHERING		MISC		
NO.	FUNCTION	SIZE	THICKNESS	TYPE	MATERIAL	FINISH	HEIGHT	WIDTH	TYPE	MATERIAL	FINISH	HEAD	JAMB	SILL	HINGE	QTY.	LOCK	QTY	CYLINDER	KEYING	CLOSER	QTY	STOP	QTY	ITEM	QTY	ITEM	QTY	Comments
100A	F1	3'-0" x 7'-0"	1 3/4"	G	HM	P-3	7' - 0"	3' - 0"	1	HM	P-4	2 / AE601	1 / AE601	-	H1	3	L1	1	K1	1	C1	1	-	-	-	-	-	-	
101	F2	36" x 84"	1 3/4"	F	HM	P-3	7' - 0"	3' - 0"	1	HM	P-4	4/AE601	3/AE601		H1	3	L2	1	K1	1	C1	1	-	-	-	-	-	-	1
104A	EX	36" x 84" (EX.)	1 3/4"				7' - 0"	3' - 0"																					
104B	EX	36" x 84" (EX.)	1 3/4"				7' - 0"	3' - 0"																					
104C	F3	ByType	2"	OH	ST	K4	12' - 0"	12' - 0"		ST																			2
104D	F3	ByType	2"	OH	ST	K4	12' - 0"	12' - 0"		ST																			2

DOOR FUNCTION

Function: F1
- Interior door with classroom function. ANSI F84, cylindrical lockset.
  - Classroom Function
    - Outside lever locked (Storage Bay side) locked and unlocked by key. Inside lever (Office side) always free for immediate egress.

Function: F2
- Interior door with privacy function. ANSI F76, cylindrical lockset.
  - Privacy Function
    - Push button on inside lever locks outside lever. Small screwdriver unlocks outside lever from the outside. Turn inside lever to release lock. Inside lever always free for immediate egress.

Function: F3
- Exterior overhead sectional door.
  - Door raised and lowered by wireless remote from exterior or wall control from interior.

ADA NOTES

All doors shall comply with the Illinois Accessibility Code and federal ADA requirements, including, but not limited to:
Maximum door opening force for pushing or pulling open door shall not exceed:

1.) Exterior Hinged Doors: 8.5 LBF
2.) Interior Hinged Doors: 5.0 LBF
3.) Fire doors shall have the minimum opening force allowed by BOCA and ICDB.

LIST OF HARDWARE PRODUCTS

SWING

H1 Hagar BB1279 butt hinge, standard weight, 5 knuckle, full mortise, anti-friction ball bearing, non rising pin, button tip, 4 1/2" x 4 1/2", steel, Satin Chrome US26D. BHMA #625 finish for hollow metal frames. Verify finish with existing building hardware and match.

LOCK

L1 Schlage ND Series, classroom cylindrical lock with Rhodes style lever. Satin Chrome US26D. BHMA #625 finish. Verify finish with existing building hardware and match.

L2 Schlage ND Series, privacy cylindrical lock with Rhodes style lever. Satin Chrome US26D. BHMA #625 finish. Verify finish with existing building hardware and match.

CYLINDER

K1 For cylindrical lockset. Compatible with owner's Schlage Primus master key system.

CLOSER

C1 Push side Mounted Closer - LCN 4040 push side mounting with standard case, standard powder coat Aluminum 689 (finish to match lockset). Provide all plates, brackets, shoes and other accessories required for complete installation.

DOOR & FRAME SCHEDULE NOTES

1. Provide 1/2" undercut.
2. Clopay, Industrial Series, Model 524S, overhead sectional door with R6.6 polystyrene rigid insulation filled deep ribbed panels, color: confirm color with Owner for both interior and exterior and full view double pane insulated windows. Design clearances to follow a low headroom (6-1/2") rear torsion assembly requiring a 2" track. Include a door release and manual pull chain for operation of door during power failures. Provide (10) remote openers for Owner use.

KEYING HIERARCHY & NOTES

- Keying shall be to grand master key system. Final change keys shall be verified with owner before ordering.
- Field verify all that all existing locking cylinders are Schlage Primus and determine compatibility with owner's master key system.

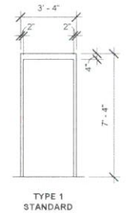
A - Grand Master Key: Opens all doors within all facilities run by Owner.

AA - Master Key: Opens all doors within the 28285 N. St. Marys Rd. Libertyville, Illinois 60048 location.

AA1 Exterior secure doors

AA2 Interior secure doors

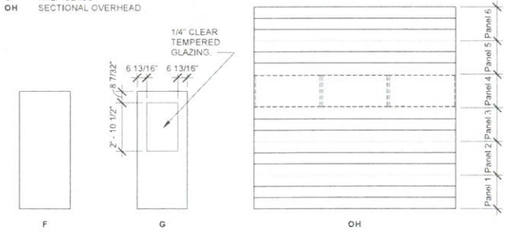
FRAME TYPES



TYPE 1
STANDARD

DOOR TYPES

F FLUSH
G HALF GLASS
OH SECTIONAL OVERHEAD



MATERIALS:

HM - HOLLOW METAL **GL** - GLASS **SS** - STAINLESS STEEL **ST** - STEEL

ABBREVIATIONS:

EX EXISTING
XR EXISTING REMOVED
XRL EXISTING RELOCATED
REL RELOCATED
NW NEW

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Sheet Title
DOOR AND FRAME SCHEDULE, DOOR TYPES & LIST OF HARDWARE PRODUCTS

Architect's Project Number
C-964

AE601